

Environmental Scan

Managing Urinary Incontinence for Women in Primary Care

Option Year 1 Update Report for the Managing Urinary Incontinence Initiative



Managing Urinary Incontinence for Women in Primary Care

Report Update for the Managing Urinary Incontinence Initiative (Option Year 1)

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Preface

Urinary incontinence (UI) is a highly prevalent condition among women worldwide. Many effective evidence-based treatments exist, including pharmacological, behavioral, and physical therapy treatments. Yet many women with the condition never seek care because of stigma, a lack of information, and the absence of regular screening in primary care. And those who are diagnosed might not receive or adhere to treatment.

To address these gaps, the Agency for Healthcare Research and Quality (AHRQ) is sponsoring the Managing Urinary Incontinence (MUI) initiative. Using the AHRQ's EvidenceNOW model, the MUI initiative is funding five cooperative agreement (U18) grantees to disseminate and implement evidence-based nonsurgical UI treatment for women—including screening, diagnosis, management, and specialty referral—within primary care practices in separate regions across the United States. As part of the MUI initiative, AHRQ has contracted with RAND, in partnership with AcademyHealth, to support the MUI grantees and evaluate the initiative as a whole. This contract includes conducting an environmental scan on existing evidence and tools from patient-centered outcomes research on disseminating and implementing nonsurgical UI treatment of women patients within the primary care level, with the specific intent to inform the work of the grantees. The initial scan was completed in the Base Year of the MUI initiative and designed to be updated annually for two years. This report summarizes and synthesizes the results of the Base Year and update scan for the second year (Option Year 1) of the initiative.

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Peer Reviewers

Prior to publication, this environmental scan report underwent RAND’s quality assurance process, which included input from two independent peer reviewers, one from within RAND and one from outside RAND, who were not involved in the study and do not have any financial, business, or other professional conflicts of interest. However, the conclusions and synthesis of the scientific literature presented in this report do not necessarily represent the views of individual reviewers. The list of peer reviewers follows:

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Structured Abstract

Objectives. Urinary incontinence (UI) is a highly prevalent condition among women worldwide. Although effective nonsurgical treatments exist, many women with UI are never diagnosed because of stigma, a lack of information, and the absence of regular screening in primary care. Those who are diagnosed might not receive or adhere to treatment. In the Base Year of the MUI initiative in 2022, we conducted an environmental scan to identify and characterize evidence on interventions, strategies, and tools for disseminating and implementing (D&I) nonsurgical UI treatments for women in primary care settings. This report updates and supplements the findings of the initial scan. The scans were conducted in support of the Agency for Healthcare Research and Quality’s Managing Urinary Incontinence initiative.

Data Sources. We searched PubMed, CINAHL, the Cochrane Central Trials Registry, ClinicalTrials.gov, and Google Scholar (to identify grey literature) from 1996 to 2023.

Scan Methods. Using scoping review methods, we refined the scope and applied a priori inclusion criteria to the publications identified, enlarging our search dates to include publications from 1996 to 2023. To eliminate publications that did not meet all inclusion criteria, we conducted a title and abstract review, gathered publications passing that review that were available, and then conducted a full text review. We extracted key information from the final set of included publications regarding study context and participant characteristics; dissemination and implementation (D&I) approaches, and clinical intervention designs; levels of primary care system and stages of care addressed by study interventions; study method characteristics (e.g., sample sizes, use of randomization procedures and comparator groups); and process, health, system, and economic outcomes. We compiled descriptive statistics and summarized the studies and outcomes narratively. To address a gap identified in the initial scan, we also conducted three supplemental searches potentially relevant to the work of the MUI grantees: referral by UI specialists to physical therapy; referral by PCPs to physical therapy for non-UI conditions; and referral by PCPs to nonsurgical treatment for obesity and weight loss.

Results. Of the 2,631 publications identified in the updated scan, 48 publications that reported on 27 studies met the full inclusion criteria. In addition, the three supplemental searches identified 19 publications from 18 relevant studies on the referral process in other settings or for other conditions: two publications related to the referral of women patients with UI from specialty care settings to UI-related physical therapy; 12 publications related to the referral of women patients in primary care settings to non-UI physical therapy; and five publications related to the referral of women patients in primary care settings to nonsurgical treatment for obesity and overweight conditions.

As found in the initial scan, most of the studies on managing UI in primary care settings were conducted in the United States or the Netherlands. Studies reported little information on primary care practice or patient characteristics or on the total numbers of patients eligible for study enrollment. In studies that reported on characteristics of enrolled women patients, the mean age was 62 (age range from 21 to 90 years old); most studies included patients with a combination of stress, urgency, and/or other type of UI. Most of the strategies used in these studies focused on implementation of specific diagnosis and care interventions (e.g., a screening tool or changes in screening process, or use of nurse practitioners to manage UI care). Nearly one-half of the studies implemented educational programs. One study employed a multicomponent practice redesign intervention, and several studies implemented process changes that included physical therapists or nurses who performed triage related to referrals or networked with a community-based continence service.

Most studies addressed multiple levels and groups in the primary care system. The stages of care (i.e., UI screening and diagnosis, management, and specialty referral) addressed by the studies varied. Several of the studies focused on screening or diagnosis, a small number focused on UI management, and a small number directly addressed referral to specialty care, with some studies addressing all aspects of UI care.

Four types of outcomes were assessed by studies in various combinations: process, health, system, and economic outcomes. *Process outcomes*: Various process changes aimed at increasing UI screening tended to improve screening rates, but the numbers of studies were too small to draw definitive conclusions. Several studies designed to examine the effects of an intervention on referral to specialty care or physical therapy reported mixed results. *Health outcomes*: UI outcomes were assessed via numerous validated tools. Most studies reported improvements in at least one indicator of UI symptoms and quality of life in groups of women who received an intervention that involved prescreening, nurse or NP involvement in treatment, or patient or provider education. No studies reported on sustainment of outcomes. *System outcomes*: System outcomes included provider behavior change, provider acceptance of the intervention, and integration of a process change into practices. Results of these studies were mixed. Too few studies assessed these outcomes to enable any conclusions to be drawn; however, these studies identified important barriers to change, including time and residual patient and provider stigma. *Economic outcomes*: Four studies that assessed economic impacts of practice changes in various ways reported positive impacts in terms of cost-effectiveness compared with that of usual care. Two studies assessed quality-adjusted life years, one compared costs with the costs for usual care, and one considered the reduced need to refer to specialty care.

For the supplemental searches on referral process, studies that integrated PT providers in the primary care pathway to screen and treat patients prior to specialty care, or that allowed for self-referral to PT, generally showed increased access to care, use of conservative treatments, and reduction of inappropriate referrals. Five of the 18 studies focused on referral for obesity and weight management and found that the use of medical record chart alerts for body mass index either increased documentation, diagnosis of obesity, or referral to weight management programs.

Conclusions. This update scan nearly doubled the number of identified studies on the D&I of UI treatment for women under primary care settings. The scan now includes studies describing and assessing a broader array of D&I strategies than did the initial Base Year scan.

The update also partially addressed a gap from the original Base Year scan. By extending the date range, we identified three studies that implemented interventions to improve referral of women with UI in primary care to specialty services. In addition, the three supplementary searches on the referral process in other settings or for other conditions identified a small but varied set of studies that evaluated a variety of referral improvement interventions with promising effectiveness. However, many of these studies from the updated scan and supplemental searches were conducted in countries with more generally integrated health care systems and near universal insurance coverage, which might limit their direct generalizability and necessitates thoughtful consideration of how to tailor these interventions for UI and for primary care settings in the United States.

Even with the additional studies noted above, the number of relevant studies on the D&I of UI treatment for women patients in primary care is relatively small. Potential areas of focus for the final update of the environmental scan in OY2 include remaining gaps, such as on the diagnosis and the treatment of UI in primary care. Additional attention is also needed on tailoring UI interventions from specialty care, such as patient education, and adapting referral processes from other countries or for other health care conditions into the context of the primary care setting in the United States. The continuing dearth of evidence also points to the potential for the MUI initiative and grantee projects to substantially expand the evidence on managing UI at the primary care level for women.

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Executive Summary

Main Points

The updated scan over the extended date range (1996–2023) found 27 studies addressing the dissemination and implementation (D&I) of interventions at the primary care level to manage urinary incontinence (UI) in women. This updated scan nearly doubled the studies identified in the original scan covering the 2012–2022 period.

In addition, three supplemental searches focusing on the process for the referral to specialty care in other settings or for other conditions yielded 18 studies. The supplemental searches were for the referral to physical therapy (PT) by UI specialists (two studies); referral to PT by primary care providers (PCPs) for non-UI conditions (11 studies); and referral by PCPs to nonsurgical treatment for overweight or obesity (five studies).

- Several clinical care interventions that were disseminated and implemented in primary care settings—including practice redesign, patient education, implementation of prescreening, providing advanced training to nurse practitioners, and adding physical therapists to clinic staffs—were associated with improved rates of screening, management, or referral of patients with UI. However, the numbers of studies were small, and findings were not consistent.
- All studies that reported on symptom improvement as an outcome reported improvements in at least one indicator of UI symptoms in groups that received an intervention that involved prescreening or screening during visits, nurse practitioner (NP) involvement in treatment, provision of educational materials on pelvic floor muscle training (PFMT), or use of an app, with some symptoms improvements lasting at least a year.
- All studies that assessed quality of life after uses of screeners, an app, small group community-based intervention, or NP involvement in treatment reported improvements.
- The studies identified in this update scan partially filled an important gap from the original Base Year scan—specifically, the dearth of studies focusing on interventions related to referrals to specialty care. The replicated Base Year scan identified three studies that implemented interventions to improve referral of women with UI in primary care to specialty services. In addition, the supplemental searches identified a small but varied set of studies that evaluated a range of referral improvement interventions (not specific to IU care) with promising effectiveness.
- The update scan also identified studies describing and assessing an array of broader D&I strategies (e.g., funding and reimbursement incentives, media campaigns, train-the-trainer programs, use of quality improvement (QI) methods and approaches, engagement of patients and families) that was lacking in the original Base Year scan.
- Many of these relevant studies were conducted in countries with more generally integrated health care systems and near universal insurance coverage, which might limit their direct generalizability for primary care settings in the United States.

- Lastly, even with the additional studies identified, the number of studies relevant to the dissemination of interventions to manage UI for women patients in primary care is relatively small.

Background and Purpose

In 2022, the Agency for Healthcare Research and Quality (AHRQ) began the Managing Urinary Incontinence MUI initiative. Based on its EvidenceNOW model, the initiative is funding five cooperative agreement (U18) grantees to disseminate and implement evidence-based nonsurgical UI treatment for women—including screening, diagnosis, management, and specialty referral—within primary care practices in separate regions in the United States. As part of the initiative, AHRQ contracted with RAND, in partnership with AcademyHealth, to support the MUI grantees and evaluate the initiative as a whole. To help inform the work of the grantees, RAND researchers conducted an environmental scan on existing patient-centered outcomes research evidence and tools for disseminating and implementing nonsurgical UI treatment at the primary care level in women.

This initial scan sought to identify studies conducted in the United States or higher-income countries with similar practice guidelines that were published from 2012 to 2022. The scan identified 14 relevant studies in 30 publications. The findings suggested that improving screening is a critical first step to better treatment of UI for women, but additional focus on strategies for management and referral to PT and specialty care is also needed. In August 2023, we updated the initial Base Year scan over an extended date range (1996–2023) and conducted three supplemental searches on referral to specialty care in other settings or for other conditions.

Approach and Methods

The approach for this updated scan was designed to identify new and older relevant studies not included in the Base Year scan and identify evidence from nonprimary care settings and non-UI conditions potentially relevant to one of the gaps (referral to specialty care) identified in the Base Year scan. Thus, the approach comprised two parts. First, we updated the initial Base Year scoping review of peer-reviewed and grey literature to include studies published from 1996 through August 2023. Second, we conducted a scoping review of peer-reviewed studies on the referral process through supplemental searches on three topics: referral by UI specialists to PT; referral by PCPs to PT for non-UI conditions; and referral by PCPs to nonsurgical treatment for obesity and weight loss. The methods used to screen the search results and to abstract and analyze data were identical in the updated scan to those in the initial Base Year scan; these methods were adapted for the supplemental searches.

Results

Descriptions of the Studies

Of the 2,631 publications identified in the updated scan, 48 publications that reported on 27 studies met the full inclusion criteria. In addition, the three supplemental searches identified 19 publications from 18 relevant studies on the referral process in other settings or for other conditions: Two publications related to referral of women patients with UI from specialty care settings to UI-related PT (particularly pelvic floor muscle training [PFMT]); 12 publications related to referral of women patients in primary care settings to non-UI PT; and five publications

related to referral of women patients in primary care settings to nonsurgical treatment for obesity and overweight conditions.

As found in the initial scan, most studies on managing UI in primary care settings were conducted in the United States or the Netherlands. Most studies that assessed referral to PT were conducted in the United Kingdom. In addition to primary care settings such as primary care clinics, offices, and community health centers, several studies also included community-based and virtual settings operated by or available to primary care services. Few studies reported on whether practices were located in urban, suburban, or rural settings. There was limited information on practice characteristics (such as the total numbers and types of practitioners or total numbers of patients eligible for study enrollment). In the studies that reported the age of enrolled women patients, the mean age was 62 (range 21–90 years old); most studies included patients with a combination of stress, urgency, mixed, and/or other type of UI.

As found in the 2022 scan, most studies to improve UI care focused on implementation of specific clinical interventions (like voiding diaries) rather than on testing broader dissemination strategies (such as use of practice coaches, learning collaboratives, or practice redesign) or implementation strategies (such as continuous QI). Examples of these specific changes in care process included implementation of a screening tool or change in the screening process, use of nurse practitioners (NPs) or nurses with specialized training to manage UI care, or dissemination of provider and/or patient education materials. Nearly one-half of the studies implemented educational programs. One study employed a multicomponent practice redesign intervention that included screening, patient and provider education, and enhanced follow-up. Several studies implemented clinical process changes such as including physical therapists or nurses who performed triage related to referral to PT or other specialty care or networked with a community-based continence service.

Most studies addressed multiple levels and groups of participants in health care systems. For example, many studies incorporated interventions for both patients and providers, or for both the practice and clinician levels. The stages of care addressed by the studies that focused on UI (screening and diagnosis, management, and specialty referral) also varied. A number of the studies focused on screening or diagnosis, a small number focused on UI management, and a small number directly addressed referral to specialty care, with some studies addressing all aspects of UI care. In contrast to the Base Year scan, which identified a number of studies of virtual UI management (e.g., use of apps or online tools), none of the newly identified studies implemented such interventions, undoubtedly because 12 of the 13 studies were conducted prior to 2012.

The additional studies that focused on referral to PT for any indication or referral to weight management programs implemented several different kinds of referral process interventions, including screening tools, integration of PT providers in the screening or assessment process, provider education, addition of PT services prior to referral, and electronic medical record alerts or prompts for identification of patients and care delivery support.

Four types of outcomes were assessed: care process outcomes, health outcomes, health system outcomes, and economic outcomes. UI health outcomes were assessed via a variety of validated tools.

Patient Care and Health Outcomes

Process outcomes: Various process changes and educational efforts aimed at increasing UI screening tended to improve screening rates, but the numbers of studies were too small to draw

definitive conclusions about any specific type of intervention. Several studies designed to examine the effects of an intervention on referral to specialty care (PT) reported mixed results.

Health outcomes: Most studies reported improvements in at least one indicator of UI symptoms and quality of life in groups of women who received any of the interventions—specifically, prescreening, nurse or NP involvement in treatment, or provider or patient education.

System and Economic Outcomes

System outcomes: System outcomes included provider behavior change, provider acceptance of the intervention, and integration of a process change into practices. Results of these studies were mixed. Too few studies assessed these outcomes to enable any conclusions to be drawn; however, these studies identified important barriers to change, including time and residual patient and provider stigma. No studies reported on sustainment of practices or outcomes.

Economic outcomes: Four studies that assessed economic impacts of practice changes in various ways reported positive impacts in terms of cost-effectiveness compared with that of usual care. Two studies assessed quality-adjusted life years, one compared costs with those for usual care, and one considered the reduced need to refer to specialty care.

Strengths and Limitations

The updated scan has a variety of strengths. These include an expanded time frame and supplemental searches for evidence on specialty referrals in other settings or for other conditions applicable to the work of MUI grantees on the D&I of interventions to managing UI in primary care. However, like the Base Year scan, it was limited with regard to grey literature due to time and resource constraints (e.g., it included Google searches but not conference proceedings or abstracts).

Searches for D&I intervention studies also have specific limitations: there are no universally recognized key terms for D&I interventions; therefore, some studies that examined interventions of interest may not have been identified, even with the use of terms specifying the health condition and outcomes of interest. Another limitation is that we could not comprehensively assess study quality because of the scoping review methods and the lack of systematic guidelines for grading the quality of D&I studies. However, this updated scan, like its predecessor, provides methodological and other details (e.g., sample sizes, use of randomization procedures and comparator groups, and fidelity to the implementation strategy or clinical intervention) that allow readers to assess aspects of the general quality of individual studies.

Implications and Conclusions

This update scan nearly doubled the number of identified studies on the D&I of UI treatment for women patients in primary care. The scan now includes studies describing and assessing a broader array of D&I strategies than did the initial Base Year scan.

The update also partially addressed a gap from the original Base Year scan. By extending the date range, we identified three studies that implemented interventions to improve referral of women with UI in primary care to specialty services. In addition, the three supplementary searches on the referral process in other settings or for other conditions identified a small but varied set of studies that evaluated a variety of referral improvement interventions with

promising effectiveness. However, many of these studies from the updated scan and supplemental searches were conducted in countries with generally more-integrated health care systems and near-universal insurance coverage, which might limit their direct generalizability and necessitates thoughtful consideration of how to tailor these interventions for UI and for primary care settings in the United States.

Even with the additional studies noted above, the number of relevant studies on the D&I of UI treatment at the primary care level in women is relatively small. Potential areas of focus for the final update of the environmental scan in OY2 include remaining gaps, such as on the diagnosis and the treatment of UI in primary care. Additional attention is also needed on tailoring UI interventions from specialty care, such as patient education, and adapting referral processes from other countries or for other health care conditions into the context of the primary care setting in the United States. The continuing dearth of evidence also points to the potential for the MUI initiative and grantee projects to substantially expand the evidence on managing UI for women patients in primary care.

Chapter 1. Introduction

1.1 Background and Rationale for the Environmental Scan

Urinary incontinence (UI) is a highly prevalent condition among women. Studies in the United States note that close to 50 percent of women aged 40 and older report symptoms that are consistent with UI (Minassian et al., 2012). These estimates include all types of UI: stress UI, associated with effort or physical exertion, sneezing, or coughing; urgency UI, associated with a sudden compelling desire to void; and mixed UI, which includes symptoms of both stress and urgency (Aoki et al., 2017). The prevalence of UI increases with age, although pregnancy and the postpartum period are also associated with a significant increase in UI (Thom and Rortveit, 2010).

UI also significantly impacts a patient's quality of life, morbidity, and mortality. Individuals with UI report lower quality of life scores and higher sexual dysfunction than those without UI (Coyne et al., 2008). UI is associated with high rates of depression (Hung, Awtrey, and Tsai, 2014). UI in women older than age 60 is associated with greater sedentary behavior and increased risk for falls and fractures (Jerez-Roig et al., 2020), all of which cause significant morbidity, mortality, and high health care costs (Brown et al., 2000). UI also can lead to poorer management of chronic medical conditions, such as heart failure and diabetes, because the treatment of these conditions (e.g., diuretics and SGLT-2 inhibitors¹) can exacerbate untreated UI. Consequently, patients might choose to forgo treatment for other chronic conditions as a way of controlling their incontinence symptoms.

Managing UI is also an issue of health equity. Prevalence of overactive bladder (OAB) is higher in Black and Hispanic women than in White women. White, non-Hispanic women are much more likely to seek care for UI—particularly specialty care—than are Black women, Latinas and Hispanic women, and Asian women (McKellar et al., 2019; Morrill et al., 2007), although evidence suggests more research is needed to understand these disparities (Nelson et al., 2018).

1.1.1 Evidence-Based Nonsurgical Treatments for UI

This highly prevalent condition has several evidence-based, effective, nonsurgical, potentially low-cost treatments (Balk et al., 2018; Imamura et al., 2015). Lifestyle changes, such as reduction in the consumption of caffeinated beverages and other bladder irritants, can reduce the symptom burden of urgency UI in particular. Weight loss for women with obesity can reduce episodes of both stress and urgency incontinence. Pelvic floor muscle training (PFMT) is a highly effective treatment for both stress and urgency UI and can be done by a patient with no or limited equipment (Culbertson and Davis, 2017). For women with difficulty performing these exercises on their own or who do not improve with self-conducted exercises, pelvic floor physical therapy (PT) can be effective. Finally, several medications (including antimuscarinics and beta-3 agonists) can be used to treat urgency UI, although many of these medications might have side effects, making them less appropriate for certain populations (Culbertson and Davis, 2017).

¹ SGLT-2 (sodium glucose cotransporter 2) inhibitors are a class of drugs for the treatment of type 2 diabetes. They prevent the kidneys from reabsorbing sugar so that it passes out of the body in urine and, in doing so, increase urine output.

1.1.2 Barriers to UI Screening and Diagnosis

Despite the availability of effective and low-cost noninvasive treatments, many women with UI do not receive appropriate treatment for this highly prevalent and burdensome condition. Women might not report symptoms of UI to their health care providers. This hesitancy to reveal symptoms could be because of a belief that incontinence is a normal part of aging or a feeling of shame or embarrassment in speaking to their health care provider about such stigmatized symptoms (Hägglund et al., 2003). Women experiencing UI might also face barriers to care. For example, many women first develop UI in the postpartum period, yet most women in the United States do not receive postpartum care until six weeks after giving birth, and some 40 percent or more do not even attend a postpartum visit (Bennett et al., 2014). This results in a missed early opportunity to address UI.

Several screening tools for UI have been validated, and the Women's Preventive Services Initiative recommends routine annual screening (Nelson et al., 2018; Women's Preventive Services Initiative and ACOG Foundation, 2017). However, evidence on how best to conduct such a screening and the effectiveness of routine screening for UI is lacking.

1.1.3 The Role of Primary Care Providers in UI Treatment

Primary care clinicians are often best positioned to screen, diagnose, and initiate treatment for UI. However, primary care clinicians do not routinely ask patients about this problem. One reason might be a lack of comfort with—or knowledge about—both assessing and treating UI (Mazloomdoost et al., 2017; Schüssler-Fiorenza Rose et al., 2015) (Mazloomdoost et al., 2017; Schüssler-Fiorenza Rose et al., 2015). Primary care providers might vary in their knowledge about UI and which questions to ask to distinguish differences among types of UI (e.g., stress versus urgency). This knowledge is important to determine treatment options and plans.

In addition, primary care payment models might not provide adequate reimbursement for clinicians to counsel on UI (Jabbarpour et al., 2019, pp. 1–8). Moreover, addressing UI often requires a multimodal approach, including counseling on lifestyle modification and adherence to treatment regimens. For some patients, managing UI also requires linkage to specialists, which can be especially difficult for patients in rural or underserved settings. Primary care practices, particularly smaller ones, often have limited staffing, expertise, or other resources for quality improvement (QI) and practice change, and thus likely require external facilitation, support, and multilevel systems infrastructure to successfully develop and implement interventions to address the high burden of UI on their patient population (Damschroder et al., 2009; Mendel et al., 2018).

Primary care providers (PCPs) often are responsible for determining when patients with UI require referral to specialty care—that is, care that exceeds the noninvasive management interventions that are provided in primary care settings. Although UI guidelines outline the clinical characteristics that should prompt referral, little evidence exists regarding the proportion of patients appropriately referred and the factors that might prevent necessary referral (e.g., age; cognitive functional status; such comorbidities as obesity, race, or ethnicity; or social determinants of health [SDOH]). A cohort study conducted in the United Kingdom identified some factors associated with lack of referral (e.g., age over 80, obesity). But the UK and U.S. health care systems have different payment models, which might render these findings less applicable to U.S. primary care settings (Guroi-Urganci et al., 2020).

1.1.4 The EvidenceNOW Managing Urinary Incontinence Initiative

The Agency for Healthcare Research and Quality’s (AHRQ) Managing Urinary Incontinence (MUI) initiative builds on the success of the agency’s EvidenceNOW model to address these important gaps in nonsurgical UI care for women in the primary care setting. EvidenceNOW uses the *health extension* concept that seeks to provide primary care practices with continued, relationship-based outreach and support for improving health care quality and implementing new evidence from patient-centered outcomes research into care delivery (Agency for Healthcare Research and Quality, 2019). As part of the MUI initiative, AHRQ is funding five U18 grantees to develop primary care extension services to disseminate and implement improved nonsurgical treatment of UI for women—including screening, diagnosis, management, and specialty referral—within primary care practices in separate regions of the United States.

AHRQ has contracted with the RAND Corporation, in partnership with AcademyHealth, to support the MUI grantees and evaluate the initiative. This contract includes (1) convening a technical expert panel (TEP) to provide guidance over the course of the support and evaluation project, (2) facilitating a learning community and providing technical assistance to the grantees, and (3) conducting an environmental scan (described in this report) on current evidence and tools for D&I of nonsurgical UI treatment of women patients in primary care to help inform the work of the grantees.

1.2 Goals of the Environmental Scan Update

The purpose of the environmental scan is to identify existing evidence and tools from patient-centered outcomes research on the D&I of nonsurgical UI treatment of female patients in primary care, with the specific intent to inform the work of the MUI grantees. The initial scan was completed in the Base Year of the MUI initiative and designed to be updated annually for two years. This report summarizes and synthesizes the results of the scan update for the second year (Option Year 1 [OY1]) of the initiative.

The Base Year scan covered English-language literature published in the United States and select Organisation for Economic Co-operation and Development (OECD) countries from 2012 to 2022. A key result of the Base Year scan was the relative dearth of literature—only 30 articles, representing 14 studies—that met the scan’s full inclusion criteria. Another key finding was that although many of the studies addressed UI screening, evidence on dissemination and implementation (D&I) strategies to improve diagnosis, management, and referral processes for UI in primary care was noticeably lacking (Newberry et al., 2023).

Thus, with input from the TEP and AHRQ, the OY1 scan update reported here replicated the initial year’s literature search for publications going back more than a decade (from 1996 to 2011) and includes the recent period after the initial search was conducted (through 2023). As detailed in the following chapter, the OY1 scan update also added three supplemental literature searches focusing on referrals to specialty services.

1.3 Organization of This report

In Chapter 2 of this report, we describe our approach to the OY1 update of the environmental scan. In Chapter 3, we present the results of the replicated initial literature search for the extended date range and compare them with the results from the Base Year scan. In Chapter 4, we summarize findings of the three supplemental searches focusing on referrals to specialty

services. In Chapter 5, we conclude with a discussion of the findings of the updated scan, their limitations, and remaining gaps in the literature.

Several appendixes provide additional detail on the methods and results of the OY1 scan update. Appendix A lists the key search concepts and terms and the specific search queries for the replicated and supplemental literature reviews; Appendix B provides the evidence tables of the studies included in the Base Year and replicated OY1 literature reviews; Appendix C presents a bibliography of background articles that did not meet the full inclusion criteria of the OY1 literatures searches but include information deemed relevant to the design, D&I of interventions to improve management of UI in primary care; Appendix D contains the fields and form used to abstract data from the relevant publications identified in the literature scoping reviews; and Appendix E contains the detailed narrative review tables used to generate the findings summaries for each of the three referral-related supplemental literature searches.

Chapter 2. Approach and Methods

This chapter describes the process for updating the scope of the environmental scan and the methods used to conduct the literature scoping reviews for OY1. The OY1 scan comprised two sets of scoping reviews of the peer-reviewed and grey literature. The first set replicated the original Base Year review over an extended date range. The second set entailed three supplemental literature searches focusing on referrals to specialty services.

2.1 Updating the Scope of the OY1 Scan

The Base Year scan was designed to identify evidence and tools applicable to UI care improvement and the work of the MUI grantees in the English-language literature published in the United States and select OECD countries from 2012 to 2022.² As mentioned previously, a key result of the Base Year scan was the relative dearth of literature—only 30 articles, representing 14 studies, met the scan’s full inclusion criteria of addressing the D&I of nonsurgical UI treatment for women patients in primary care. Another key finding was that although many of the studies addressed UI screening, evidence on D&I strategies improving diagnosis, management, and referral processes for UI in primary care was noticeably lacking (Newberry et al., 2023).

Replication of the Base Year Scan Over an Extended Date Range

We solicited input from the MUI initiative’s TEP on how to add value to the scan update, because a simple rerunning of the Base Year search for newly published items would likely yield few results. One of the first suggestions of the TEP was to extend the range of the Base Year scan back to the mid-1990s. This resulted in an extended date range of 1996 to 2023.

Supplemental Searches on Referral Process

We also asked the TEP about the value of expanding different inclusion and exclusion criteria of the Base Year scan. We specifically asked the TEP what could be learned from the literature on D&I strategies to improve management of *non-UI* conditions within primary care. TEP members responded with suggestions on both general processes in primary care—including screening, referral to specialty care, and external partnering for care services—and specific conditions analogous to UI in terms of stigmatization, widespread population burden, and being underdiagnosed and/or undertreated, such as obesity (or being overweight), depression, substance use disorder, and intimate partner violence. Likewise, we asked the TEP what could be learned from looking at literature on UI interventions provided by nonprimary care specialists. TEP members suggested focusing on UI interventions that would be feasible for primary care providers (PCPs) to provide or provide access to, including PT, behavioral therapy, and patient UI education.

We also considered the referral process an especially useful topic for expanding the scope of the scan. We noted referrals to be a major gap in the Base Year scan. Four studies in the Base Year results looked at referral as outcomes—including one that included PT referrals as a

² The selection of other countries was based on similarities in UI management guidelines with those of the United States, including Australia, Belgium, Canada, Denmark, Finland, Ireland, Israel, the Netherlands, New Zealand, Sweden, and the United Kingdom.

component of a UI screening and treatment intervention; however, none looked at interventions for managing or improving the specialty referral process. Unfortunately, a general literature review on referral processes in primary care to external specialty services represents a vast topic that was not feasible with the resources available.

At the same time, PT and overweight and obesity were likewise considered especially useful topics for expanding the scope of the scan. As with referrals, the Base Year scan found limited studies addressing PT. In addition to the one study above that specifically included PT referrals, four other studies included PT as part of the care intervention. However, none of these studies mentioned the referral process to PT that takes place outside primary care.³ TEP members also noted frequent challenges faced by patients in accessing PT for UI, and that processes used by UI specialists to manage referrals to PT may have a high likelihood of transferability to primary care settings. Overweight and obesity were listed among the specific conditions in primary care similar to UI in terms of undertreatment, and TEP members also noted they are frequently comorbid and a risk factor for UI.

As a result, we devised three targeted supplemental searches on the referral process that went beyond the scope of the original Base Year scan parameters:

1. referrals by UI specialists to PT
2. referrals by PCPs to PT for non-UI conditions
3. referrals by PCPs to nonsurgical treatment for obesity and weight loss

Note that the OY1 scan does not include an update of the Base Year report's compilation of generic (non-UI related) D&I tools and materials from the AHRQ EvidenceNOW website. This activity was substituted with the three supplemental searches on the referral process. The third and final scan update will include review of newly developed online resources developed by the MUI grantees and other EvidenceNOW initiatives.

2.2 Scoping Review Methods

As in the Base Year, the scan of the peer-reviewed and grey literature was conducted according to procedures for a scoping review, following the method of Arksey and O'Malley (2005) as refined by the Joanna Briggs Institute (Peters et al., 2020). These procedures include the following general steps:

1. Develop a conceptual framework and key question(s).
2. Develop a preliminary set of key terms for (peer-reviewed and grey) literature searches, identify databases, develop inclusion and exclusion criteria, execute preliminary searches, refine terms (and databases), and run full searches.
3. Screen the results of the searches (titles and study abstracts) to identify studies and other reports that meet inclusion criteria. Obtain full texts of included studies and rescreen to ensure that they meet the criteria.
4. Abstract information about the studies, including important study-level details and findings.

³ One study included PT provided by a physiotherapist integrated into primary care, and the other three focused on PFMT education or instruction provided by non-physiotherapists (by an eHealth app, specially trained nurses, or community-based facilitators).

5. Present the study information in accessible evidence tables that include links to the studies and provide a (peer-reviewed) report that summarizes the state of the literature, gaps identified, and limitations.

2.2.1 Conceptual Framework and Key Questions

The replication of the Base Year scan over the extended date range was guided by the same four key questions as the original Base Year environmental scan:

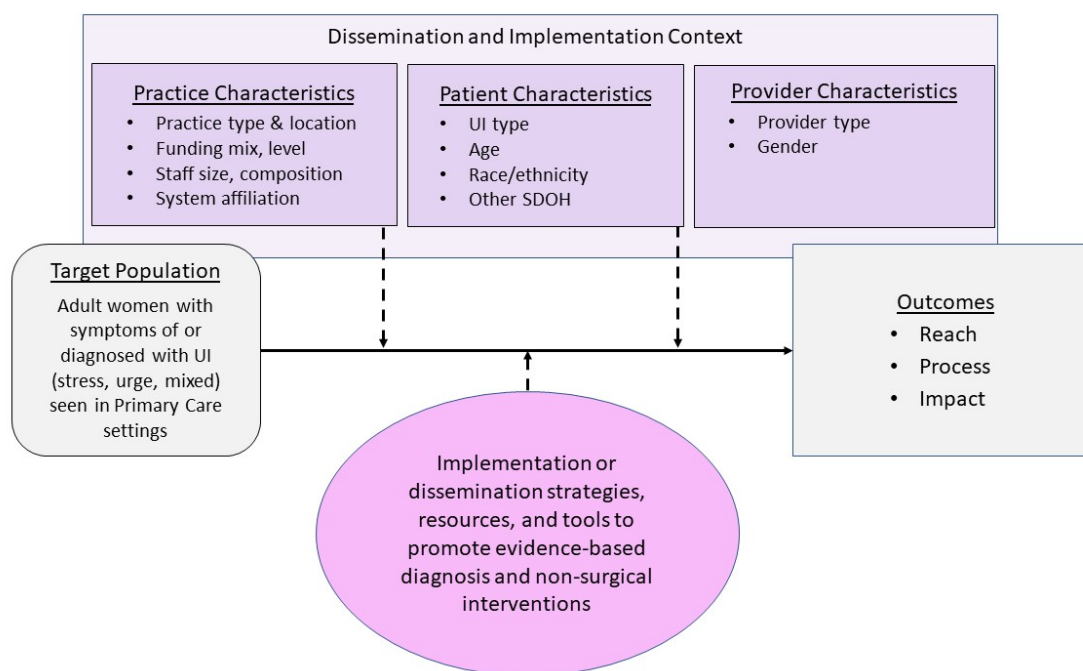
1. What D&I strategies (including resources and tools) have been used to promote nonsurgical clinical interventions in primary care settings for identifying and treating UI, on their own or in combination, in adult women?
2. What specific nonsurgical clinical interventions (pharmacologic and nonpharmacologic) were associated with each of the D&I interventions?
3. What were the contexts (primary care settings and patient populations) in which the implementation strategies and clinical interventions were introduced?
4. What outcomes and evidence of effectiveness have been reported for the D&I strategies? To what degree were the clinical interventions evidence-based?

The three supplemental searches on referral process were guided by the following three key questions, respectively:

1. What D&I strategies have been used in specialty care settings to refer adult women to PT for treatment of UI, and what have been the impacts on referral or health outcomes?
2. What D&I strategies have been used in primary care settings to refer adult women to PT for non-UI conditions, and what have been the impacts on referral or health outcomes?
3. What D&I strategies have been used in primary care settings to refer adult women diagnosed as overweight or obese to nonsurgical treatment, and what have been the impacts on referral or health outcomes?

Figure 2.1 presents our conceptual framework for addressing these questions in the environmental scan. We based this framework on the Standards for Reporting Implementation Studies (StaRI) guidelines, which distinguish between a clinical intervention (i.e., the health care or public health intervention that was implemented) and the implementation strategy, including associated resources and tools (i.e., how the intervention was implemented) (Pinnock et al., 2017b; Pinnock et al., 2017a). Given that the primary purpose of this scan was to identify D&I strategies of possible use to the MUI initiative U18 grantees, we focused on outcomes and evidence of effectiveness of the D&I strategies. However, we note intervention outcomes for the studies identified within the scope of the scan and whether the studies reported any evidence base for the implementation strategy and the intervention.

Figure 2.1. Conceptual Framework



NOTE: SDOH = social determinants of health.

As StaRI (Pinnock et al., 2017a) and other implementation study reporting guidelines and frameworks emphasize (e.g., the template for intervention description and replication [TIDieR] and Promoting Action on Research Implementation in Health Services [PARIHS]), we also gathered information on the contexts in which the implementation strategies and clinical interventions were introduced to help gauge their relative generalizability to primary care settings of interest (Hoffmann et al., 2014; Berghmans, Seleme, and Bernards, 2020).

We focused on two contexts—characteristics of the practice setting and characteristics of the adult women with symptoms of UI who were being served in those settings. Practice characteristics include primary care practice type (e.g., general/family, community health center, women’s health); geographic location (e.g., urban/rural, state/region); levels and mix of funding or reimbursement (e.g., commercial insurance, Medicaid, Medicare); staff size and composition; and whether and what type of system affiliation the practice might have (e.g., integrated health care system, medical group, accountable care organization). In addition to primary care practice settings, we also included community-based settings (e.g., patient homes or community-based organizations) and virtual settings (e.g., digital apps) that are operated by primary care providers or offer UI-related services similar to those of primary care providers (e.g., UI education, self-management support).

Relevant patient characteristics include UI type (e.g., stress, urgency, or mixed UI), age, race, ethnicity, comorbidities, and other SDOH.

2.2.2 Search Strategy, Databases, and Inclusion Criteria

Description of the key search concepts and terms used in the search strategy, and the specific literature search queries, are detailed in Appendix A.

2.2.2.1 Databases

Our searches covered the following databases: PubMed, CINAHL, Cochrane Central Trials Registry, ClinicalTrials.gov, and Google Advanced Interface (to identify grey literature).

2.2.2.2 Time Frame

The replication of the Base Year scan for OY1 using the expanded date range covered the period of January 1, 1996, through August 5, 2023. The three supplemental searches on referral process covered the same period.

2.2.2.3 Inclusion and Exclusion Criteria

The replication of the Base Year scan in OY1 used the same inclusion and exclusion criteria as the original Base Year environmental scan, except for the extended date range, as shown in the last row of Table 2.3.

Table 2.1. Inclusion and Exclusion Criteria for the Replicated Base Year Search

Category	Inclusion	Exclusion
Patients	Adult women aged 18 and older who were screened for and/or diagnosed with UI ^a	Male-only patients; female patients younger than 18 years of age
Implementation strategies	Studies that reported on D&I strategies used to promote evidence-based practice in health care delivery	Studies that only reported clinical interventions or outcomes but not the D&I strategies or outcomes used to promote them
Clinical interventions	Practice-level, nonsurgical evidence-based interventions to screen, diagnose, or treat UI for women (including referral to specialty or community-based services)	Clinical trials or other studies that were designed to assess patient-level efficacy and/or harms of pharmacologic or nonpharmacologic interventions without attention to the D&I of those treatments; surgical treatments for UI
Setting	Outpatient primary care settings or community or home settings in which treatments are managed by primary care professionals in the United States or 11 other OECD countries with comparably mature health care systems ^b	Specialist settings; inpatient, long-term care, or skilled nursing facilities
Other	English-language publications and resources published or disseminated from 1996 to 2023	Non-English language publications

NOTES: These criteria are based on the PICOTSS (participant population, intervention, comparison group, outcomes, timing, setting, study design) framework. Other dimensions of the PICOTSS framework not included as inclusion or exclusion criteria in the table (e.g., comparators, outcomes, and study design) were included as part of the information abstraction for each study.

^a Studies had to include only female participants or report findings separately for women and men. We include as females transgender individuals who identify as women; however, no publications identified in the scan to date have mentioned transgender individuals, either as an identifying factor or as part of the inclusion/exclusion criteria.

^b Australia, Belgium, Canada, Denmark, Finland, Ireland, Israel, the Netherlands, New Zealand, Sweden, and the United Kingdom.

The inclusion and exclusion criteria for the three supplemental searches on referral processes are described in Tables 2.2, 2.3, and 2.4, respectively.

Table 2.2 Inclusion and Exclusion Criteria for Supplemental Search 1: Referrals by UI Specialists to PT

Category	Inclusion	Exclusion
Patients	Adult women aged 18 and older who were diagnosed with UI and referred by a specialty provider to PT ^a	Male-only patients; female patients younger than 18 years of age
Implementation strategies	Studies that reported on D&I strategies used to improve referral of patients to PT for UI	Studies that only reported clinical interventions or outcomes but not the D&I strategies or outcomes of those strategies used to promote them
Clinical interventions	PT or PFMT for UI	Clinical trials or other studies that were designed to assess patient-level efficacy and/or harms of pharmacologic or nonpharmacologic interventions without attention to the D&I of those treatments
Setting	Outpatient specialty care settings for UI treatment, including urology and urogynecology practices in the United States or 11 other OECD countries with comparably mature health care systems ^b	Primary care settings; inpatient, long-term care, or skilled nursing facilities
Other	English-language publications and resources published or disseminated from 1996 to 2023.	Non-English-language publications

NOTES: These criteria are based on the PICOTSS (participant population, intervention, comparison group, outcomes, timing, setting, study design) framework. Other dimensions of the PICOTSS framework not included as inclusion or exclusion criteria in the table (e.g., comparators, outcomes, and study design) were included as part of the information abstraction for each study.

^a Studies had to include only female participants or report findings separately for women and men.

^b Australia, Belgium, Canada, Denmark, Finland, Ireland, Israel, the Netherlands, New Zealand, Sweden, and the United Kingdom.

Table 2.3 Inclusion and Exclusion Criteria for Supplemental Search 2: Referrals by PCPs to PT for Non-UI conditions

Category	Inclusion	Exclusion
Patients	Adult women aged 18 and older who were referred to PT by a primary care provider for any condition other than UI ^a	Male-only patients; female patients younger than 18 years of age
Implementation strategies	Studies that reported on D&I strategies used to improve referral of patients to PT for non-UI conditions	Studies that only reported clinical interventions or outcomes but not the D&I strategies or outcomes of those strategies used to promote them
Clinical interventions	PT or PFMT for any musculoskeletal disorder other than UI	Clinical trials or other studies that were designed to assess patient-level efficacy and/or harms of pharmacologic or nonpharmacologic interventions without attention to the D&I of those treatments
Setting	Outpatient primary care settings or community or home settings in which treatments are managed by primary care professionals in the United States or 11 other OECD countries with comparably mature health care systems ^b	Specialist settings; inpatient, long-term care, or skilled nursing facilities

Other	English-language publications and resources published or disseminated from 1996 to 2023	Non-English language publications
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NOTES: These criteria are based on the PICOTSS (participant population, intervention, comparison group, outcomes, timing, setting, study design) framework. Other dimensions of the PICOTSS framework not included as inclusion or exclusion criteria in the table (e.g., comparators, outcomes, and study design) were included as part of the information abstraction for each study.

^a Studies had to include only female participants or report findings separately for women and men.

^b Australia, Belgium, Canada, Denmark, Finland, Ireland, Israel, the Netherlands, New Zealand, Sweden, and the United Kingdom.

Table 2.4 Inclusion and Exclusion Criteria for Supplemental Search 3: Referrals by PCPs to Nonsurgical Treatment for Obesity and Weight Loss

Category	Inclusion	Exclusion
Patients	Adult women aged 18 and older who were diagnosed as overweight or obese (body mass index [BMI] 25 or higher) and referred by a primary care provider to nonsurgical weight management treatment ^a	Male-only patients; female patients younger than 18 years of age
Implementation strategies	Studies that reported on D&I strategies used to improve referral of patients to nonsurgical treatment for weight management or obesity	Studies that only reported clinical interventions or outcomes but not the D&I strategies or outcomes of those strategies used to promote them
Clinical interventions	Nonsurgical clinical interventions for weight management and/or obesity	Clinical trials or other studies that were designed to assess patient-level efficacy and/or harms of pharmacologic or nonpharmacologic interventions without attention to the D&I of those treatments
Setting	Outpatient primary care settings or community or home settings in which treatments are managed by primary care professionals in the United States or 11 other OECD countries with comparably mature health care systems ^b	Specialist settings; inpatient, long-term care, or skilled nursing facilities
Other	English-language publications and resources published or disseminated from 1996 to 2023	Non-English language publications

NOTES: These criteria are based on the PICOTSS (participant population, intervention, comparison group, outcomes, timing, setting, study design) framework. Other dimensions of the PICOTSS framework not included as inclusion or exclusion criteria in the table (e.g., comparators, outcomes, and study design) were included as part of the information abstraction for each study.

^a Studies had to comprise only female participants or report findings separately for women and men.

^b Australia, Belgium, Canada, Denmark, Finland, Ireland, Israel, the Netherlands, New Zealand, Sweden, and the United Kingdom.

2.2.3 Literature Screening

As in the original Base Year scan, following a brief training period to establish a common understanding of the inclusion criteria, titles and abstracts of peer-reviewed articles and reports were screened independently, in duplicate, by two team members against the inclusion criteria. Of those that met inclusion criteria, full-text publications that could be obtained were further screened in duplicate with reconciliation for final inclusion. All screening was accomplished using DistillerSR, an online literature review software program.

2.2.3.1 Data Abstraction and Study Quality Assessment

We extracted the data elements listed in Table D.1, Appendix D from the studies that met our inclusion criteria using forms specially designed in DistillerSR. As with the Base Year scan, data domains were derived from the StaRI and TIDieR implementation study reporting guidelines.

We developed categories of key dissemination, implementation, and clinical intervention to abstract from the study publications. Dissemination interventions represent approaches to inform, encourage, and support health care delivery organizations and teams to adopt and implement evidence-based practices and clinical interventions. We adapted categories of dissemination interventions from AHRQ's EvidenceNOW model of providing external support for primary care (AHRQ, 2019), and the AHRQ-supported evaluation of the National Action Plan to Reduce Healthcare-Associated Infections (Kahn et al., 2017). These categories include such dissemination approaches as practice facilitation (PF)/coaching, readiness assessments, and other technical assistance; learning communities, collaboratives, and other peer-to-peer learning opportunities; and accountability and financial incentives.

Implementation interventions represent strategies that health care delivery organizations and teams perform themselves to implement evidence-based care and clinical interventions within their own settings. We adapted categories of implementation interventions from AHRQ's EvidenceNOW framework of key drivers and change strategies that primary care practices can use to build their capacity for implementing evidence-based care (AHRQ, 2020). These categories include such implementation strategies as mechanisms for seeking evidence, developing QI skills and infrastructure, optimizing health information technology (IT), and cultivating leadership support for changes in care.

We adapted categories of clinical care interventions from typologies used in several clinical guidelines for UI care (Committee on Practice Bulletins—Gynecology and the American Urogynecologic Society, 2015; Lightner Deborah et al., 2019; Nambiar et al., 2018; National Institute for Health and Care Excellence, 2019). See Appendix D for the Data Abstraction Form, which lists categories for all the fields coded during data abstraction. Several categories were updated slightly to accommodate the supplemental searches (e.g., addition of weight loss and obesity to the types of conditions in the interventions studied).

Data were abstracted by a single reviewer and audited by a second reviewer, who then met to reconcile differences by consensus. For the replication of the Base Year scan over the extended date range, we abstracted all fields in the Data Abstraction Form for new articles that had not been included in the Base Year analysis.⁴ For the three supplemental searches on referral process, we abstracted a subset of the information pertaining to study settings, provider and patient characteristics, intervention descriptions, outcomes of interest, and findings.

For the replication of the Base Year scan, we present tabulated summaries of the study-level details and brief summaries of the authors' findings in Chapter 3. For ease of access, the base data for these summaries are presented in evidence tables in Appendix B, with links to the study publications.

For the three supplemental searches on referral process, we provide narrative summaries of the study contexts, interventions, and outcomes in Chapter 4. The detailed narrative review tables used to generate the summaries, with data listed by individual study, are presented in Appendix E.

⁴ For articles that had been included in the Base Year scan, we incorporated our previously abstracted data into the analysis for this scan update.

As noted in the Base Year report, although reporting standards for implementation studies are available, systematic guidelines on grading the quality of these studies do not exist (Pinnock et al., 2017a). However, the examination of study-level details—such as the sample size of practices, care providers, and patients; use of randomization procedures and comparator groups; and fidelity to the implementation strategy or clinical intervention as planned—allows for assessing the general quality of individual studies. In Chapter 5, we summarize the general reliability and precision of the results and identify gaps in the evidence, limitations, and key implementable findings.

2.3 Bibliography of Background Articles Identified

During the full-text review stage of the scan, we identified a variety of articles that, although not meeting the full inclusion criteria of the OY1 literature searches, contained information that appeared relevant and potentially useful reference material for the design and D&I of interventions to improve the management of UI in primary care. These articles typically reported data pertaining to key components or contextual factors related to an intervention but did not study the D&I of the intervention—for example, a review of eHealth and mHealth solutions for UI among women (Dufour, Clancy, and Wu, 2023) or a comparison of PT referral rates by specialists versus primary care providers (Freburger, Holmes, and Carey, 2003).

These background articles, including citations and abstracts, are listed in alphabetical order by author in Appendix C for each of the four literature searches conducted in the OY1 environmental scan.

Chapter 3. Results of the Updated Scan on Dissemination and Implementation in Primary Care Settings of Urinary Incontinence Treatment for Women

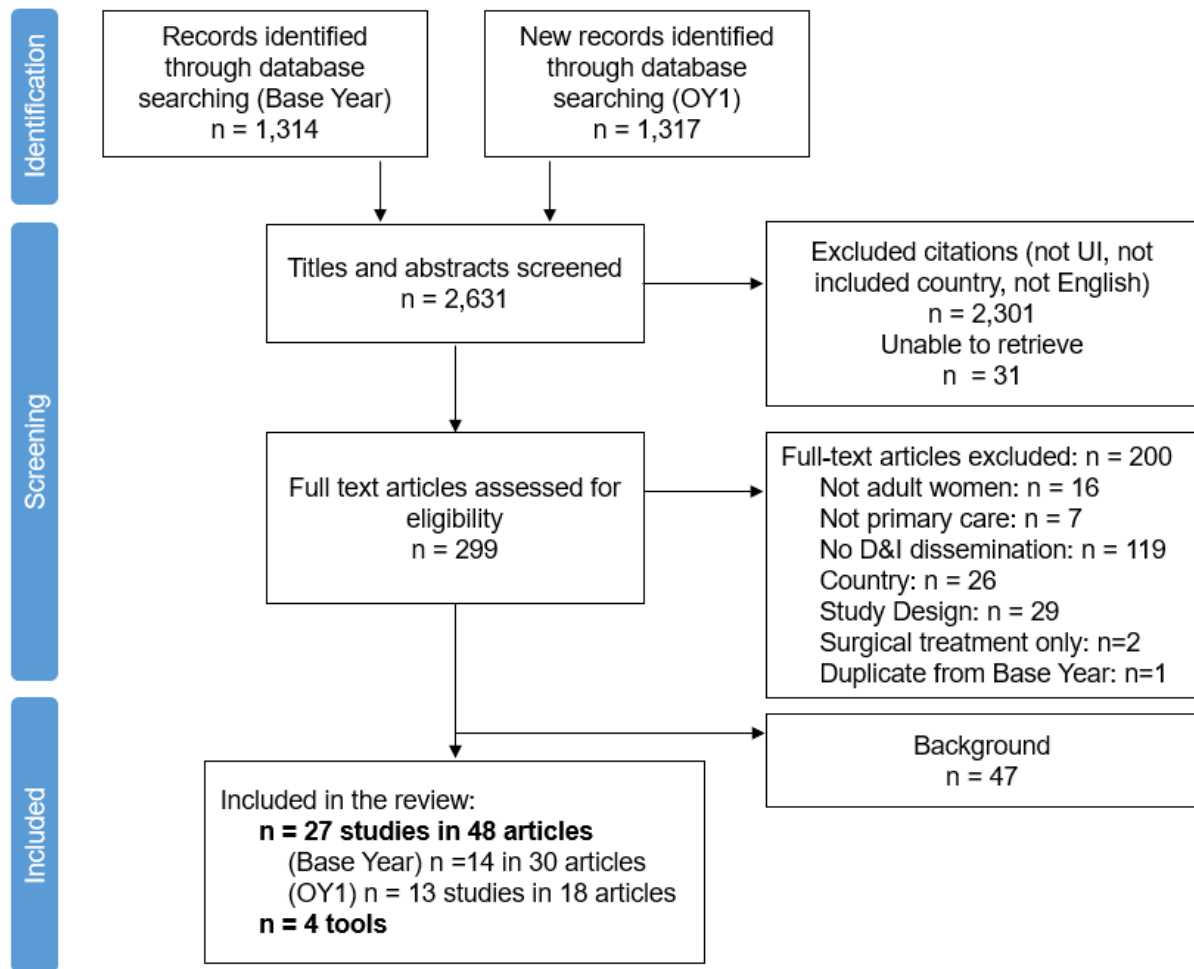
This chapter reports the results of the scan for studies published from January 1996 to September 2023 that assessed D&I interventions in primary care settings for UI treatments in women. We begin with an overview of the literature search and screening results, then summarize the findings of the in-scope studies, according to the data abstraction domains:

- contexts in which study interventions were introduced
- participant characteristics
- D&I intervention components
- clinical care interventions that were disseminated and implemented
- study designs and outcomes.

3.1 Literature Searches and Screening Results

The scan identified 2,631 publications over the extended date range (1996–2023). Of these, 48 publications that reported on 27 studies met our full inclusion criteria. Figure 3.1 presents these results in a literature screening flow diagram following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guide for scoping reviews (Tricco et al., 2018).

Figure 3.1. PRISMA Flow Diagram for the Literature Search (1996–2023)



3.2 Contexts of Study Interventions

This section summarizes the contexts of the study interventions, including the study countries, settings, and practice characteristics.

3.2.1 Study Countries and Settings

As shown in Table 3.1, most of the studies were conducted in the United States or the Netherlands. One study was conducted in multiple countries. Study settings comprised primary care practices and, as noted in Chapter 2, community, virtual, and other settings that are operated by primary care providers or offer UI-related services similar to those of primary care providers. *Primary care practices* were clinics (including retail clinics), offices, community health centers, and other similar settings. *Community settings* typically included patients’ homes or community-based organizations. *Virtual settings* were telehealth, interactive websites, and phone apps. *Other locations* included primary care services located in research centers or large academic or other multispecialty medical centers. Studies that employed an app or eHealth screening but were based in a primary care setting were counted twice.

Table 3.1. Contexts of Studies

Category	Characteristics	Number of studies
Study countries*	United States	10
	The Netherlands	8
	Australia and New Zealand	4
	Sweden	1
	Canada, France, and United Kingdom	2
	Denmark	3
Study settings*	Primary care	15
	Community	4
	Virtual	4
	Other	8

NOTE: * Categories are not mutually exclusive (i.e., some studies occurred in multiple countries or settings).

3.2.2 Practice Characteristics

Most studies reported incomplete information on the characteristics of primary care practices. Of the 27 included studies, 15 studies reported on the number of participating primary care practices (the number of practices was not applicable for some studies conducted in community settings or virtually). The number of practice sites per study ranged from 1 to 128, with a mean of 26.

Only one study reported on rural (versus urban) location, and only two reported on health system affiliation (one study based in an academic medical center and one based in a public health system). No studies reported on practice ownership.

3.3 Participant Characteristics

3.3.1 Practitioner Characteristics

Most studies reported incomplete information on the number and characteristics of practitioners involved. As shown in Table 3.2, the number of providers per study, when reported, varied widely. Only a few reported on the types of medical providers who were involved in the study (all studies conducted in Europe or Canada reported that physicians were general practitioners [GPs]). Several studies involved nonphysicians or a combination of physicians and nonphysicians (e.g., nurses, nurse practitioners [NPs], physical therapists, or clinic administrators) (Wenger et al., 2010; Teunissen et al., 2015; St John and Wallis, 2004; Knight and Procter, 1999; Byles et al., 2005; Bland et al., 2003; Albers-Heitner et al., 2011; Albers-Heitner et al., 2012).

Table 3.2. Participant Characteristics

Characteristics	Mean	Range	Number of studies reporting
Number of study practitioners	50	1–375	18
Number of study patients	514	3–3950	22
Age of study patients	62	21–90	21

3.3.2 Patient Characteristics

In this section, we report on the characteristics of the patients involved in the studies. Table 3.2 above also shows the number and age of female adult patients per study. The number of patients involved per study varied widely, from three to 3,950, with a mean of 514; however, this number is skewed by the largest study (Chen, Hsu, et al., 2021), which was a retrospective chart audit (the median number was 262).

Patients ranged in ages from 21 to 90 years old, with a mean age of 62 across all studies. Two studies reported restricting their patient samples to older women (“older” or “55 and over”), one study included only women 65 years and older; and another included only those 75 and older (Wenger et al., 2010); while the remaining studies included women 18 years and older or did not report restricting the study to participants within a particular age range.

The studies included patients with varied combinations of UI types, as shown in Table 3.3. Most studies included patients with a combination of stress, urgency, mixed, and/or other UI. Two studies included only one type of UI (one stress and one urgency). About one-quarter did not specify the types of UI for the patients in the study.

Table 3.3. Types of UI in Study Patients

Types of UI	Number of Studies
Stress UI only	1
Urgency UI only	1
Stress and urgency UI	3
Stress and mixed UI	1
Urge and mixed UI	1
Stress, urgency, and mixed UI	8
Stress, urgency, mixed, and other UI	3
Stress and other UI	1
Other UI	1
Not specified	7
Total	27

As a whole, the studies reported little or incomplete information on other characteristics of patients. Patient race and/or ethnicity were specifically listed in only two studies (Chick, Hunter, and Moore, 2013; Sampsel et al., 2000a). The study by Hunter and colleagues reported that participants were 70 percent White, 20 percent Black, 6 percent Asian/Pacific Islander, and 4 percent Latina, multiethnic, or other. The patient sample in the study by Sampsel and colleagues was 72 percent white, 18 percent Black, and 10 percent Latina.

Five studies described patient incomes and/or education. Four studies noted that both income and education were higher among their enrolled patients than the population averages (Furet et al., 2019; Loohuis et al., 2018; Schüssler-Fiorenza Rose et al., 2015; Wadensten et al., 2021), whereas one reported that 76 percent of enrolled participants had low education levels (Alewijjnse et al., 2003). Health insurance type or proportion of participants with coverage was not reported by any study, although one U.S. study was conducted in federally qualified health centers (FQHCs), which generally serve lower-income populations (Sampsel et al., 2000a). It can also be inferred that patients in the UK studies had covered health care.

3.4 Intervention Design

In this section, we summarize the strategies used to promote evidence-based nonsurgical clinical interventions for identifying and treating UI, individually or as part of multicomponent interventions. These strategies include D&I and clinical care interventions. As described in Chapter 2, dissemination interventions represent approaches to inform, encourage, and support health care delivery organizations and teams to adopt and implement evidence-based practices and clinical interventions. Implementation interventions represent strategies that health care delivery organizations and teams perform to implement evidence-based care and clinical interventions within their own settings. We note that overlap exists across these types of interventions particularly related to education and training (i.e., education and training is included as part of dissemination, implementation, and clinical care interventions). We still code education and training strategies under each type of intervention to distinguish who tends to conduct and receive the education, and for what purposes (e.g., external disseminators training practice leaders to inform and encourage adoption of implementation strategies and clinical interventions, education within a practice to improve QI and change capacity, and clinicians educating patients on UI conditions and treatment options). Often, a study will include more than one type of education and training, as well as other interventions.

3.4.1 Dissemination Intervention Components

We identified 15 studies that described a dissemination intervention component. These consisted of implementing provider and staff education and training (12 studies), providing onsite coordination or other direct technical assistance (two studies), using a payment incentive (one study) and other dissemination intervention components (Table 3.4). Some studies implemented more than one type of dissemination component.

Examples of dissemination intervention components that included provider and staff education and training included training in screening or overall UI management for physicians, nurse practitioners, or nurses; and bringing physical therapists into the practice to lead health education (Albers-Heitner et al., 2011; Bland et al., 2003; Byles et al., 2005; Celik et al., 2008; Eckhardt et al., 2022; Knight and Procter, 1999; Ngigi, 2017; Teunissen et al., 2015; Wenger et al., 2010; Alewijnse et al., 2003).

Table 3.4. Types of Dissemination, Implementation, and Clinical Interventions

Types of Interventions	Number of Studies
<i>Dissemination interventions*</i>	<i>15 total</i>
Provider or staff education and training	12
On-site coordination and other direct technical assistance	2
Funding, payment, and/or reimbursement incentives	1
Other dissemination strategies	6
<i>Implementation interventions*</i>	<i>19 total</i>
Electronic or other tool	9
Care team engagement model	4
Implement quality improvement	7
Engage with patients and families	4
Other strategies	2
<i>Clinical care interventions*</i>	<i>27 total</i>

Community-based multidisciplinary teams	3
Clinical screening and treatment	9
Lifestyle interventions	6
Behavioral and PT	7
Evaluation of provider type	3
Pharmacological management	2
Educational/informational interventions	5
Self-management	5

NOTE: * = Categories are not mutually exclusive: Some studies span multiple categories

Nineteen studies described at least one implementation intervention component (Table 3.4). Nine used an electronic or other tool, four used a care team engagement approach, seven implemented changes to care processes as part of quality improvement efforts, four implemented processes to initiate or improve engagement with patients and families or caregivers, and two used other strategies.

Examples of electronic and other tools included an online risk assessment tool, patient apps, and a telecontinence care program (Chen, Hsu, et al., 2021; Davis et al., 2020; Firet et al., 2019; Loohuis et al., 2018; Wadensten et al., 2021; Schlittenhardt, Smith, and Ward-Smith, 2016). Examples of implementing care team engagement models included developing a community-based UI center tied to primary care clinics (St John and Wallis, 2004).

3.4.3 Clinical Care Interventions

Lastly, we categorized the studies by the types of clinical care interventions that they disseminated and/or implemented. Many of the studies fit into multiple categories.

Community-based multidisciplinary teams. Interventions in this category were care assessment and treatment approaches that include providers, nurses, physiotherapists, and health care assistants (Beban, Newman, and Nolan, 2021; Byles et al., 2005; Knight and Procter, 1999).

Clinical screening and treatment. Interventions in this category were limited to interventions to improve screening (Bland et al., 2003; Byles et al., 2005; Chen, Mikhail, et al., 2021; Eckhardt et al., 2022; Hess et al., 2013; Jha et al., 2007; Ngigi, 2017; Schüssler-Fiorenza Rose et al., 2015; Visser et al., 2015). None of the studies incorporated UI treatment interventions included in our abstraction categories, such as addressing cognitive impairment, medication therapy, or posterior tibial nerve stimulation.

Lifestyle interventions. Interventions in this category were in-person or virtual interventions (i.e., mobile apps and telehealth) that provide education on lifestyle interventions, behavioral therapies, and physical therapies (focusing primarily on PFMT) (Alewijjnse et al., 2003; Davis et al., 2020; Firet et al., 2021; Loohuis et al., 2018; Mcfall, Yerkes, and Cowan, 2000a; Wadensten et al., 2022).

Behavioral therapy and PT. Interventions in this category included tools for prompted voiding, bladder training, PT, PFMT, and relaxation and breathing (Albers-Heitner et al., 2012; Alewijjnse et al., 2003; Davis et al., 2020; Jha et al., 2007; Mcfall, Yerkes, and Cowan, 2000a; Sampsel et al., 2000a; Tannenbaum et al., 2019).

Evaluation of provider type. This category refers to studies that provided upskilling, for example, use of a nurse instead of the physician in providing treatment or follow-up care (Albers-Heitner et al., 2012; Schlittenhardt, Smith, and Ward-Smith, 2016; Teunissen et al., 2015).

Pharmacological care. These studies tested the use of a screening questionnaire to identify patients appropriate for an antimuscarinic agent (Hess et al., 2013) or evaluated and adjusted medications being used to treat UI (Jha et al., 2007).

Educational/informational interventions. This category includes studies that provided educational materials to providers, clinic staff, and/or patients or provided training to providers. Many of the included studies implemented some form of education, but some studies focused on unique forms of training such as upskilling, testing the provision of educational materials to patients or providers, or training focused on treatment guidelines (Albers-Heitner et al., 2011; Alewijnse et al., 2003; Byles et al., 2005; Eckhardt et al., 2022).

Self-management. This category includes studies that used apps or that provided special training to patients on managing their UI condition (Albers-Heitner et al., 2011; Alewijnse et al., 2003; Celik et al., 2008; Firet et al., 2021; Jha et al., 2007; Loohuis et al., 2018; Mcfall, Yerkes, and Cowan, 2000a).

3.4.4 Levels and Groups of Participants in Primary Care Systems

The top of Table 3.5 shows the number of studies whose interventions addressed different levels and groups of participants in health care systems. Most studies addressed multiple levels and participants. For example, many incorporated interventions for both patients and clinicians, or for both the practice and clinician levels. Only two studies focused on just one level or group of participants (PCPs in one case, and families and caregivers in the other).

Table 3.5. Levels of Primary Care Systems and Stages of Care Addressed by Study Interventions

Levels of Primary Care System*	Number of studies
Payors	1
Community	5
Health care delivery systems	5
Primary care practices	10
Primary care clinicians or staff	16
Families or caregivers	1
Patients	9
Stages of Care*	
Screening and diagnosis	14
Management	18
Referral	5

NOTE: * = Categories are not mutually exclusive.

3.4.5 Stages of Care Addressed by Study Interventions

The bottom of Table 3.5 shows the numbers of studies that addressed different stages of the care process for UI. Some studies incorporated interventions focused on more than one stage of care.

Examples of interventions focused on improving screening and diagnosis included online prediction and screening tools, mailed paper questionnaires, and educational programs for PCPs on the importance of screening (Chen, Hsu, et al., 2021; Hess et al., 2013; Schüssler-Fiorenza Rose et al., 2015; Hess et al., 2013; Visser et al., 2015; Bland et al., 2003; Sampsel et al., 2000a; Byles et al., 2005; Celik et al., 2008; Eckhardt et al., 2022; Jha et al., 2007; Knight and Procter, 1999; Ngigi, 2017).

Examples of interventions that focused on patient or provider management of UI included patient self-management apps for prompted voiding, performing PFMT, and guiding lifestyle changes; provider prescription of a pharmacologic agent; and modifying care team structures or processes to better manage patients with UI in the clinic (Davis et al., 2020; Firet et al., 2019; Loohuis et al., 2018; Wadensten et al., 2021; Hess et al., 2013; Albers-Heitner et al., 2012; Albers-Heitner et al., 2011; Beban, Newman, and Nolan, 2021; Hess et al., 2013; Jha et al., 2007; Knight and Procter, 1999; Schlittenhardt, Smith, and Ward-Smith, 2016; Mcfall, Yerkes, and Cowan, 2000b; Sampsel et al., 2000a; Schüssler-Fiorenza Rose et al., 2015; Teunissen et al., 2015).

Examples of interventions that focused on improving referral included referrals to various specialty services for UI, such as urogynecology and PT, or to a service specifically dedicated to incontinence, such as a local primary care–based continence clinic (Jha et al., 2007; Sampsel et al., 2000a; Byles et al., 2005).

3.5 Study Design

The updated scan identified 12 randomized controlled trials (RCTs) or single-arm trials, one prospective cohort, six that used a pre-post assessment of outcomes, and seven descriptive studies that met inclusion criteria. Most of these studies used mixed methods (i.e., both quantitative and qualitative) data and analysis.

3.6 Study Outcomes

This section reviews the process and impact outcomes that were assessed in the studies. Process outcomes include the effects of study interventions on the implementation process and process of care. Impact outcomes are divided into three domains: health outcomes (e.g., effects on patient UI symptoms and quality of life), system outcomes (e.g., effects on provider behavior, sustainability of care changes, and practice capacity for QI); and economic outcomes (effects on costs and cost-benefit for patients, health care delivery organizations, or society).

3.6.1 Process Outcomes

Screening, Diagnosis and Initiation of Treatment

Studies that tested interventions to improve screening rates found mixed effects, while studies that assessed the effects of screening reported improved rates of patient discussion of UI with providers and initiation of treatment.

For example, a study in the United States found that patient (but not provider) education improved screening rates (Eckhardt et al., 2022). Another study of a multifaceted provider education intervention on screening guidelines reported no effects on screening rates (Bland et al., 2003).

However, a study that compared women screened for UI with those who were not screened found that screened women reported discussing UI with their provider during their visit and being offered treatment at higher rates. Another study similarly found the use of a simple pencil-and-paper prescriber to increase the proportion of patients who initiated treatment (Hess et al., 2013).

Referral to Specialty Services

Eight studies reported on some aspect of referral from primary care to UI-related specialty services. Three of the four studies that tested interventions focused on the referral process reported increased rates of referrals to urology, urogynecology, and/or PT services. A 2007 UK study compared two models for referral and found that an integrated care pathway in primary care increased the rates and speed of referral to specialty care (Jha et al., 2007). A 2004 Danish study that used self-report surveys to assess patient referrals to specialty care before and following distribution of clinical guidelines and a reimbursement scheme found an apparent increase in referral behavior (Viktrup and Møller, 2004). A 2022 RCT in the United States that implemented a multicomponent educational intervention found increased rates of referral to urogynecology in both intervention and control groups (Eckhardt et al., 2022). However, a 2005 Australian study found no improvement in referral rates (i.e., to physiotherapy or other specialty care) after implementing three different interventions involving provider training, strengthening referral networks, and community education (Byles et al., 2005).

Four other studies whose interventions did not focus on referrals to UI-related specialty services reported referral measures but not in ways meaningful for understanding the effects of study interventions on the referral process. Two of these studies did not compare referrals between intervention and/or control groups (Beban, Newman, and Nolan, 2021; Visser et al., 2015). Another did not report referral rates (Schüssler-Fiorenza Rose et al., 2015). And a fourth study noted that no women in either the intervention or usual care groups were referred for specialty care (Loohuis et al., 2018).

Implementation Facilitators and Barriers

Despite the relative lack of attention to evaluation of D&I efforts, studies in the scan identified a variety of facilitators and barriers related to *implementation context* (e.g., characteristics and capacities of primary care systems and local practice sites in which interventions were being disseminated and implemented), *attributes of the UI care interventions*, and *implementation strategies and process*.

Implementation context. Several studies pointed to barriers associated with a *lack of* necessary resources for implementing interventions, such as limited access to equipment and training (Knight and Procter, 1999) and lack of time, space, and privacy needed to conduct thorough UI assessments within primary care settings (Byles et al., 2005). These same studies also identified barriers related to established beliefs around professional roles (such as the ability of nurses to thoroughly assess UI) and a lack of communication among different groups of practitioners who need to work together as part of multidisciplinary approaches to continence care within primary care systems (Byles et al., 2005; Knight and Procter, 1999).

Attributes of UI care interventions. Studies also observed barriers and facilitators resulting from the attributes of the UI care interventions being disseminating or implemented within primary care settings. One set of barriers was related to patient and information flows—for example, patients having to overcome many gatekeepers before accessing a continence adviser (Knight and Procter, 1999) or screening information not linked to chart notes for providers to use during patient visits (Sampselle et al., 2000a).

Other attributes of interventions served as facilitators to overcome barriers, such as mechanisms to improve communication (e.g., developing a formal network of practitioners for coordinating continence services) or mechanisms to improve access to patient access (e.g., instituting a UI helpline and waiting room screening) (Byles et al., 2005). Likewise, the design of

intervention tools for usability facilitated implementation. For example, qualitative findings from a study of PFMT in primary care settings suggested that simple standardized counseling protocols and checklists to structure sessions with patients were more useful to physiotherapists than lengthier, detailed written health education materials (Alewijjnse et al., 2003). A study of a PFMT app for patients found such features as easy digital access, promotion of a sense of autonomy and self-discipline, and flexibility of performing exercises at one's own convenience increased use of the app tool. At the same time, with the autonomy and flexibility afforded by the app came challenges, such as difficulty establishing a regular exercise schedule and uncertainty about performing the exercises without live feedback (Loohuis et al., 2018).

Implementation strategies and process. Lastly, the study that compared the development of two primary care-based continence services gleaned differences in effectiveness of implementation approaches. One conclusion was that implementation strategies focused exclusively on the activities of individual practitioners ignored bureaucratic, resource, and other system barriers that need to be addressed for successful implementation. The study findings also indicated that organic, locally led approaches to implementation appeared to empower practitioners to make role and structural changes supportive of the evidence-based intervention. In contrast, top-down, compliance-oriented approaches by system administrators tended to reinforce role and structural boundaries inhibiting integration of new service models into routine care (Knight and Procter, 1999).

3.6.2 Health Outcomes

Symptom Improvement

Many of the studies measured the effects of the study intervention on improvement of UI symptoms. These studies used several quantitative measures, all self-reported.

The quantitative measures included the following:

- bladder or voiding diaries (Alewijjnse et al., 2003; Davis et al., 2020; Hess et al., 2013)
- the International Continence Improvement Questionnaire—Short Form (ICIQ-UI SF) (Albers-Heitner et al., 2011; Schlittenhardt, Smith, and Ward-Smith, 2016)
- Vaginal Symptoms (ICIQ-VS) and Female Lower Urinary Tract Symptoms (ICIQ-FLUTS) instruments (Beban, Newman, and Nolan, 2021)
- the severity of involuntary urine loss measured via the Sandvik score (quantity times frequency) and symptom severity using the Patient Global Impression of Severity (Teunissen et al., 2015)
- the ICIQ Overactive Bladder Questionnaire (ICIQ OAB-q)
- the International Continence Society Urinary Symptom Index Short Form-Female (ICSUSI-SF-F) (St. John and Wallis, 2004)
- for symptom impact, the measures were
 - the Patient Perception of Bladder Condition (PPBC)
 - the Patient Perception of Urgency Scale
 - the Overactive Bladder Satisfaction scale (Hess et al., 2013; Wadensten et al., 2021)
 - the Patient Global Impression of Improvement (Loohuis et al., 2018; Tannenbaum et al., 2019)
 - and the Incontinence Severity Index (Visser et al., 2015).

All studies that reported on symptom improvement as an outcome reported improvements in at least one indicator of UI symptoms in groups that received an intervention that involved prescreening or screening during visits, NP involvement in treatment, provision of educational materials on PFMT, or use of an app, with some improvements lasting at least a year.

Quality of Life

Changes in quality of life were assessed in studies identified in the original Base Year scan using Activity of Daily Living measures; the Incontinence Impact Questionnaire: the ICIQ-Lower Urinary Tract Symptoms Quality of Life Module; and the Short Form-12v2 (more commonly known as SF-12v2) and 6D (Mcfall, Yerkes, and Cowan, 2000a; Teunissen et al., 2015; Loohuis et al., 2018; Wadensten et al., 2021; Tannenbaum et al., 2019).

In summary, all studies that assessed quality of life after uses of screeners, an app, small group community-based intervention, or NP involvement in treatment reported improvements (Sampselle et al., 2000a; Loohuis et al., 2018; Wadensten et al., 2021; Mcfall, Yerkes, and Cowan, 2000a; Teunissen et al., 2015).

3.6.3 System Outcomes

Practitioner Behavior

A 1999 UK study found that an intervention developed organically between a clinic and community continence service led to improved physician adherence to screening and treatment guidelines, in contrast to the imposition of a specialty continence service by the area health council (Knight and Procter, 1999).

A 2000 U.S. multicomponent intervention aimed at providers and patients found that incorporation of nursing staff in UI care processes improved rates of patient screening (Sampselle et al., 2000a). The 2010 U.S. study by Wenger and colleagues found that the multicomponent practice redesign intervention was associated with improved delivery of recommended UI-related health care (Wenger et al., 2010).

A 2015 study used chart audits to assess whether a prescreening intervention in the primary care setting affected GPs' likelihood of discussing UI with women patients. The authors reported a significant improvement in physicians' discussion of UI following prescreening, especially for women whose screening results suggested UI (Schüssler-Fiorenza Rose et al., 2015).

In contrast, a 2022 U.S. study reported no effect of physician education on patient screening or initiation of treatment (Eckhardt et al., 2022).

In summary, the findings of these studies suggest that interventions can change practitioner behavior—such as physician adherence to screening and treatment guidelines, discussion of UI with patients, and nurse assumption of roles in UI care—resulting in improved provider and practice management of patients with UI.

Provider Acceptance of Intervention

Several studies assessed provider acceptance of—or other attitudes toward—the intervention or the way it was implemented.

One study of a practice process change aimed at improving rural patients' treatment follow-up implemented a three-item provider survey (Schlittenhardt, Smith, and Ward-Smith, 2016). This study reported good acceptance of the use of telehealth follow-up.

A study of a PFMT-focused app for treatment of stress UI (SUI) interviewed a subset of practice physicians about their attitudes toward PFMT, the app, and telehealth in general. Although the doctors supported PFMT for treatment of SUI and generally believed the app fit well into their practice routines and added value, they tended to express doubts about whether the app would be effective for older patients or could be used without significant support from providers and maintained that physician care remains essential (Furet et al., 2019).

Integration of a Process Change into Practices

One study publication described in detail how a medical practice integrated the process change into its patient care routine (Schüssler-Fiorenza Rose et al., 2015). The reason for this might have been that only a small number of the studies implemented an intervention that required this kind of change.

Several studies described implementation of small changes, such as providing screening forms to patients waiting to be seen or adding triage by a physical therapist to the clinic process. One study described the integration of a multicomponent practice redesign into five primary care practices (Wenger et al., 2010): This study found positive impacts of the practice redesign on all outcomes assessed.

3.6.4 Economic Outcomes

Four studies assessed economic outcomes. One study, conducted from 2008 to 2010, assessed the effectiveness and cost-effectiveness of implementing trained nurse specialists in the care of adult patients with UI (Albers-Heitner et al., 2012). Using the EuroQol-5D tool to estimate changes in quality-adjusted life years (QALYs), the study estimated that the use of the nurse specialists was cost-effective compared with that of usual care.

The URINO Trial, conducted from 2013 to 2015, assessed the cost-effectiveness of implementing a multicomponent intervention that included prescreening and developing individualized care plans. Estimating impact in terms of incontinence impact adjusted life years, the study reported a 91 percent likelihood that the intervention was cost-effective (Visser et al., 2015).

A study of a UI management app conducted in Sweden compared the cost-effectiveness of the app with that of usual care and found the app to be comparatively cost-effective (Asklund et al., 2017).

Finally, a study that developed and validated a screening tool noted that the tool would save health care costs by reducing the need for referral to specialty care, although the study did not assess cost-effectiveness (Chen, Mikhail, et al., 2021).

Chapter 4. Results of the Supplemental Literature Reviews on Referral Process

In this chapter, we present results of the supplemental searches conducted in OY1 on referral process. See Chapter 2 for detail on the selection of the three supplemental search topics, which include

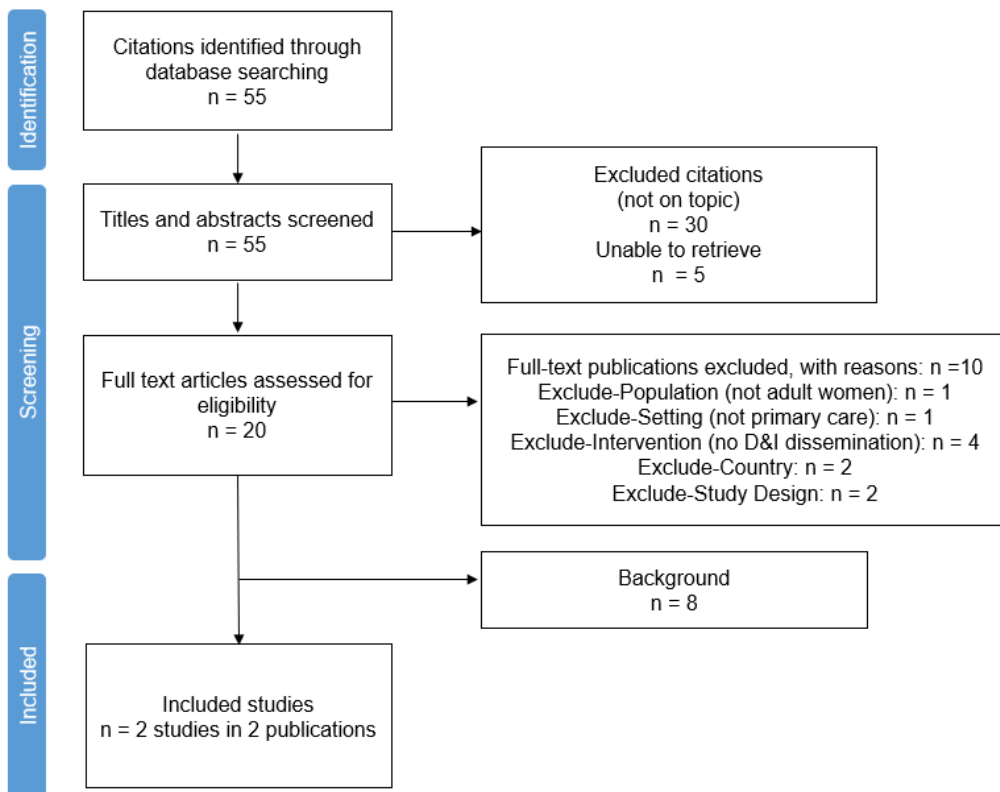
1. referrals by UI specialists to PT
2. referrals by PCPs to PT for non-UI conditions
3. referrals by PCPs to nonsurgical treatment for obesity and weight loss.

The sections below provide an overview of each search, screening results (PRISMA flow diagrams), and narrative summaries of the included studies. Detailed narrative review tables used to generate the summaries, with data listed by individual study, are presented in Appendix E.

4.1 Referral by UI specialists to PT

The first supplemental literature search focused on interventions related to the referral process to PT for UI conditions among women and excluded terms related to primary care. The search identified 47 publications. Of these, two publications met our inclusion criteria. Figure 4.1 presents the literature screening flow diagram following the PRISMA guide for scoping reviews.

Figure 4.1. PRISMA Flow Diagram for Supplemental Search 1: Referral by UI Specialists to PT



4.1.1 Study Context and Interventions

Both studies took place in specialty clinics (i.e., gynecology) and aimed to improve access and timeliness of conservative management of UI. Brennan et al. (2019) developed, implemented, and evaluated an advanced practice physiotherapy-led assessment clinic at two sites in Australia where 268 patients were triaged to either a specialist (i.e., gynecologist, urogynecologist, urologist) or the PT-led assessment clinic. After assessment in the PT-led clinic, patients could be referred for physiotherapy or booked with a medical specialist. Clinical education tools (e.g., learning plans, self-assessment tools) were developed to ensure the physiotherapists met competencies for assessment.

Jopling et al. (2020) studied a quality improvement project in an urban OB/GYN clinic in Louisiana using an evidence-based Screening, Brief Intervention, and Referral to Treatment (SBIRT) model to improve access to care. The study sample included 14 nurses, three nurse practitioners, and six gynecologists. The project consisted of four Plan-Do-Study-Act cycles over eight weeks that focused on improving team engagement, patient engagement, screening, and appropriate referral to treatment. Team engagement interventions included a kickoff training meeting, weekly meetings, a team lapel pin, and final contest for prizes. For patient engagement, a shared decisionmaking aid was used to educate women about incontinence and treatment options and to secure commitments to lifestyle changes and daily Kegel exercises. Screening consisted of nurses reading patients questions from the Revised Urinary Incontinence Scale, a validated five-question screening tool. Referrals to either the urogynecology NP within the clinic, PT, or a urology specialist were based on scores from the scale.

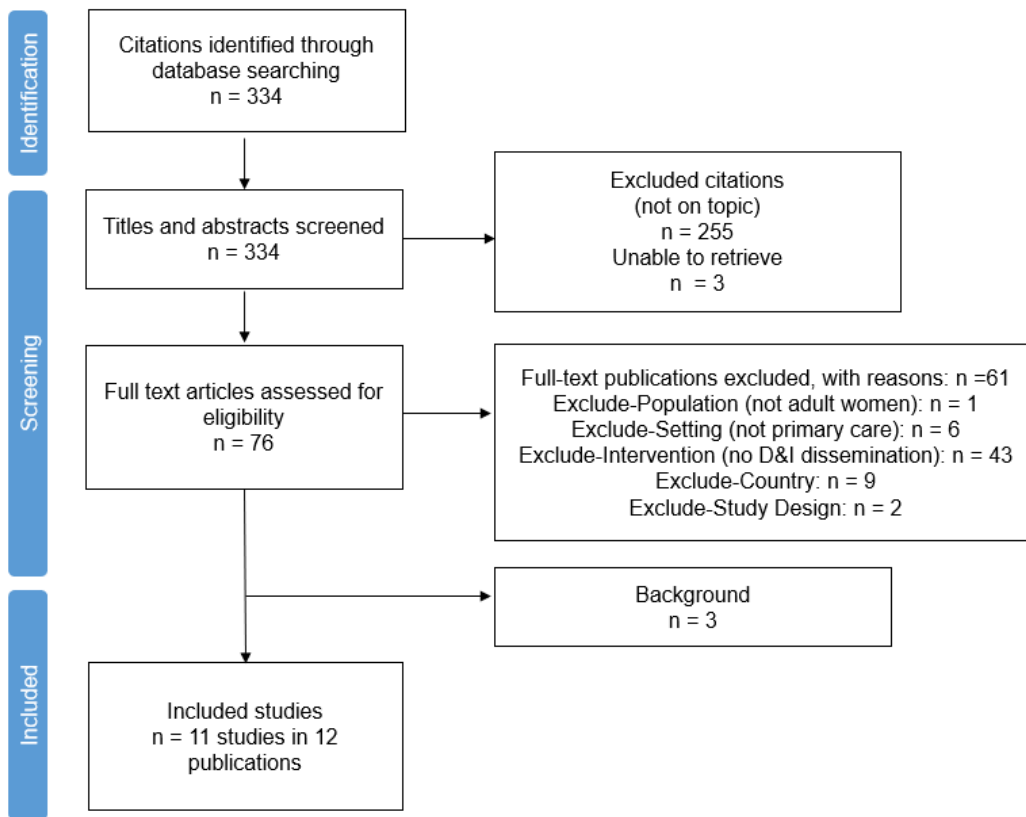
4.1.2 Study Outcomes

Brennan et al. (2019) found implementation of the advanced practice physiotherapy–led assessment clinic resulted in high patient satisfaction, timely access to appointments, and improved workforce integration. Conservative management rates went from 1 percent to 31 percent at one site and from 0 percent to 17 percent at another. As a result of the quality improvement project, Jopling et al. (2020) showed that routine screening of UI was included in every well-woman exam, resulting in screening rates between 33 percent and 48 percent across the four study cycles. Nurses’ confidence in screening for UI increased from 8 percent to 80 percent. Patient education was guided by the decision aid, improving appropriate referrals and understanding of incontinence.

4.2 Referral by PCPs to PT for Non-UI Conditions

The second supplemental literature search focused on interventions related to the referral process to PT for non-UI conditions among adults in primary care. The search identified 336 publications. Of these, 11 publications met our inclusion criteria. Figure 4.2 presents the literature screening flow diagram following the PRISMA guide for scoping reviews.

Figure 4.2. PRISMA Flow Diagram for Supplemental Search 2: Referral by PCPs to PT for Non-UI Conditions



4.2.1 Study Context and Interventions

Studies on the referral to PT in primary care for non-UI conditions varied broadly in the number of practices (1 to 24), in the number of providers (8 to 86), and in the number of patients per study (8 to 2,810). Seven of the 11 studies were based in the United Kingdom, two in Australia, one in the Netherlands, and one in the United States. Low back or neck pain was the most prevalent non-UI condition, occurring in six studies. One study looked at osteoarthritis, one at orthopedic disorders broadly, another at falls prevention, and two studies evaluated referrals to PT among a general patient population. Among the studies evaluating the referral process to PT for low back and neck pain, interventions included provider education on guidelines for managing low back pain, risk stratification to identify patients for PT, addition of multi-professional manual therapy services (e.g., chiropractors, osteopaths, physiotherapists) at the primary-secondary care interface, and implementation of a care pathway for PT prior to specialty consultation. The remaining studies included implementation of a self-referral pathway to PT, a one-time PT consultation between primary care physician and physiotherapist pairs, an orthopedic screening service provided by PTs, a model osteoarthritis consultation framework, and a falls prevention program delivered by PTs and occupational therapists.

4.2.2 Study Outcomes

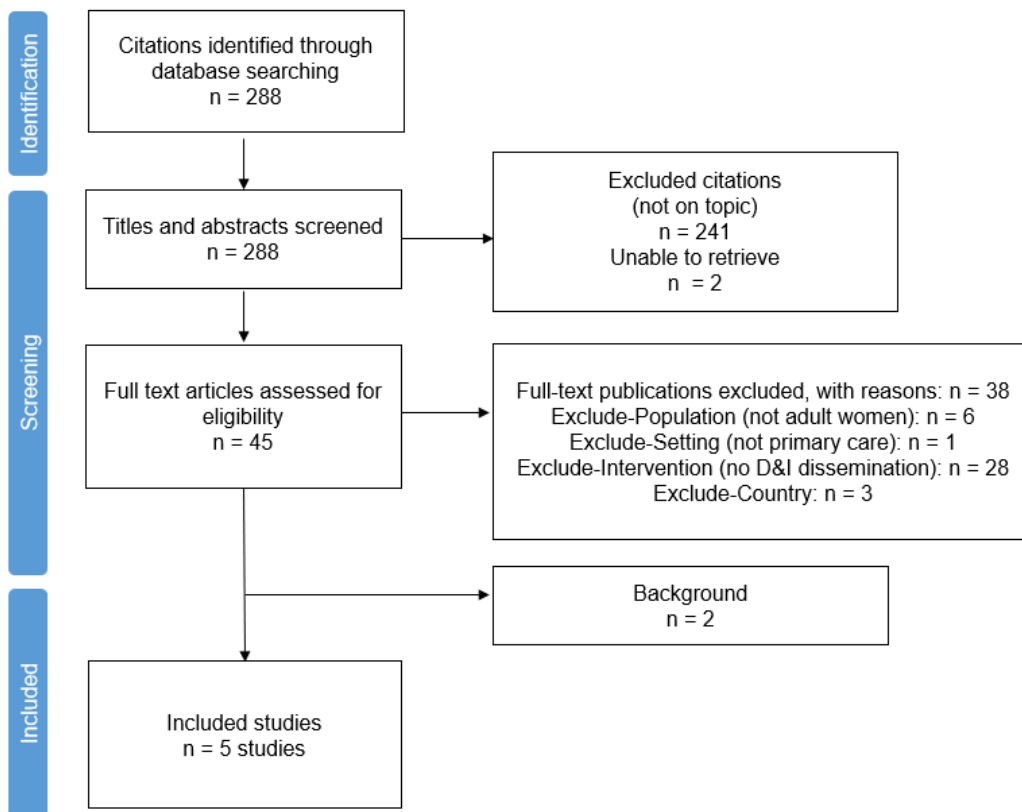
Nine studies reported on access to PT care after implementation of the interventions (Gurden et al., 2012; Hattam and Smeatham, 1999; Hendriks et al., 2003; Holdsworth and Webster, 2004;

Jordan et al., 2017; Mackenzie, Clemson, and Irving, 2020; Magel et al., 2018; Moi et al., 2018; Pinnington, Miller, and Stanley, 2004). Improvement in access to PT ranged from within 72 hours to within 10 weeks (Pinnington, Miller, and Stanley, 2004; Moi et al., 2018). Access to PT was associated with reduction in specialty referrals or use of services (Gurden et al., 2012; Hattam and Smeatham, 1999; Magel et al., 2018). Jordan et al. (2017) also showed an increase in the use of first-line pharmacological and nonpharmacological treatments (e.g., exercise, weight loss) for back pain. Risk stratification of patients with low back pain significantly improved the rate of risk-appropriate referrals to PT for medium- and high-risk patients (Foster et al., 2014). Self-referred patients were more likely than general practice physician-initiated referrals to complete PT and report improvement (Holdsworth and Webster, 2004). Provider outreach and education on national guidelines for low back pain failed to change general practice physicians' referral rates to PT (Dey et al., 2004).

4.3 Referral by PCPs to Nonsurgical Treatment for Obesity and Weight Loss

The third supplemental literature search focused on interventions related to the referral process in primary care for obesity and weight loss among women. The search identified 300 publications. Of these, five publications met our inclusion criteria. Figure 4.3 presents the literature screening flow diagram following the PRISMA guide for scoping reviews.

Figure 4.3. PRISMA Flow Diagram for Supplemental Search 3: Referral by PCPs to Nonsurgical Treatment for Obesity and Weight Loss



4.3.1 Study Context and Interventions

Four of the five studies identified were conducted in the United States, with three located in primary care clinics or practices (ranging in number from one to 14), and one study at five community health centers. One study took place in the United Kingdom at six general practice clinics. Patient sample sizes ranged from 153 to 12,981 overweight or obese adults. All four U.S.-based studies implemented an electronic medical record (EMR) chart prompt or alert. Three studies included chart alerts that provided patient education, treatment and referral options, and a care delivery checklist. One study implemented a chart prompt, which showed a patient's BMI with other vital signs, to determine physicians' diagnosis and referral for obesity treatment patterns. The UK-based study evaluated a prototype of a community-based weight management program and identified implementation gaps during the referral process from general practice.

4.3.2 Study Outcomes

Rates of referral to weight management programs varied across studies using EMR prompts, but chart alerts generally increased referral rates. Clark et al. (2010) reported that 40 percent of eligible patients received a program referral from a primary care provider and 15.6 percent contacted the program at least once, while Krist et al. (2008) found that 12 percent of obese patients and 3 percent of overweight patients were referred for intensive counseling from a community program. Schriefer et al. (2009) found that a BMI chart prompt increased the likelihood of physicians diagnosing obesity in obese patients and referring them for treatment.

Fitzpatrick et al. (2017) did not find that primary care clinics with chart alerts for obesity ($BMI \geq 30$) were more likely to refer patients to weight management, but documentation related to obesity doubled. The main implementation barrier for referral to the UK weight management program identified by Dodd-Reynolds et al. (2019) was the need to broaden inclusion criteria so that patients with a BMI higher than 29.9 kg/m^2 could qualify, because referrals were restricted to patients with a BMI between 25.0 kg/m^2 and 29.9 kg/m^2 .

Chapter 5. Discussion

In this chapter, we summarize and discuss the findings from the updated scan on the D&I of primary care interventions for managing UI in women, findings from the supplemental scans on referral process in other settings or for other conditions, limitations of the scan and research base, and overall conclusions.

5.1 Summary of Findings on the Dissemination and Implementation of Primary Care Interventions to Manage Urinary Incontinence for Women

The updated scan identified 2,631 publications over the extended date range (1996–2023). Of these, 48 publications that reported on 27 studies met our full inclusion criteria. This nearly doubled the 14 studies identified in our original scan covering the 2012–2022 period. We review the findings below for clinical care interventions organized by stage of care (screening and diagnosing, managing, and referral for UI) and for D&I interventions.

Screening and diagnosing UI. Reflecting the evidence that most women with UI go untreated because they do not discuss their symptoms with their providers, many of the studies we identified aimed to develop, refine, test, and ensure the use of screening tools. These were delivered in a variety of media, including mailed paper forms, paper forms completed in waiting rooms, online tools, and face-to-face interviews with NPs. Some interventions were aimed at patients, some at providers, and some at both groups. Some of the efforts combined introduction of screening tools with educational outreach on screening to patients and/or providers.

Screening efforts tended to be well accepted but did not consistently increase the likelihood that women would interact with their providers for treatment. For studies in which screening improved diagnosis and treatment, recruited participants might have been more health literate or simply more willing to comply than typical primary care patients. This is a particular concern with studies that are not designed to assess D&I interventions in real-life settings. Several studies identified additional barriers to the success of screening: These included a lack of ready access of providers to pre-visit screening results (no mechanism to transmit them to patient charts in a timely manner or no prompts to seek them) and lack of time to review the results prior to or during a visit. One study found that screening interventions developed as a part of an organically designed practice change intervention were more likely to succeed than were screening tools imposed on clinics from the top down.

Managing UI. Several studies tested novel strategies for managing UI. These included apps that provide support and education for behavioral management (e.g., PFMT) and changes to practice routines (e.g., implementing follow-up calls with NPs, bringing physical therapists into primary care clinics to conduct PFMT and/or to perform triage for specialty referral), and other multicomponent practice redesign efforts aimed at quality improvement).

These interventions tended to be well received by patients and were associated with improved clinical outcomes. One study compared the effectiveness of a self-management app with usual (evidence-based) care in real-world health care settings and found the app to be equally effective in improving symptoms and quality of life. The apps can be integrated into primary care practices relatively easily, but it will be important to ensure that multilingual versions are created and that all women who could benefit from them are ensured equal access and any training needed to use them. Studies conducted with the apps are relatively recent and

most were conducted in the Netherlands, so it will be important to track the findings of long-term follow-up and of studies conducted in the United States. Studies of multicomponent interventions (such as practice redesign efforts and establishment of care networks) showed some positive results; as with the finding for screening interventions, efforts designed at the individual practice level tended to be more successful and accepted.

Referral to specialty care. Several studies implemented interventions to improve referrals to urogynecology or to PT. Three of these studies reported increased referral and access to PT (one reported increases for both intervention and control groups); however, these studies nearly all took place in countries with national health systems and/or near universal health care coverage, so it will be important to assess whether the effectiveness of such interventions generalizes to health care systems where primary care physician referrals are needed to access specialty care. Below we discuss this finding in relation to identified barriers to PT.

D&I interventions. Many studies, including D&I interventions, focused on measuring clinical outcomes and did not assess whether or how fully the D&I components were actually used or put into place. However, we did identify other studies that focused on dissemination interventions (including funding and reimbursement incentives, media campaigns, train-the-trainer programs, and dissemination of UI guidelines) and implementation strategies (including use of QI methods and approaches to engagement of patients and families). But too few of these studies assessed the overall effectiveness of the D&I interventions, let alone their effectiveness in particular settings or for particular patient populations.

Among these implementation strategies, multicomponent practice redesign efforts that incorporated additional steps, such as meetings with advanced care practice nurses or onsite physical therapists, had mixed results: Studies that reported positive results tended to implement multicomponent efforts tailored to their own sites, or such studies might have included clinics that are more motivated to improve (such as those in academic medical centers, for which QI efforts might be part of teaching) and/or might be in countries that provide broader health insurance coverage.

Educational interventions aimed at providers tended to improve knowledge but usually were not associated with improvements in screening or management. This finding could be attributable to the lack of study length mentioned above or to study design (e.g., multicomponent interventions or contamination in randomized trials where clinicians might practice at multiple sites or patients might see different providers at different visits).

5.2 Summary of Findings from the Supplemental Searches on Referral Process in Other Settings or for Other Conditions

Interventions identified with the supplemental searches that focused on the referral process for PT, both for UI and for other conditions, included the addition of PT providers or services in primary care settings or between primary care and specialty care; provider education to promote conservative treatment prior to specialty referral; risk stratification to better triage patients for PT services; and self-referral pathways. Studies that integrated PT providers in the primary care pathway to screen and treat patients prior to specialty care, or that allowed for self-referral to PT, generally showed increased access to care, utilization of conservative treatments, and reduction of inappropriate referrals. Many of these studies took place outside the United States, such as in the United Kingdom or Australia, which, as suggested above, might have more standardized pathways between primary and secondary care or generous insurance coverage for PT services. Although patient education was effective in increasing discussion of UI, provider education that

reinforced national guidelines in a study of low back pain did not alter primary care physicians' referral practices to PT.

For the analogous condition studied, obesity and weight management, interventions commonly focused on the use of EMR alerts to identify and refer patients with a BMI above a specific threshold. Overall, chart alerts either increased documentation, diagnosis of obesity, or referral to weight management programs. However, a limitation to the applicability of this finding is that chart alerts calculated BMI using height and weight, which are commonly collected measures in primary care, in contrast to the situation for UI, which requires patients to report symptoms.

5.3 Limitations of the Scan and the Research Base

Some of the studies that we identified addressed facilitators and barriers to implementation as well as limitations of their own research designs and findings. In addition, we identified several limitations and gaps both in our own review and in the literature.

Several major limitations are inherent to environmental scans, scoping reviews, and systematic reviews of D&I efforts. First, no standardized terms exist for D&I research that would identify all relevant research; rather, interventions, particularly multicomponent interventions, can employ or include D&I components yet focus primarily on clinical process or health outcomes that are unrelated to evaluating the D&I. Authors of such studies may not emphasize these D&I components, let alone describe them as a D&I intervention. Thus, we may have missed some studies of interest, even though we included a variety of search terms related to D&I. Second, assessing the quality of D&I studies and the strength of D&I literatures faces a number of challenges that have yet to be overcome.

In the remaining parts of this section, we synthesize and describe the limitations in the literature.

5.3.1 Interventions

To ensure relevance, we limited inclusion to studies that reported on D&I efforts to promote evidence-based interventions in primary care or other settings relevant for the MUI grantee projects. Still, many of the studies identified by the scan chiefly concentrated on clinical interventions and effectiveness, with noticeably less attention to D&I strategies and factors, such as effective approaches to D&I facilitators and barriers.

Given the time and resource constraints of the scan task, we were able to search some sources of grey (non-peer-reviewed) studies, but we could not search all (e.g., we did not search abstracts presented at research meetings). To augment our searches, we asked members of the TEP and the project's UI subject-matter experts to help identify relevant interventions and resources that we might have missed. They identified a small number of important studies conducted in specialty care settings, some of which were included in the results if they met the specific criteria of the supplemental search.

The reading level of educational and promotional resources and tools intended for patients is an important consideration for their appropriateness and use. None of the studies assessed patient health literacy or the reading level of these kinds of materials when used.

5.3.2 Settings

As noted in published standards and other implementation science guidance, it is essential to understand the context in which interventions are implemented to examine possible sources of

barriers and facilitators to their introduction and assess their generalizability to other settings. To gather as much information as we could about implementation context, we abstracted all relevant study-level details available in the retrieved documents, including study protocols. However, most of the implementation studies did not adequately describe the implementation context.

5.3.4 Outcomes

As noted above, many of the outcomes assessed in the studies concerned the effectiveness of clinical interventions rather than of D&I efforts. Although most studies used validated tools for clinical outcomes, none evaluated whether the magnitudes of clinical improvement met thresholds for being clinically important either at the patient or population level.

Likewise, as previously described, the studies examined a variety of process outcomes and impact outcomes. However, no studies specifically assessed outcomes related to reach of the care interventions among the targeted practice or patient population or sustainment of the D&I practices. Moreover, because of the heterogeneity of interventions and outcomes assessed across studies, it is difficult to conclusively distinguish the effectiveness of any individual type of D&I intervention for any particular type of outcome.

5.3.5 Populations and Locations

We aimed to ensure that we identified studies that address UI care and the needs of underserved women, particularly those with limited access to care. However, only two studies specified the racial or ethnic makeup of the participants, and no U.S. studies reported on patients' care coverage. It is possible that most European studies simply take equitable health care coverage for granted. However, in the United States, even some women 65 and older might not have Medicare coverage (e.g., undocumented people) or might have other barriers to receiving adequate health care. Health coverage has been reported as a barrier to accessing PT.

Most studies did not identify the income or education level of participants. The small number that did found that participants tended to be more educated and had a higher-than-average income. This gap is especially critical because several studies implemented phone apps or other electronic health functions. Women with less education levels and lower reading comprehension levels might be less likely to be able or willing to adopt these technologies.

Almost none of the studies were conducted in areas that were identified as underserved or in safety net settings, except for two. One study assessed the effect of a practice change aimed at improving access to care for women in rural areas. Another study that was conducted in FQHCs reported on the successful implementation of standardized physician screening, follow-up forms, and patient education materials that promoted PFMT (Sampselle et al., 2000a).

The utility and generalizability of D&I studies in real-life primary care settings, including community or home settings in which treatments are managed by primary care professionals, depend on the degree to which their participants are representative of populations served and that barriers to care are typical of those settings. Also, primary care practices are universally recognized as a key entryway to the health care system, and the treatment of UI is no exception. Thus, although this update scan nearly doubled the number of studies identified initially, the still relatively small number of D&I studies based in primary care settings represents a major gap.

Finally, most studies were small, both in numbers of participants and study sites, and dropout rates for some studies were relatively high. These factors have the following three implications:

- Studies might not have had the statistical power to assess important questions.

- Study findings might not represent what would be found in whole populations or even larger practices or health care systems.
- It would be important to study reasons for dropping out to understand barriers to adoption of UI care improvements at the patient, practice, or system level.

5.3.6 Study Quality and Applicability

As an environmental scan, assessing study quality was not within scope. However, several overall comments from our prior report about the quality of the studies bear repeating (Newberry et al., 2023).

Several of the studies were large, well designed within the limitations of this kind of research, and implemented features of good quality, such as calculating the number of participants needed to observe differences between treatment groups, using valid methods of randomization, assessing retention, and using intention to treat analysis (that is, including all participants who enrolled in the study—not just those who completed all treatments—in the calculation of study findings). However, by necessity, few studies were able to fully blind participants or their PCPs to their treatment assignment, and nearly all outcomes were self-reported; in at least one case, contamination of the control condition was suspected as the reason for intervention and control participants having similar improvements. Also, several of the studies had low retention rates.

As discussed in the prior report, although many of the studies were conducted in primary care settings that provide treatment in real-life settings of care, several factors make the applicability of the studies that we identified somewhat challenging. Only about one-third of the studies were conducted in the United States; the remainder were conducted in countries that provide or heavily subsidize universal health care coverage. Most studies lacked information on the practice context or size relative to the numbers of study participants (both providers and patients). Few studies reported race, ethnicity, socioeconomic status, health care coverage, comorbidities, education, or other SDOH of participants. However, when this information was reported, it suggested that the average study participant was more likely to be White and highly educated than average patients. No studies reported on health literacy.

5.4 Conclusions

The update scan nearly doubled the number of identified studies on the D&I of UI treatment in primary care practices for women patients. This included studies describing and assessing a broader array of D&I strategies than did the original scan.

The update also partially addressed a gap from the original scan. By extending the date range, we identified three studies that implemented interventions to improve the referral of women with UI in primary care to specialty services. In addition, the three supplementary searches on the referral process in other settings or for other conditions identified a small but varied set of studies that evaluated a variety of referral improvement interventions with promising effectiveness. However, many of these studies from the updated scan and supplemental searches were conducted in countries with more generally integrated health care systems and near universal insurance coverage, which might limit their direct generalizability and necessitates thoughtful consideration of how to tailor these interventions for UI and for primary care settings in the United States.

Even with the additional studies noted above, the number of relevant studies on the D&I of primary care UI treatment for women is relatively small. Potential areas of focus for the final

update of this scan include remaining gaps, such as the diagnosis and the treatment of UI in primary care. Additional attention is also needed on tailoring of UI interventions from specialty care, such as patient education, and adapting referral processes from other countries or for other health care conditions into the context of the primary care setting in the United States. The continuing dearth of evidence also points to the potential for the MUI initiative and grantee projects to substantially expand the evidence on managing UI within primary care practices for women.

References

- Agency for Healthcare Research and Quality, “The EvidenceNOW Model: Providing External Support for Primary Care,” webpage, August 2019. As of March 12, 2024:
<https://www.ahrq.gov/evidencenow/about/evidencenow-model.html>
- Agency for Healthcare Research and Quality, “EvidenceNow Key Drivers and Change Strategies,” webpage, October 2020. As of March 12, 2024:
<https://www.ahrq.gov/evidencenow/tools/keydrivers/description.html?tca=Uh7at9YNY2Es6Py8EEfBJNitZgd39c3s5co-A31x2KQ>
- Agnew, R., E. van den Heuvel, and C. Tannenbaum, “Efficiency of Using Community Organisations as Catalysts for Recruitment to Continence Promotion Trials,” *Clinical Trials*, Vol. 10, No. 1, February 2013.
- Albers-Heitner, C. P., M. A. Joore, R. A. Winkens, A. L. Lagro-Janssen, J. L. Severens, and L. C. Berghmans, “Cost-effectiveness of Involving Nurse Specialists for Adult Patients with Urinary Incontinence in Primary Care Compared to Care-As-Usual: An Economic Evaluation Alongside a Pragmatic Randomized Controlled Trial,” *Neurourology and Urodynamics*, Vol. 31, No. 4, April 2012.
- Albers-Heitner, P. C., T. A. Lagro-Janssen, M. M. Joore, B. L. Berghmans, F. F. Nieman, P. P. Venema, J. J. Severens, and R. R. Winkens, “Effectiveness of Involving a Nurse Specialist for Patients with Urinary Incontinence in Primary Care: Results of a Pragmatic Multicentre Randomised Controlled Trial,” *International Journal of Clinical Practice*, Vol. 65, No. 6, June 2011.
- Alewijnse, D., J. F. Metsemakers, I. E. Mesters, and B. van den Borne, “Effectiveness of Pelvic Floor Muscle Exercise Therapy Supplemented with a Health Education Program to Promote Long-Term Adherence Among Women with Urinary Incontinence,” *Neurourology and Urodynamics*, Vol. 22, No. 4, 2003.
- Aoki, Yoshitaka, Heidi W. Brown, Linda Brubaker, Jean Nicolas Cornu, J. Oliver Daly, and Rufus Cartwright, “Urinary Incontinence in Women,” *Nature Reviews Disease Primers*, Vol. 3, No. 1, July 6, 2017.
- Arksey, Hilary, and Lisa O’Malley, “Scoping Studies: Towards a Methodological Framework,” *International Journal of Social Research Methodology*, Vol. 8, No. 1, February 2005.
- Asklund, I., E. Nystrom, M. Sjostrom, G. Umefjord, H. Stenlund, and E. Samuelsson, “Mobile App for Treatment of Stress Urinary Incontinence: A Randomized Controlled Trial,” *Neurourology and Urodynamics*, Vol. 36, No. 5, June 2017.
- Balk, E., G. P. Adam, H. Kimmel, V. Rofeberg, I. Saeed, P. Jeppson, and T. Trikalinos, *Nonsurgical Treatments for Urinary Incontinence in Women: A Systematic Review Update*, Agency for Healthcare Research and Quality, AHRQ Publication No. 18-EHC016-EF, PCORI Publication No. 2018-SR-03, August 2018.
- Barentsen, J. A., E. Visser, H. Hofstetter, A. M. Maris, J. H. Dekker, and G. H. de Bock, “Severity, Not Type, Is the Main Predictor of Decreased Quality of Life in Elderly Women with Urinary Incontinence: A Population-Based Study as Part of a Randomized Controlled Trial in Primary Care,” *Health Qual Life Outcomes*, Vol. 10, December 18, 2012.
- Beban, Alice, Samantha Newman, and Bernadette Nolan, “A Pilot Integrated Clinic Using a Biopsychosocial Model to Treat Incontinence and Prolapse,” *Australian and New Zealand Continence Journal*, Vol. 27, No. 4, 2021.
- Bennett, Wendy L., Hsien-Yen Chang, David M. Levine, Lin Wang, Donna Neale, Erika F. Werner, and Jeanne M. Clark, “Utilization of Primary and Obstetric Care After Medically Complicated Pregnancies: An Analysis of Medical Claims Data,” *Journal of General Internal Medicine*, Vol. 29, No. 4, April 2014.
- Berghmans, B., M. R. Seleme, and A. T. M. Bernards, “Physiotherapy Assessment for Female Urinary Incontinence,” *International Urogynecology Journal*, Vol. 31, No. 5, May 2020.
- Bland, D. R., E. Dugan, S. J. Cohen, J. Preisser, C. C. Davis, P. E. McGann, P. K. Suggs, and K. F. Pearce, “The Effects of Implementation of the Agency for Health Care Policy and Research Urinary Incontinence Guidelines in Primary Care Practices,” *Journal of American Geriatrics Society*, Vol. 51, No. 7, July 2003.

- Brennen, Robyn, Margaret Sherburn, and Anna Rosamilia, "Development, Implementation and Evaluation of an Advanced Practice in Continence and Women's Health Physiotherapy Model of Care," *Australian and New Zealand Journal of Obstetrics and Gynaecology*, Vol. 59, No. 3, 2019.
- Brown, Jeanette S., Eric Vittinghoff, Jean F. Wyman, Katie L. Stone, Michael C. Nevitt, Kristine E. Ensrud, and Deborah Grady, "Urinary Incontinence: Does It Increase Risk for Falls and Fractures?" *Journal of the American Geriatrics Society*, Vol. 48, No. 7, 2000.
- Byles, J. E., P. Chiarelli, A. H. Hacker, C. Bruin, J. Cockburn, and L. Parkinson, "An Evaluation of Three Community-Based Projects to Improve Care for Incontinence," *International Urogynecological Association*, Vol. 16, No. 1, January–February 2005.
- Celik, H. H., Klinge, II, T. T. Weijden, G. G. Widdershoven, and T. A. Lagro-Janssen, "Gender Sensitivity Among General Practitioners: Results of a Training Programme," *BMC Medical Education*, Vol. 8, Jun 26, 2008.
- Chen, I. J., L. T. Hsu, M. C. Lu, Y. J. Chen, M. T. Tsou, and J. Y. Chen, "Gender Differences in the Association Between Obesity Indices and Chronic Kidney Disease Among Middle-Aged and Elderly Taiwanese Population: A Community-Based Cross-Sectional Study," *Frontiers in Endocrinology (Lausanne)*, Vol. 12, 2021.
- Chen, Z., S. M. Mikhail, M. Buttini, A. Mowat, G. Hartel, and C. Maher, "Online Prediction Tool for Female Pelvic Floor Dysfunction: Development and Validation," *International Urogynecology Journal*, October 7, 2021.
- Chick, H. E., K. F. Hunter, and K. N. Moore, "Parent and Child Experiences Using a Hydrophilic or Reused PVC Catheter for Intermittent Catheterisation," *Journal of Clinical Nursing*, Vol. 22, No. 3–4, February 2013.
- Clark, Daniel, Lisa Chrysler, Anthony Perkins, Nicole R. Keith, Deanna R. Willis, Greg Abernathy, and Faye Smith, "Screening, Referral, and Participation in a Weight Management Program Implemented in Five CHCs," *Journal of Health Care for the Poor and Underserved*, Vol. 21, No. 2, 2010.
- Committee on Practice Bulletins—Gynecology and the American Urogynecologic Society, "Urinary Incontinence in Women," *Female Pelvic Medicine and Reconstructive Surgery*, Vol. 21, No. 6, November–December 2015.
- Coyne, Karin S., Chris C. Sexton, Debra E. Irwin, Zoe S. Kopp, Con J. Kelleher, and Ian Milsom, "The Impact of Overactive Bladder, Incontinence and Other Lower Urinary Tract Symptoms on Quality Of Life, Work Productivity, Sexuality and Emotional Well-Being in Men and Women: Results from the EPIC Study," *BJU International*, Vol. 101, No. 11, 2008.
- Culbertson, Sandra, and Andrew M. Davis, "Nonsurgical Management of Urinary Incontinence in Women," *JAMA*, Vol. 317, No. 1, January 3, 2017.
- Damschroder, Laura J., David C. Aron, Rosalind E. Keith, Susan R. Kirsh, Jeffery A. Alexander, and Julie C. Lowery, "Fostering Implementation of Health Services Research Findings into Practice: A Consolidated Framework for Advancing Implementation Science," *Implementation Science*, Vol. 4, No. 50, August 7, 2009.
- Davis, N. J., P. C. Clark, T. M. Johnson, 2nd, and J. F. Wyman, "Feasibility of Tele-Prompt: A Tablet-Based Prompted Voiding Intervention to Support Informal Caregivers of Older Adults with Urinary Incontinence," *Geriatric Nursing*, Vol. 41, No. 4, July–August 2020.
- Dey, P., C. W. Simpson, S. I. Collins, G. Hodgson, C. F. Dowrick, A. J. Simison, and M. J. Rose, "Implementation of RCGP Guidelines for Acute Low Back Pain: A Cluster Randomised Controlled Trial," *British Journal of General Practice*, Vol. 54, No. 498, January 2004.
- Dodd-Reynolds, Caroline J., Lisa Nevens, Emily J. Oliver, Tracy Finch, Amelia A. Lake, and Coral L. Hanson, "Prototyping for Public Health in a Local Context: A Streamlined Evaluation of a Community-Based Weight Management Programme (Momenta), Northumberland, UK," *BMJ Open*, Vol. 9, No. 10, 2019.
- Dufour, S., A. Clancy, and M. Wu, "Technical Update No. 433: eHealth Solutions for Urinary Incontinence Among Women," *Journal of Obstetrics and Gynaecology Canada*, Vol. 45, No. 2, February 2023.

- Eckhardt, S., Y. Takashima, J. Zigman, V. Yuan, P. Alvarez, C. Truong, and T. Yazdany, "The Impact of Physician-Directed and Patient-Directed Education on Screening, Diagnosis, Treatment, and Referral Patterns for Urinary Incontinence," *International Urogynecology Journal*, Vol. 33, No. 8, August 2022. <https://link.springer.com/content/pdf/10.1007/s00192-022-05187-5.pdf>
- Edwards, J. J., K. P. Jordan, G. Peat, J. Bedson, P. R. Croft, E. M. Hay, and K. S. Dziedzic, "Quality of Care for OA: The Effect of a Point-Of-Care Consultation Recording Template," *Rheumatology (Oxford)*, Vol. 54, No. 5, May 2015.
- Firet, L., C. de Bree, C. M. Verhoeks, D. A. M. Teunissen, and A. L. M. Lagro-Janssen, "Mixed Feelings: General Practitioners' Attitudes Towards eHealth for Stress Urinary Incontinence—A Qualitative Study," *BMC Family Practice*, Vol. 20, No. 1, January 26, 2019.
- Firet, L., T. A. M. Teunissen, R. B. Kool, L. van Doorn, M. Aourag, A. L. M. Lagro-Janssen, and W. J. J. Assendelft, "Women's Adoption of a Web-Based Intervention for Stress Urinary Incontinence: A Qualitative Study," *BMC Health Services Research*, Vol. 21, No. 1, June 12, 2021.
- Fitzpatrick, Stephanie L, Kirsten Dickins, Elizabeth Avery, Jennifer Ventrelle, Aaron Shultz, Ekta Kishen, and Steven Rothschild, "Effect of an Obesity Best Practice Alert on Physician Documentation and Referral Practices," *Translational Behavioral Medicine*, Vol. 7, No. 4, 2017.
- Foster, N. E., R. Mullis, J. C. Hill, M. Lewis, D. G. Whitehurst, C. Doyle, K. Konstantinou, C. Main, S. Somerville, G. Sowden, S. Wathall, J. Young, and E. M. Hay, "Effect of Stratified Care for Low Back Pain in Family Practice (IMPACT Back): A Prospective Population-Based Sequential Comparison," *Annals of Family Medicine*, Vol. 12, No. 2, March–April 2014.
- Freburger, J. K., G. M. Holmes, and T. S. Carey, "Physician Referrals to Physical Therapy for the Treatment of Musculoskeletal Conditions," *Archives of Physical Medicine & Rehabilitation*, Vol. 84, No. 12, 2003.
- Fritel, X., E. van den Heuvel, A. Wagg, S. Ragot, and C. Tannenbaum, "Predicting Response to a Community-Based Educational Workshop on Incontinence Among Community-Dwelling Older Women: Post Hoc Analysis of the CACTUS-D Trial," *Neurourology Urodynamics*, Vol. 40, No. 2, February 2021.
- Gurden, M., M. Morelli, G. Sharp, K. Baker, N. Betts, and J. Bolton, "Evaluation of a General Practitioner Referral Service for Manual Treatment of Back and Neck Pain," *Primary Health Care Research & Development*, Vol. 13, No. 3, July 2012.
- Gurool-Urganci, I., R. S. Geary, J. B. Mamza, M. Iwagami, D. El-Hamamsy, J. Duckett, A. Wilson, D. Tincello, and J. van der Meulen, "Determinants of Referral of Women with Urinary Incontinence to Specialist Services: A National Cohort Study Using Primary Care Data from the UK," *BMC Family Practice*, Vol. 21, No. 1, October 16, 2020.
- Häggglund, Doris, Marie-Louise Walker-Engström, Gregor Larsson, and Jerzy Leppert, "Reasons Why Women with Long-Term Urinary Incontinence Do Not Seek Professional Help: A Cross-Sectional Population-Based Cohort Study," *International Urogynecology Journal*, Vol. 14, No. 5, November 2003.
- Hattam, P., and A. Smeatham, "Evaluation of an Orthopaedic Screening Service in Primary Care," *Clinical Performance and Quality Health Care*, Vol. 7, No. 3, July–September 1999.
- Hendriks, E. J. M., J. J. Kerssens, J. Dekker, R. M. Nelson, R. A. B. Oostendorp, and J. van der Zee, "One-time Physical Therapist Consultation in Primary Health Care," *Physical Therapy*, Vol. 83, No. 10, 2003.
- Hess, R., A. J. Huang, H. E. Richter, C. C. Ghetti, V. W. Sung, E. Barrett-Connor, W. T. Gregory, J. V. Pinkerton, C. S. Bradley, S. R. Kraus, R. G. Rogers, L. L. Subak, K. C. Johnson, L. A. Arya, M. Schembri, and J. S. Brown, "Long-Term Efficacy and Safety of Questionnaire-Based Initiation of Urgency Urinary Incontinence Treatment," *American Journal of Obstetrics & Gynecology*, Vol. 209, No. 3, September 2013.
- Hoffmann, Tammy C., Paul P. Glasziou, Isabelle Boutron, Ruairidh Milne, Rafael Perera, David Moher, Douglas G. Altman, Virginia Barbour, Helen Macdonald, Marie Johnston, Sarah E. Lamb, Mary Dixon-Woods, Peter McCulloch, Jeremy C. Wyatt, An-Wen Chan, and Susan Michie, "Better Reporting of Interventions: Template for Intervention Description and Replication (TIDieR) Checklist and Guide," *BMJ: British Medical Journal*, Vol. 348, March 7, 2014.

- Holdsworth, L. K., and V. S. Webster, "Direct Access to Physiotherapy in Primary Care: Now?—and Into the Future?" *Physiotherapy*, Vol. 90, No. 2, 2004.
- Hung, Kristin J., Christopher S. Awtrey, and Alexander C. Tsai, "Urinary Incontinence, Depression, and Economic Outcomes in a Cohort of Women Between the Ages of 54 and 65 Years," *Obstetrics and Gynecology*, Vol. 123, No. 4, April 2014.
- Imamura, Mari, Kate Williams, Mandy Wells, and Catherine McGrother, "Lifestyle Interventions for the Treatment of Urinary Incontinence in Adults," *Cochrane Database of Systematic Reviews*, No. 12, 2015.
- Jabbarpour, Yalda, Ann Greiner, Anuradha Jetty, Megan Coffman, Charles Jose, Stephen Petterson, Karen Pivaral, Robert Phillips, Andrew Bazemore, and Alyssa Neumann Kane, *Investing in Primary Care: A State-Level Analysis*, Patient-Centered Primary Care Collaborative, Robert Graham Center, July 2019.
- Jerez-Roig, J., J. Booth, D. A. Skelton, M. Giné-Garriga, S. F. M. Chastin, and S. Hagen, "Is Urinary Incontinence Associated with Sedentary Behaviour in Older Women? Analysis of Data from the National Health and Nutrition Examination Survey," *PLoS One*, Vol. 15, No. 2, 2020.
- Jha, S., P. Moran, A. Blackwell, and H. Greenham, "Integrated Care Pathways: The Way Forward for Continence Services?" *European Journal of Obstetrics & Gynecology and Reproductive Biology*, Vol. 134, No. 1, September 2007.
- Johanson, J. F., and J. Lafferty, "Epidemiology of Fecal Incontinence: The Silent Affliction," *American Journal of Gastroenterology*, Vol. 91, No. 1, January 1996.
- Jopling, Ann G, "Effective Screening for Female Urinary Incontinence at the Well-Woman Examination," *Urologic Nursing*, Vol. 40, No. 3, 2020.
- Jordan, K. P., J. J. Edwards, M. Porcheret, E. L. Healey, C. Jinks, J. Bedson, K. Clarkson, E. M. Hay, and K. S. Dziedzic, "Effect of a Model Consultation Informed by Guidelines on Recorded Quality of Care of Osteoarthritis (MOSAICS): A Cluster Randomised Controlled Trial in Primary Care," *Osteoarthritis Cartilage*, Vol. 25, No. 10, October 2017.
- Kahn, Katherine L., Justin W. Timbie, Mark W. Friedberg, Peter Mendel, Liisa Hiatt, Emily K. Chen, Amii M. Kress, Christine Buttorff, Tara Lavelle, Beverly A. Weidmer, Harold D. Green, Mallika Kommareddi, Rosalie Malsberger, Aaron Kofner, Afshin Rastegar, and Claude Messan Setodji, *Evaluation of CMS's Federally Qualified Health Center (FQHC) Advanced Primary Care Practice (APCP) Demonstration: Final Report*, RAND Corporation, RR-886/2-CMS, 2017. As of March 18, 2024: https://www.rand.org/pubs/research_reports/RR886z2.html
- Knight, R., and S. Procter, "Implementation of Clinical Guidelines for Female Urinary Incontinence: A Comparative Analysis of Organizational Structures and Service Delivery," *Health & Social Care in the Community*, Vol. 7, No. 4, July 1999.
- Krist, Alex H., Steven H. Woolf, Charles O. Frazier, Robert E. Johnson, Stephen F. Rothemich, Diane B. Wilson, Kelly J. Devers, and J. William Kerns, "An Electronic Linkage System for Health Behavior Counseling: Effect on Delivery of the 5A's," *American Journal of Preventive Medicine*, Vol. 35, No. 5, 2008.
- Lightner Deborah, J., Alexander Gomelsky, Lesley Souter, and P. Vasavada Sandip, "Diagnosis and Treatment of Overactive Bladder (Non-Neurogenic) in Adults: AUA/SUFU Guideline Amendment 2019," *Journal of Urology*, Vol. 202, No. 3, September 2019.
- Loohuis, A. M. M., H. Van Der Worp, N. J. Wessels, J. H. Dekker, M. C. P. Slieker-Ten Hove, M. Y. Berger, K. M. Vermeulen, and M. H. Blanker, "One Year Effectiveness of an App-Based Treatment for Urinary Incontinence in Comparison to Care as Usual in Dutch General Practice: A Pragmatic Randomised Controlled Trial over 12 Months," *BJOG*, Aug 26, 2021.
- Loohuis, A. M. M., N. J. Wessels, J. H. Dekker, N. A. M. van Merode, M. C. P. Slieker-Ten Hove, B. J. Kollen, M. Y. Berger, H. van der Worp, and M. H. Blanker, "App-Based Treatment in Primary Care for Urinary Incontinence: A Pragmatic, Randomized Controlled Trial," *Annals of Family Medicine*, Vol. 19, No. 2, March–April 2021.

- Loohuis, Anne M. M., Nienke J. Wessels, Petra Jellema, Karin M. Vermeulen, Marijke C. Sliker-ten Hove, Julia E. W. C. van Gemert-Pijnen, Marjolein Y. Berger, Janny H. Dekker, and Marco H. Blanker, "The Impact of a Mobile Application-Based Treatment for Urinary Incontinence in Adult Women: Design of a Mixed-Methods Randomized Controlled Trial in a Primary Care Setting," *Neurourology and Urodynamics*, Vol. 37, No. 7, 2018.
- Mackenzie, L., L. Clemson, and D. Irving, "Fall Prevention in Primary Care Using Chronic Disease Management Plans: A Process Evaluation of Provider and Consumer Perspectives," *Australian Occupational Therapy Journal*, Vol. 67, No. 1, February 2020.
- Magel, J., P. Hansen, W. Meier, K. Cohee, A. Thackeray, M. Hiush, and J. M. Fritz, "Implementation of an Alternative Pathway for Patients Seeking Care for Low Back Pain: A Prospective Observational Cohort Study," *Physical Therapy*, Vol. 98, No. 12, December 1, 2018.
- Mazloomdoost, D., L. B. Westermann, C. C. Crisp, S. H. Oakley, S. D. Kleeman, and R. N. Pauls, "Primary Care Providers' Attitudes, Knowledge, and Practice Patterns Regarding Pelvic Floor Disorders," *International Urogynecological Journal*, Vol. 28, No. 3, March 2017.
- Mcfall, Stephanie L., Adeline M. Yerkes, and Linda D. Cowan, "Outcomes of a Small Group Educational Intervention for Urinary Incontinence: Episodes of Incontinence and Other Urinary Symptoms," *Journal of Aging and Health*, Vol. 12, No. 2, May, 2000a.
- Mcfall, Stephanie L., Adeline M. Yerkes, and Linda D. Cowan, "Outcomes of a Small Group Educational Intervention for Urinary Incontinence: Health-Related Quality of Life," *Journal of Aging and Health*, Vol. 12, No. 3, August 2000b.
- McKellar, K., E. Bellin, E. Schoenbaum, and N. Abraham, "Prevalence, Risk Factors, and Treatment for Overactive Bladder in a Racially Diverse Population," *Urology*, Vol. 126, April 2019.
- Mendel, Peter, Emily K. Chen, Harold D. Green, Courtney Armstrong, Justin W. Timbie, Amii M. Kress, Mark W. Friedberg, and Katherine L. Kahn, "Pathways to Medical Home Recognition: A Qualitative Comparative Analysis of the PCMH Transformation Process," *Health Services Research*, Vol. 53, No. 4, August 2018.
- Minassian, Vatche A., Xiaowei Yan, Marc J. Lichtenfeld, Haiyan Sun, and Walter F. Stewart, "The Iceberg of Health Care Utilization in Women with Urinary Incontinence," *International Urogynecology Journal*, Vol. 23, 2012.
- Moi, J. H. Y., U. Phan, A. de Gruchy, D. Liew, T. I. Yuen, J. E. Cunningham, and I. P. Wicks, "Is Establishing a Specialist Back Pain Assessment and Management Service in Primary Care a Safe and Effective Model? Twelve-Month Results from the Back Pain Assessment Clinic (BAC) Prospective Cohort Pilot Study," *BMJ Open*, Vol. 8, No. 10, October 10, 2018.
- Morrill, Michelle, Emily S. Lukacz, Jean M. Lawrence, Charles W. Nager, Richard Contreras, and Karl M. Luber, "Seeking Healthcare for Pelvic Floor Disorders: A Population-Based Study," *American Journal of Obstetrics and Gynecology*, Vol. 197, No. 1, July 2007.
- Nambiar, Arjun K., Ruud Bosch, Francisco Cruz, Gary E. Lemack, Nikesh Thiruchelvam, Andrea Tubaro, Dina A. Bedretdinova, David Ambühl, Fawzy Farag, Riccardo Lombardo, Marc P. Schneider, and Fiona C. Burkhard, "EAU Guidelines on Assessment and Nonsurgical Management of Urinary Incontinence," *European Urology*, Vol. 73, No. 4, April 2018.
- National Institute for Health and Care Excellence, *Urinary Incontinence and Pelvic Organ Prolapse in Women: Management*, April 2, 2019.
- Nelson, Heidi D., Amy Cantor, Miranda Pappas, and Liev Miller, "Screening for Urinary Incontinence in Women: A Systematic Review for the Women's Preventive Services Initiative," *Annals of Internal Medicine*, Vol. 169, No. 5, September 4, 2018.
- Newberry, S. J., J. Tsuei, J. Larkin, A. Motala, K. Howard, and G. Dunivan, "Managing Urinary Incontinence for Women in Primary Care: Environmental Scan (Base Year)," *RAND Health Quarterly*, Vol. 10, No. 3, June 2023.

- Ngigi, Helen Wambui, “Assessment of Providers’ Perception and Knowledge of Overactive Bladder in Women: A Quality Improvement Project,” *Assessment of Providers’ Perception & Knowledge of Overactive Bladder in Women: Quality Improvement Project*, 2017.
- NICE—See National Institute for Health and Care Excellence.
- Peters, M. D. J., C. Godfrey, P. McInerney, Z. Munn, A. C. Tricco, and H. Khalil, “Chapter 11: Scoping Reviews,” in E. Aromataris and Munn Z., eds., *JBI Manual for Evidence Synthesis*, JBI, 2020.
- Pinnington, M. A., J. Miller, and I. Stanley, “An Evaluation of Prompt Access to Physiotherapy in the Management of Low Back Pain in Primary Care,” *Family Practice*, Vol. 21, No. 4, August 2004.
- Pinnock, Hilary, Melanie Barwick, Christopher R. Carpenter, Sandra Eldridge, Gonzalo Grandes, Chris J. Griffiths, Jo Rycroft-Malone, Paul Meissner, Elizabeth Murray, Anita Patel, Aziz Sheikh, and Stephanie J. C. Taylor, “Standards for Reporting Implementation Studies (StaRI) Statement,” *BMJ*, Vol. 356, March 6, 2017a.
- Pinnock, Hilary, Melanie Barwick, Christopher R. Carpenter, Sandra Eldridge, Gonzalo Grandes, Chris J. Griffiths, Jo Rycroft-Malone, Paul Meissner, Elizabeth Murray, Anita Patel, Aziz Sheikh, and Stephanie J. C. Taylor, “Standards for Reporting Implementation Studies (StaRI): Explanation and Elaboration Document,” *BMJ Open*, Vol. 7, No. 4, April 3, 2017b.
- Sampsel, Carolyn M., Jean F. Wyman, Karen Kelly Thomas, Diane K. Newman, Mikel Gray, Molly Dougherty, and Patricia A. Burns, “Continence for Women: Evaluation of AWHONN’s Third Research Utilization Project,” *Journal of Obstetrics, Gynecologic & Neonatal Nursing*, Vol. 29, No. 1, January–February 2000a.
- Sampsel, Carolyn M., Jean F. Wyman, Karen Kelly Thomas, Diane K. Newman, Mikel Gray, Molly Dougherty, and Patricia A. Burns, “Continence for Women: A Test of AWHONN’s Evidence-Based Protocol in Clinical Practice,” *Journal of Wound Ostomy & Continence Nursing*, Vol. 27, No. 2, March 2000b.
- Schlittenhardt, M., S. C. Smith, and P. Ward-Smith, “Tele-Continence Care: A Novel Approach for Providers,” *Urologic Nursing*, Vol. 36, No. 5, September–October 2016.
- Schriefer, Susan P., Suzanne E. Landis, David J. Turbow, and Steven C. Patch, “Effect of a Computerized Body Mass Index Prompt on Diagnosis and Treatment of Adult Obesity,” *Family Medicine*, Vol. 41, No. 7, 2009.
- Schüssler-Fiorenza Rose, Sophia Miryam, Ronald E. Gangnon, Betty Chewing, and Arnold Wald, “Increasing Discussion Rates of Incontinence in Primary Care: A Randomized Controlled Trial,” *Journal of Women’s Health*, Vol. 24, No. 11, 2015.
- St. John, W., and M. Wallis, “Outcome Evaluation of a Multi-Disciplinary Community-Based Continence Service for Australian Women,” *Women & Health*, Vol. 40, No. 2, 2004.
- St. John, W., M. Wallis, H. James, S. McKenzie, and S. Guyatt, “Targeting Community-Dwelling Urinary Incontinence Sufferers: A Multi-Disciplinary Community-Based Model for Conservative Continence Services,” *Contemporary Nurse: A Journal for the Australian Nursing Profession*, Vol. 17, No. 3, 2004.
- Tannenbaum, C., E. van den Heuvel, X. Fritel, K. Southall, J. Jutai, S. Rajabali, and A. Wagg, “Continence Across Continents to Upend Stigma and Dependency (CACTUS-D): Study Protocol for a Cluster Randomized Controlled Trial,” *Trials*, Vol. 16, No. 565, December 10, 2015.
- Tannenbaum, Cara, Xavier Fritel, Alex Halme, Eleanor van den Heuvel, Jeffrey Jutai, and Adrian Wagg, “Long-Term Effect of Community-Based Continence Promotion on Urinary Symptoms, Falls and Healthy Active Life Expectancy Among Older Women: Cluster Randomised Trial,” *Age and Ageing*, Vol. 48, No. 4, 2019.
- Teunissen, D. T., M. M. Stegeman, H. H. Bor, and T. A. Lagro-Janssen, “Treatment by a Nurse Practitioner in Primary Care Improves the Severity and Impact of Urinary Incontinence in Women: An Observational Study,” *BMC Urology*, Vol. 15, No. 51 June 12, 2015.
- Thom, David H., and Guri Rortveit, “Prevalence of Postpartum Urinary Incontinence: A Systematic Review,” *Acta Obstetrica et Gynecologica Scandinavica*, Vol. 89, No. 12, 2010.

- Tricco, Andrea C., Erin Lillie, Wasifa Zarin, Kelly K. O'Brien, Heather Colquhoun, Danielle Levac, David Moher, Micah D. J. Peters, Tanya Horsley, Laura Weeks, Susanne Hempel, Elie A. Akl, Christine Chang, Jessie McGowan, Lesley Stewart, Lisa Hartling, Adrian Aldcroft, Michael G. Wilson, Chantelle Garritty, Simon Lewin, Christina M. Godfrey, Marilyn T. Macdonald, Etienne V. Langlois, Karla Soares-Weiser, Jo Moriarty, Tammy Clifford, Özge Tunçalp, and Sharon E. Straus, "PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation," *Annals of Internal Medicine*, Vol. 169, No. 7, October 2018.
- van der Worp, Henk, Anne M. M. Loohuis, Ilse L. Flohil, Boudewijn J. Kollen, Nienke J. Wessels, and Marco H. Blanker, "Recruitment Through Media and General Practitioners Resulted in Comparable Samples in an RCT on Incontinence," *Journal of Clinical Epidemiology*, Vol. 119, 2020.
- Vermeulen, K. M., E. Visser, E. J. Messelink, A. J. Schram, M. Y. Berger, G. H. de Bock, and J. H. Dekker, "Cost-Effectiveness of a Pro-Active Approach of Urinary Incontinence in Women," *BJOG*, Vol. 123, No. 7, June 2016.
- Viktrup, L., and L. A. Møller, "The Handling of Urinary Incontinence in Danish General Practices After Distribution of Guidelines and Voiding Diary Reimbursement: An Observational Study," *BMC Family Practice*, Vol. 5, No. 13, June 2004.
- Visser, E., G. H. de Bock, M. Y. Berger, and J. H. Dekker, "Impact of Urinary Incontinence on Sexual Functioning in Community-Dwelling Older Women," *Journal of Sexual Medicine*, Vol. 11, No. 7, July 2014.
- Visser, E., G. H. de Bock, B. J. Kollen, M. Meijerink, M. Y. Berger, and J. H. Dekker, "Systematic Screening for Urinary Incontinence in Older Women: Who Could Benefit From It?" *Scandinavian Journal of Primary Health Care*, Vol. 30, No. 1, March 2012.
- Visser, E., J. H. Dekker, K. M. Vermeulen, E. J. Messelink, A. J. Schram, M. Y. Berger, and G. H. de Bock, "The Effect of Systematic Screening of Older Women for Urinary Incontinence on Treatment Uptake: The URINO Trial," *Maturitas*, Vol. 74, No. 4, April 2013.
- Visser, Els, Geertruida H. de Bock, Embert J. Messelink, Aaltje J. Schram, Boudewijn J. Kollen, Sacha la Bastide-van Gemert, Edwin R. van den Heuvel, Matjolein Y. Berger, and Janny H. Dekker, "Active Encouragement of Older Women with Urinary Incontinence in Primary Care to Undergo Diagnosis and Treatment: A Matched-Pair Cluster Randomized Controlled Trial," *Maturitas*, Vol. 80, No. 2, 2015.
- Wadensten, Towe, Emma Nyström, Karin Franzén, Anna Lindam, Elisabet Wasteson, and Eva Samuelsson, "A Mobile App for Self-Management of Urgency and Mixed Urinary Incontinence in Women: Randomized Controlled Trial," *Journal of Medical Internet Research*, Vol. 23, No. 4, 2021.
- Wadensten, Towe, Emma Nyström, Anneli Nord, Anna Lindam, Malin Sjöström, and Eva Samuelsson, "App-Based Self-Management of Urgency and Mixed Urinary Incontinence in Women: One-Year Follow-Up," *Neurourology and Urodynamics*, March 9, 2022.
- Wenger, N. S., C. P. Roth, W. J. Hall, D. A. Ganz, V. Snow, J. Byrkit, E. Dzielak, D. J. Gullen, T. R. Loepfe, C. Sahler, Q. Snooks, R. Beckman, J. Adams, M. Rosen, and D. B. Reuben, "Practice Redesign to Improve Care for Falls and Urinary Incontinence: Primary Care Intervention for Older Patients," *Archives of Internal Medicine*, Vol. 170, No. 19, October 25, 2010.
- Wenger, Neil S., Carol P. Roth, Paul G. Shekelle, Roy T. Young, David H. Solomon, Caren J. Kamberg, John T. Chang, Rachel Louie, Takahiro Higashi, Catherine H. MacLean, John Adams, Lillian C. Min, Kurt Ransohoff, Marc Hoffing, and David B. Reuben, "A Practice-Based Intervention to Improve Primary Care for Falls, Urinary Incontinence, and Dementia," *Journal of the American Geriatrics Society*, Vol. 57, No. 3, March 2009.
- Wessels, N. J., L. Hulshof, A. M. M. Loohuis, L. van Gemert-Pijnen, P. Jellema, H. van der Worp, and M. H. Blanker, "User Experiences and Preferences Regarding an App for the Treatment of Urinary Incontinence in Adult Women: Qualitative Study," *JMIR mHealth uHealth*, Vol. 8, No. 6, June 12, 2020.

Wessels, N. J., A. M. M. Loohuis, H. van der Worp, L. Abbenhuis, J. Dekker, M. Y. Berger, Jewc van Gemert-Pijnen, and M. H. Blanker, "Barriers and Facilitators Associated With App-Based Treatment for Female Urinary Incontinence: Mixed Methods Evaluation," *JMIR mHealth uHealth*, Vol. 9, No. 9, September 17, 2021.

Women's Preventive Services Initiative and ACOG Foundation, *Screening for Urinary Incontinence Recommendation to the Health Resources & Services Administration*, 2017.

Zhou, H., A. Wang, X. Huang, S. Guo, Y. Yang, K. Martin, X. Tian, J. Josephs-Spaulding, C. Ma, R. W. Scherpbier, and Y. Wang, "Quality Antenatal Care Protects Against Low Birth Weight in 42 Poor Counties of Western China," *PLoS One*, Vol. 14, No. 1, 2019.

Abbreviations and Acronyms

3IQ	3 Incontinence Questions
AHRQ	Agency for Healthcare Research and Quality
BMI	body mass index
CACTUS-D	Continenence Across Continents to Upend Stigma and Dependency
D&I	dissemination and implementation
DO	doctor of osteopathy
ePAQ-PF	electronic pelvic floor questionnaire
FQHC	federally qualified health center
GP	general practice/practitioner
ICIQ-UI SF	International Continenence Improvement Questionnaire—Short Form
IT	information technology
MD	medical doctor
MUI	Managing Urinary Incontinence
NP	nurse practitioner
OAB	overactive bladder
OAB-q	OAB questionnaire
OECD	Organisation for Economic Co-operation and Development
OY1	Option Year 1
OY2	Option Year 2
PA	physician assistant
PARIHS	Promoting Action on Research Implementation in Health Services
PBRN	practice-based research network
PCP	primary care provider
PF	practice facilitation
PFDD	pelvic floor disorder
PFMT	pelvic floor muscle training
PPBC	Patient Perception of Bladder Condition
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
PT	physical therapy
QI	quality improvement
QALY	quality-adjusted life year
RCT	randomized controlled trial
SD	standard deviation
SDOH	social determinants of health
SGLT-2	sodium glucose cotransporter 2
SMS	self-management support

StaRI	Standards for Reporting Implementation Studies
SUI	stress urinary incontinence
TEP	technical expert panel
TIDieR	template for intervention description and replication
UI	urinary incontinence
UUI	urge urinary incontinence

Appendix A. Literature Search Strategy

A.1 Key Search Concepts and Terms

Key Search Concepts and Terms for Replicated Base Year Scan

The same key concepts for the search strategy of the Base Year scan, extracted from the key questions above, were used for the OY1 replication of the Base Year search over the extended date range (see Table A.1).

Table A.1. Key Search Concepts and Terms for the Replicated Base Year Scan

<ol style="list-style-type: none">1. Nonsurgical treatment (including screening, diagnosis, management, and specialty referral)2. Urinary incontinence (including stress, urgency, and mixed)3. Women (female adults, 18 years or older)4. Primary care (including family medicine, general internal medicine, and geriatric practices, and community and home settings in which treatment is managed by primary care professionals)5. Dissemination, implementation, or both (including strategies, resources, and tools)
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The replication of the Base Year scan also used the same search terms developed for the original Base Year scan. The search terms based on the key concepts were developed by Sydne Newberry, lead for the environmental scan, and Gena Dunivan, UI subject-matter expert for the project's support tasks, in collaboration with Jody Larkin, a RAND research librarian, who performed the literature searches. These terms also drew on those used in the 2018 AHRQ systematic review (Balk et al., 2018), in topical articles referenced in AHRQ's request for application for the U18 cooperative agreements and the grantees' project plan materials, and in articles from the focused search of EvidenceNOW materials.

We used common synonyms and wildcard searches to capture variations in wording of the aforementioned concepts and subcomponents (e.g., for screening, diagnosis, management, and specialty referral as part of the more general concept of treatment).

We first conducted a search for literature that contained all of the first four concepts and then filtered those results for the fifth concept on dissemination, implementation, or both (and synonyms, such as uptake and adoption). A subset of titles and abstracts of articles from the search that did not appear after applying the filter were reviewed manually for dissemination content, implementation content, or both, in case the filter did not capture all relevant articles. Articles remaining after applying the filter and manual review for dissemination content, implementation content, or both were included in the scope of scan.

Key Search Concepts and Terms for Supplemental Searches on Referral Process

Key concepts and terms for the three supplemental searches on the referral process were based on their key questions above.

For referrals by UI specialists to PT, the key concepts and terms were

- nonsurgical treatment (PT and specialty referral only)
- UI (including stress, urgency, and mixed)

- women (female adults, 18 years or older)
- UI specialty practices
- dissemination, implementation, or both (including strategies, resources, and tools).

For referrals by PCPs to PT for non-UI conditions, the key concepts and terms were

- nonsurgical treatment
- nonsurgical treatment (PT and specialty referral only)
- conditions other than UI
- women (female adults, 18 years or older)
- primary care (including family medicine, general internal medicine, and geriatric practices, and community and home settings in which treatment is managed by primary care professionals)
- D&I, or both (including strategies, resources, and tools).

For referrals by PCPs to nonsurgical treatment for obesity and weight loss, the key concepts and terms were

- nonsurgical treatment (specialty referral only)
- overweight and obesity
- women (female adults, 18 years or older)
- primary care (including family medicine, general internal medicine, and geriatric practices, and community and home settings in which treatment is managed by primary care professionals)
- D&I, or both (including strategies, resources, and tools).

Search terms for the supplemental searches were developed based on the input from TEP and AHRQ on the OY1 scan scope, and iterative work by the environmental scan team with Dunivan, the subject-matter expert for the project's support tasks, and Larkin, the RAND research librarian who performed the literature searches. We used similar procedures as above for implementing the searches and filtering results on the key search concepts.

A.2 Literature Search Queries

The search terms and strategies for both the replicated Base Year scan and the three supplemental searches are detailed below.

Replicated Base Year Search with Extended Date Range

PubMed

English; 1996–2011 and March 2022–Date of search

Search executed August 5, 2023

“overactive bladder”[tiab] OR enuresis[tiab] OR nocturia[tiab] OR incontinen*[tiab] OR “detrusor instabilit*”[tiab] OR “continence care*”[tiab] OR ((bladder*[tiab] OR urine[tiab] OR urina*[tiab]) AND (overactive[tiab] OR “over active”[tiab] OR urgent[tiab] OR urgency[tiab] OR frequent[tiab] OR frequency[tiab] OR detrusor[tiab] OR leak*[tiab] OR dysfunction* OR urge*[tiab])) OR ((bladder[tiab]) AND (neurogen*[tiab] OR neurologic*[tiab])) OR “Urinary Bladder, Overactive”[Mesh] OR “Urinary Incontinence”[Mesh] OR “Enuresis”[Mesh] OR “Urinary Bladder, Neurogenic”[Mesh] OR “Urinary Incontinence, Urge”[Mesh] OR “Urinary Incontinence, Stress”[Mesh] OR “Nocturia”[Mesh]
AND

“primary care”[tiab] OR “primary doctor”[tiab] OR “primary provider*”[tiab] OR “primary clinic”[tiab] OR “ambulatory care”[tiab] OR “general practitioner*”[tiab] OR GP[tiab] OR “general practice physician*”[tiab] OR internist*[tiab] OR “family medicine”[tiab] OR “family practice”[tiab] OR “family doctor*”[tiab] OR “internal medicine”[tiab] OR “geriatric medicine”[tiab] OR geriatric*[tiab] OR “community health center*”[tiab] OR “federally qualified health center*”[tiab] OR FQHC*[tiab] OR CBOC*[tiab] OR “community based”[tiab] OR “Primary Health Care”[Mesh] OR “Physicians, Primary Care”[Mesh] OR “General Practice”[Mesh] OR “General Practitioners”[Mesh] OR “Geriatrics”[Mesh] OR “Internal Medicine”[Mesh] OR “Family Practice”[Mesh]
AND

Women[mh] OR Female[mh] OR women*[tiab] OR woman*[tiab] OR female*[tiab]

Results: 1,181

CINAHL Plus (via EBSCO)

English; 1996–2011 and March 2022–Date of search

Search executed August 5, 2023

TI(“overactive bladder” OR enuresis OR nocturia OR incontinen* OR “detrusor instabilit*” OR “continence care*”) OR AB(“overactive bladder” OR enuresis OR nocturia OR incontinen* OR “detrusor instabilit*” OR “continence care*”) OR (TI(bladder* OR urine OR urina*) AND TI(overactive OR “over active” OR urgent OR urgency OR frequent OR frequency OR detrusor OR leak* OR dysfunction* OR urge*)) OR (TI(bladder* OR urine OR urina*) AND AB(overactive OR “over active” OR urgent OR urgency OR frequent OR frequency OR detrusor OR leak* OR dysfunction* OR urge*)) OR (AB(bladder* OR urine OR urina*) AND TI(overactive OR “over active” OR urgent OR urgency OR frequent OR frequency OR detrusor OR leak* OR dysfunction* OR urge*)) OR (AB(bladder* OR urine OR urina*) AND AB(overactive OR “over active” OR urgent OR urgency OR frequent OR frequency OR detrusor OR leak* OR dysfunction* OR urge*)) OR (TI(bladder) AND TI(neurogen* OR neurologic*)) OR (TI(bladder) AND AB(neurogen* OR neurologic*)) OR (AB(bladder) AND TI(neurogen* OR neurologic*)) OR (AB(bladder) AND AB(neurogen* OR neurologic*)) OR (MH “Urinary Incontinence”) OR (MH “Stress Incontinence”) OR (MH “Urge Incontinence”) OR (MH “Bladder, Neurogenic”) OR (MH “Overactive Bladder”) OR (MH “Enuresis”) OR (MH “Enuresis, Nocturnal”)

AND

TI(“primary care” OR “primary doctor” OR “primary provider*” OR “primary clinic” OR “ambulatory care” OR “general practitioner*” OR GP OR “general practice physician*” OR internist* OR “family medicine” OR “family practice” OR “family doctor*” OR “internal medicine” OR “geriatric medicine” OR geriatric* OR “community health center*” OR “federally qualified health center*” OR FQHC* OR CBOC* OR “community based”) OR AB(“primary care” OR “primary doctor” OR “primary provider*” OR “primary clinic” OR “ambulatory care” OR “general practitioner*” OR GP OR “general practice physician*” OR internist* OR “family medicine” OR “family practice” OR “family doctor*” OR “internal medicine” OR “geriatric medicine” OR geriatric* OR “community health center*” OR “federally qualified health center*” OR FQHC* OR CBOC* OR “community based”) OR (MH “Primary Health Care”) OR (MH “Physicians, Family”) OR (MH “Internal Medicine”) OR (MH “Family Practice”) OR (MH “Geriatrics”)

AND

(MH “Women+”) OR (MH “Female”) OR TI(women*) OR AB(women*) OR KW(women*) OR TI(woman*) OR AB(Woman*) OR KW(Woman*) OR TI(female*) OR AB(female*) OR KW(female*)

Results: 167

Web of Science

Conference Proceedings Citation Index—Science (CPCI-S)

English; 1996–2011 and March 2022–Date of search

Search executed August 5, 2023

TS=(“overactive bladder” OR enuresis OR nocturia OR incontinen* OR “detrusor instabilit*” OR “continence care*”) OR (TS=(bladder* OR urine OR urina*) AND TS=(overactive OR “over active” OR urgent OR urgency OR frequent OR frequency OR detrusor OR leak* OR dysfunction* OR urge*)) OR (TS=(bladder) AND TS=(neurogen* OR neurologic*))

AND

TS=(“primary care” OR “primary doctor” OR “primary provider*” OR “primary clinic” OR “ambulatory care” OR “general practitioner*” OR GP OR “general practice physician*” OR internist* OR “family medicine” OR “family practice” OR “family doctor*” OR “internal medicine” OR “geriatric medicine” OR geriatric* OR “community health center*” OR “federally qualified health center*” OR FQHC* OR CBOC* OR “community based”)

Results: 3 – duplicates with PubMed/CINAHL = 2

TOTAL for PubMed, CINAHL, and WoS (conference): 1,350 (after de-duplicating with original search = 1,322)

Supplemental Search 1: Referrals by UI specialists to PT

PubMed

English; 1996–Date of search

Search executed August 5, 2023

"overactive bladder"[tiab] OR enuresis[tiab] OR nocturia[tiab] OR incontinen*[tiab] OR "detrusor instabilit*" [tiab] OR "continence care*" [tiab] OR ((bladder*[tiab] OR urine[tiab] OR urina*[tiab]) AND (overactive[tiab] OR "over active"[tiab] OR urgent[tiab] OR urgency[tiab] OR frequent[tiab] OR frequency[tiab] OR detrusor[tiab] OR leak*[tiab] OR dysfunction* OR urge*[tiab])) OR ((bladder[tiab] AND (neurogen*[tiab] OR neurologic*[tiab])) OR "Urinary Bladder, Overactive"[Mesh] OR "Urinary Incontinence"[Mesh] OR "Enuresis"[Mesh] OR "Urinary Bladder, Neurogenic"[Mesh] OR "Urinary Incontinence, Urge"[Mesh] OR "Urinary Incontinence, Stress"[Mesh] OR "Nocturia"[Mesh])

AND
"physical therap*" [tiab] OR "Physical Therapy Modalities"[Mesh] OR physiotherap* [tiab] OR "physio therap*" [tiab] OR "pelvic floor exercise"[tiab:~2] OR "pelvic floor exercises"[tiab:~2] OR "pelvic floor strengthening"[tiab:~2] OR "pelvic floor conditioning"[tiab:~2] OR "pelvic floor rehabilitation"[tiab:~2] OR "pelvic floor muscle training"[tiab:~2] OR "pelvic floor muscle exercise"[tiab:~2] OR "pelvic floor muscle exercises"[tiab:~2] OR "pelvic floor therapy"[tiab:~2] OR PFMT[tiab]

AND
Women[mh] OR Female[mh] OR women* [tiab] OR woman* [tiab] OR female* [tiab]

AND NOT

"primary care"[tiab] OR "primary doctor"[tiab] OR "primary provider*" [tiab] OR "primary clinic"[tiab] OR "ambulatory care"[tiab] OR "general practitioner*" [tiab] OR GP[tiab] OR "general practice physician*" [tiab] OR internist* [tiab] OR "family medicine"[tiab] OR "family practice"[tiab] OR "family doctor*" [tiab] OR "internal medicine"[tiab] OR "geriatric medicine"[tiab] OR geriatric* [tiab] OR "community health center*" [tiab] OR "federally qualified health center*" [tiab] OR FQHC* [tiab] OR CBOC* [tiab] OR "community based"[tiab] OR "Primary Health Care"[Mesh] OR "Physicians, Primary Care"[Mesh] OR "General Practice"[Mesh] OR "General Practitioners"[Mesh] OR "Geriatrics"[Mesh] OR "Internal Medicine"[Mesh] OR "Family Practice"[Mesh]

AND

"Referral and Consultation"[Mesh]

Results: 36

CINAHL Plus (via EBSCO)

English; 1996–Date of search

Search executed August 5, 2023

TI("overactive bladder" OR enuresis OR nocturia OR incontinen* OR "detrusor instabilit*" OR "continence care*") OR AB("overactive bladder" OR enuresis OR nocturia OR incontinen* OR "detrusor instabilit*" OR "continence care*") OR (TI(bladder* OR urine OR urina*) AND TI(overactive OR "over active" OR urgent OR urgency OR frequent OR frequency OR detrusor OR leak* OR dysfunction* OR urge*)) OR (TI(bladder* OR urine OR urina*) AND AB(overactive OR "over active" OR urgent OR urgency OR frequent OR frequency OR detrusor OR leak* OR dysfunction* OR urge*)) OR (AB(bladder* OR urine OR urina*) AND TI(overactive OR "over active" OR urgent OR urgency OR frequent OR frequency OR detrusor OR leak* OR dysfunction* OR urge*)) OR (AB(bladder* OR urine OR urina*) AND AB(overactive OR "over active" OR urgent OR urgency OR frequent OR frequency OR detrusor OR leak* OR dysfunction* OR urge*)) OR (TI(bladder) AND TI(neurogen* OR neurologic*)) OR (TI(bladder) AND AB(neurogen* OR neurologic*)) OR (AB(bladder) AND TI(neurogen* OR neurologic*)) OR (AB(bladder) AND AB(neurogen* OR neurologic*)) OR (MH "Urinary Incontinence") OR (MH "Stress Incontinence") OR (MH "Urge Incontinence") OR (MH "Bladder, Neurogenic") OR (MH "Overactive Bladder") OR (MH "Enuresis") OR (MH "Enuresis, Nocturnal")

AND

TI("physical therap*" OR physiotherap* OR "physio therap*") OR AB("physical therap*" OR physiotherap* OR "physio therap*") OR (MH "Physical Therapy+") OR TI("pelvic floor" N2 exercise*) OR AB("pelvic floor" N2 exercise*) OR TI("pelvic floor" N2 strengthen*) OR AB("pelvic floor" N2 strengthen*) OR TI("pelvic floor" N2 rehab*) OR AB("pelvic floor" N2 rehab*) OR TI("pelvic floor" N2 muscle* N2 train*) OR AB("pelvic floor" N2 muscle* N2 train*) OR TI("pelvic floor" N2 condition*) OR AB("pelvic floor" N2 condition*) OR TI("pelvic floor" N2 therap*) OR AB("pelvic floor" N2 therap*) OR TI(PFMT) OR AB(PFMT)

AND

(MH "Women+") OR (MH "Female") OR TI(women*) OR AB(women*) OR TI(woman*) OR AB(Woman*) OR TI(female*) OR AB(female*)

AND NOT

TI("primary care" OR "primary doctor*" OR "primary provider*" OR "primary clinic*" OR "ambulatory care" OR "general practitioner*" OR GP OR "general practice physician*" OR internist* OR "family medicine" OR "family practice*" OR "family doctor*" OR "internal medicine" OR "geriatric medicine" OR geriatric* OR "community health center*" OR "federally qualified health center*" OR FQHC* OR CBOC* OR "community based") OR AB("primary care" OR "primary doctor*" OR "primary provider*" OR "primary clinic*" OR "ambulatory care" OR "general practitioner*" OR GP OR "general practice physician*" OR internist* OR "family medicine" OR "family practice*" OR "family doctor*" OR "internal medicine" OR "geriatric medicine" OR geriatric* OR "community health center*" OR "federally qualified health center*" OR FQHC* OR CBOC* OR "community based") OR (MH "Primary Health Care") OR (MH "Physicians, Family") OR (MH "Internal Medicine") OR (MH "Family Practice") OR (MH "Geriatrics")

AND

(MH "Referral and Consultation+")

Results: 30 – duplicates with PubMed = 10

TOTAL for PubMed and CINAHL: 20

Supplemental Search 2: Referrals by PCPs to PT for non-UI conditions

PubMed

English; 1996–Date of search

Search executed August 5, 2023

"physical therap*"[tiab] OR "Physical Therapy Modalities"[Mesh] OR physiotherap*[tiab] OR "physio therap*"[tiab]

AND

"Referral and Consultation"[Mesh]

AND

"primary care"[tiab] OR "primary doctor*"[tiab] OR "primary provider*"[tiab] OR "primary clinic*"[tiab] OR "ambulatory care"[tiab] OR "general practitioner*"[tiab] OR GP[tiab] OR "general practice physician*"[tiab] OR internist*[tiab] OR "family medicine"[tiab] OR "family practice*"[tiab] OR "family doctor*"[tiab] OR "internal medicine"[tiab] OR "geriatric medicine"[tiab] OR geriatric*[tiab] OR "community health center*"[tiab] OR "federally qualified health center*"[tiab] OR FQHC*[tiab] OR CBOC*[tiab] OR "community based"[tiab] OR "Primary Health Care"[Mesh] OR "Physicians, Primary Care"[Mesh] OR "General Practice"[Mesh] OR "General Practitioners"[Mesh] OR "Geriatrics"[Mesh] OR "Internal Medicine"[Mesh] OR "Family Practice"[Mesh]

AND NOT

"overactive bladder"[tiab] OR enuresis[tiab] OR nocturia[tiab] OR incontinen*[tiab] OR "detrusor instabilit*"[tiab] OR "continence care*"[tiab] OR ((bladder*[tiab] OR urine[tiab] OR urina*[tiab]) AND (overactive[tiab] OR "over active"[tiab] OR urgent[tiab] OR urgency[tiab] OR frequent[tiab] OR frequency[tiab] OR detrusor[tiab] OR leak*[tiab] OR dysfunction* OR urge*[tiab])) OR ((bladder[tiab]) AND (neurogen*[tiab] OR neurologic*[tiab])) OR "Urinary Bladder, Overactive"[Mesh] OR "Urinary Incontinence"[Mesh] OR "Enuresis"[Mesh] OR "Urinary Bladder, Neurogenic"[Mesh] OR "Urinary Incontinence, Urge"[Mesh] OR "Urinary Incontinence, Stress"[Mesh] OR "Nocturia"[Mesh]

AND

Women[mh] OR Female[mh] OR women*[tiab] OR woman*[tiab] OR female*[tiab]

Results: 250

CINAHL Plus (via EBSCO)

English; 1996–Date of search

Search executed August 5, 2023

TI("physical therap*" OR physiotherap* OR "physio therap*") OR AB("physical therap*" OR physiotherap* OR "physio therap*") OR (MH "Physical Therapy+")

AND

(MH "Referral and Consultation+")

AND

TI("primary care" OR "primary doctor*" OR "primary provider*" OR "primary clinic*" OR "ambulatory care" OR "general practitioner*" OR GP OR "general practice physician*" OR internist* OR "family medicine" OR "family practice*" OR "family doctor*" OR "internal medicine" OR "geriatric medicine" OR geriatric* OR "community health center*" OR "federally qualified health center*" OR FQHC* OR CBOC* OR "community based") OR AB("primary care" OR "primary doctor*" OR "primary provider*" OR "primary clinic*" OR "ambulatory care" OR "general practitioner*" OR GP OR "general practice physician*" OR internist* OR "family medicine" OR "family practice*" OR "family doctor*" OR "internal medicine" OR "geriatric medicine" OR geriatric* OR "community health center*" OR "federally qualified health center*" OR FQHC* OR CBOC* OR "community based") OR (MH "Primary Health Care") OR (MH "Physicians, Family") OR (MH "Internal Medicine") OR (MH "Family Practice") OR (MH "Geriatrics")

AND NOT

TI("overactive bladder" OR enuresis OR nocturia OR incontinen* OR "detrusor instabilit*" OR "continence care*") OR AB("overactive bladder" OR enuresis OR nocturia OR incontinen* OR "detrusor instabilit*" OR "continence care*") OR (TI(bladder* OR urine OR urina*) AND TI(overactive OR "over active" OR urgent OR urgency OR frequent OR frequency OR detrusor OR leak* OR dysfunction* OR urge*)) OR (TI(bladder* OR urine OR urina*) AND AB(overactive OR "over active" OR urgent OR urgency OR frequent OR frequency OR detrusor OR leak* OR dysfunction* OR urge*)) OR (AB(bladder* OR urine OR urina*) AND TI(overactive OR "over active" OR urgent OR urgency OR frequent OR frequency OR detrusor OR leak* OR dysfunction* OR urge*)) OR (AB(bladder* OR urine OR urina*) AND AB(overactive OR "over active" OR urgent OR urgency OR frequent OR frequency OR detrusor OR leak* OR dysfunction* OR urge*)) OR (TI(bladder) AND TI(neurogen* OR neurologic*)) OR (TI(bladder) AND AB(neurogen* OR neurologic*)) OR (AB(bladder) AND TI(neurogen* OR neurologic*)) OR (AB(bladder) AND AB(neurogen* OR neurologic*)) OR (MH "Urinary Incontinence") OR (MH "Stress Incontinence") OR (MH "Urge Incontinence") OR (MH "Bladder, Neurogenic") OR (MH "Overactive Bladder") OR (MH "Enuresis") OR (MH "Enuresis, Nocturnal")

AND

(MH "Women+") OR (MH "Female") OR TI(women*) OR AB(women*) OR TI(woman*) OR AB(Woman*) OR TI(female*) OR AB(female*)

Results: 163 – after removing duplicates with PubMed = 85

TOTAL for PubMed and CINAHL: 335

Supplemental Search 3: Referrals by PCPs to nonsurgical treatment for obesity and overweight

PubMed

English; 1996–Date of search

Search executed August 5, 2023

("weight management"[tiab:~2] OR "manage weight"[tiab:~2] OR "weight reduction"[tiab:~2] OR "reduce weight"[tiab:~2] OR "reducing weight"[tiab:~2] OR "lose weight"[tiab:~2] OR "losing weight"[tiab:~2] OR "weight loss"[tiab:~2] OR "weight reduction programs"[majr] OR "Diet, Reducing"[Mesh] OR "Anti-Obesity Agents"[majr] OR "Weight Loss"[majr] OR ("Obesity/rehabilitation"[majr]) OR "Overweight/rehabilitation"[majr])

AND

"primary care"[tiab] OR "primary doctor*"[tiab] OR "primary provider*"[tiab] OR "primary clinic*"[tiab] OR "ambulatory care"[tiab] OR "general practitioner*"[tiab] OR GP[tiab] OR "general practice physician*"[tiab] OR internist*[tiab] OR "family medicine"[tiab] OR "family practice*"[tiab] OR "family doctor*"[tiab] OR "internal medicine"[tiab] OR "geriatric medicine"[tiab] OR geriatric*[tiab] OR "community health center*"[tiab] OR "federally qualified health center*"[tiab] OR FQHC*[tiab] OR CBOC*[tiab] OR "community based"[tiab] OR "Primary Health Care"[Mesh] OR "Physicians, Primary Care"[Mesh] OR "General Practice"[Mesh] OR "General Practitioners"[Mesh] OR "Geriatrics"[Mesh] OR "Internal Medicine"[Mesh] OR "Family Practice"[Mesh]

AND

Women[mh] OR Female[mh] OR women*[tiab] OR woman*[tiab] OR female*[tiab]

AND

"Referral and Consultation"[Mesh]

Results: 146

(Obesity[tiab] OR obese[tiab] OR "Obesity"[majr])

AND

"primary care"[tiab] OR "primary doctor*"[tiab] OR "primary provider*"[tiab] OR "primary clinic*"[tiab] OR "ambulatory care"[tiab] OR "general practitioner*"[tiab] OR GP[tiab] OR "general practice physician*"[tiab] OR internist*[tiab] OR "family medicine"[tiab] OR "family practice*"[tiab] OR "family doctor*"[tiab] OR "internal medicine"[tiab] OR "geriatric medicine"[tiab] OR geriatric*[tiab] OR "community health center*"[tiab] OR "federally qualified health center*"[tiab] OR FQHC*[tiab] OR CBOC*[tiab] OR "community based"[tiab] OR "Primary Health Care"[Mesh] OR "Physicians, Primary Care"[Mesh] OR "General Practice"[Mesh] OR "General Practitioners"[Mesh] OR "Geriatrics"[Mesh] OR "Internal Medicine"[Mesh] OR "Family Practice"[Mesh]

AND

Women[mh] OR Female[mh] OR women*[tiab] OR woman*[tiab] OR female*[tiab]

AND

"Referral and Consultation"[Mesh]

Results: 254 (de-duplicated/combined with weight management PubMed)

CINAHL Plus (via EBSCO)

English; 1996–Date of search

Search executed August 5, 2023

TI(weight w2 manage*) OR AB(weight w2 manage*) OR TI(weight w2 reduc*) OR AB(weight w2 reduc*) OR TI("weight loss") OR AB("weight loss") OR TI(weight w2 losing) OR AB(weight w2 losing) OR TI(weight w2 lose) OR AB(weight w2 lose) OR (MH "Weight Reduction Programs") OR (MH "Weight Loss+") OR (MH "Antiobesity Agents+") OR (MH "Diet, Reducing")

AND

TI("primary care" OR "primary doctor*" OR "primary provider*" OR "primary clinic*" OR "ambulatory care" OR "general practitioner*" OR GP OR "general practice physician*" OR internist* OR "family medicine" OR "family practice*" OR "family doctor*" OR "internal medicine" OR "geriatric medicine" OR geriatric* OR "community health center*" OR "federally qualified health center*" OR FQHC* OR CBOC* OR "community based") OR AB("primary care" OR "primary doctor*" OR "primary provider*" OR "primary clinic*" OR "ambulatory care" OR "general practitioner*" OR GP OR "general practice physician*" OR internist* OR "family medicine" OR "family practice*" OR "family doctor*" OR "internal medicine" OR "geriatric medicine" OR geriatric* OR "community health center*" OR "federally qualified health center*" OR FQHC* OR CBOC* OR "community based") OR (MH "Primary Health Care") OR (MH "Physicians, Family") OR (MH "Internal Medicine") OR (MH "Family Practice") OR (MH "Geriatrics")

AND

(MH "Women+") OR (MH "Female") OR TI(women*) OR AB(women*) OR TI(woman*) OR AB(Woman*) OR TI(female*) OR AB(female*)

AND

(MH "Referral and Consultation+")

Results: 49

TI(Obesity) OR AB(Obesity) OR TI(Obese) OR AB(Obese) OR (MH "Obesity+")

AND

TI("primary care" OR "primary doctor*" OR "primary provider*" OR "primary clinic*" OR "ambulatory care" OR "general practitioner*" OR GP OR "general practice physician*" OR internist* OR "family medicine" OR "family practice*" OR "family doctor*" OR "internal medicine" OR "geriatric medicine" OR geriatric* OR "community health center*" OR "federally qualified health center*" OR FQHC* OR CBOC* OR "community based") OR AB("primary care" OR "primary doctor*" OR "primary provider*" OR "primary clinic*" OR "ambulatory care" OR "general practitioner*" OR GP OR "general practice physician*" OR internist* OR "family medicine" OR "family practice*" OR "family doctor*" OR "internal medicine" OR "geriatric medicine" OR geriatric* OR "community health center*" OR "federally qualified health center*" OR FQHC* OR CBOC* OR "community based") OR (MH "Primary Health Care") OR (MH "Physicians, Family") OR (MH "Internal Medicine") OR (MH "Family Practice") OR (MH "Geriatrics")

AND

(MH "Women+") OR (MH "Female") OR TI(women*) OR AB(women*) OR TI(woman*) OR AB(Woman*) OR TI(female*) OR AB(female*)

AND

(MH "Referral and Consultation+")

Results: 120 (de-duplicated/combined with weight management CINAHL)

TOTAL for PubMed and CINAHL: 303

TOTAL deduped against all other searches: 290

Appendix B. Evidence Tables for the Base Year and OY1 Literature Reviews

Table B.1 presents each study that met the full inclusion criteria of the Base Year literature scoping review on a separate row, and Table B.2 presents each new study that met the same inclusion criteria for the replication of the literature review over the extended date range (1996–2023).

All relevant publications associated with the study are cited in the lefthand column. Abbreviations are defined at the end of the table.

Table B.1. Evidence Table for Studies Included in Base Year Literature Scoping Review (2012–2022)

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
<p>Albers-Heitner et al., 2012 Study design: Randomized controlled trial (RCT) Country: The Netherlands Locale: Four Dutch regions (Maastricht, Nijmegen, Helmond, The Hague) Setting: Primary care practices</p>	<p>Practice type: Not reported Number of PCPs by category: Physicians (MDs or DOs): number involved in the study: 109; Nurses: number involved in the study: 6 Types of physician practice: Other: General practice</p>	<p>Number of women of all ages served by study practices: 384 (186 intervention; 198 care as usual) Mean (SD) age of all women in the study: 65 Particular type of women: No UI Type(s): Stress UI, urge UI, mixed UI</p>	<p>Features of care intervention: Community-based multidisciplinary teams Stages addressed by care intervention: Management (treatment) Features of dissemination approach: On-site intervention resource/practice coordinator, Provider/staff education; training Features of implementation approach: Seek evidence, implement QI Levels of primary care system involved: Primary care clinicians and/or staff, Patients</p>	<p>Control: Yes: Care-as-usual by GP Randomization process: Yes: computer-generated, with allocation concealment by sealed envelopes. Analytic methods: Quantitative (e.g., clinical measures, patient surveys): portal questionnaires at baseline, three, six, nine, and 12 months Process outcomes: Exposure/engagement of providers or other staff to the intervention, Feasibility of implementing or using the intervention, Patient experience or satisfaction Impact outcomes: Economic outcomes (resource use, costs, or economic outcomes of the implementation strategy or</p>	<p>Brief description of intervention: Six nurse specialists who had received specialized training and a competencies assessment provided intervention, patients complete micturition diaries, were given advice on lifestyle, toileting habits, bladder training and PFMT, and choice of incontinence pads (when appropriate) Study limitations: Active recruitment may have made patients in the control arm aware of the severity of their condition and the treatments available, randomization at patient level may have caused contamination; follow-up of the trial may have been too short to capture all the benefits;</p>

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
				<p>intervention for practices, care providers, patients, or system stakeholders), Health outcomes (change in UI symptoms, health functioning, and/or quality of life of patients)</p>	<p>more ideal trial should have used naturalistic patient recruitment, longer-follow-up and larger and representative sample of UI caregivers Study Findings: Compared with care-as-usual, nurse specialist involvement cost € 16,742/QALY societal gained. Both QALY patient and ISLY showed slightly better cost-effectiveness. Recommended adopting the nurse specialist intervention in primary care, and following costs and effectiveness in real-life settings.</p>
<p>Beban, Newman, and Nolan, 2021 Study design: Pre/post assessment Country: New Zealand Locale: Napier, Aotearoa, Hawke's Bay region Setting: Primary care practices</p>	<p>Practice type: Other: pilot, publicly funded clinic for women for pelvic organ prolapsePOP and incontinence Number of PCPs by category: Physicians (MDs or DOs): number involved in the study: 1; GP, Other(s), if the specific focus of the study number involved in the study, Others: 1</p>	<p>Number of women of all ages in the study: 36 Mean (SD) age of all women in the study: 64 Particular type of women: No UI Type(s): Stress UI, Other: mentioned incontinence broadly</p>	<p>Features of care intervention: Community-based multidisciplinary teams, Clinical Interventions: Containment products (e.g., absorbent pads, external collection devices, intravaginal devices, pessaries), Lifestyle Interventions: Physical exercise, Behavioral and Physical Therapies: PFMT, Behavioral and Physical Therapies: Psychological interventions Stages addressed by care intervention: Management (treatment), Specialty referral</p>	<p>Control: No Randomization Process: No Analytic methods: Qualitative (e.g., interviews, focus groups); semistructured interviews, Quantitative (e.g., clinical measures, patient surveys); pre- and post-surveys Process outcomes: Feasibility of implementing or using the intervention Impact outcomes: Health outcomes (change in UI symptoms, health</p>	<p>Brief description of intervention: Initial 60-min consultation with GP or physiotherapist, healthcare asst with experience in sexual health assessment to offer support and ensure patient flow, GP perform examination; physiotherapist assessed bodily structure, muscles, and movement, individual tx pathway designed (e.g., modifying behavioral risk factors, physiotherapy, pessary use, referral); lifestyle and nutrition advice;</p>

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
	physiotherapist, 1 health assistant Types of physician practice: Other: General Practice		Features of dissemination approach: On-site intervention resource/practice coordinator, Other dissemination strategies: dedicated pilot clinic Features of implementation approach: Seek evidence: efficacy of biopsychosocial approach, implement QI Levels of primary care system involved: Community, Primary care practices, Patients	functioning, and/or quality of life of patients)	provided written info; follow- up appointments based on need (most had two or three appointments) Study limitations: Small sample, no control group, quantitative data did not include long-term effects of treatment nor various treatment pathways that continued beyond clinic Study findings: Participants reported significant reduction in clinical symptoms. Interviews found improvements in related conditions (e.g., constipation and pelvic pain). Psychosocial improvements included significant decrease in bother associated with urinary and vaginal symptoms, and fewer negative effects of symptoms on relationships, sex life, and quality of life. Concluded that integrated GP/physiotherapy clinic using biopsychosocial approach can significantly reduce physical symptoms and improve quality of life

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
<p>Chen, Mikhail, et al., 2021 Study design: Other: Retrospective validation of screening tool for online use Country: Australia Locale: Brisbane Setting: Virtual</p>	<p>Practice type: Private practice, Other: general gyn, urogyn Number of PCPs by category: N/A Types of physician practice: Women's health specialty</p>	<p>Number of Women of all ages served by study practices: not reported Number of Women of all ages in the study: 3,950 Mean (SD) age of all women in the study practices: Not reported Mean (SD) age of all women in the study: Not reported Particular type of women: No UI Type(s): Stress UI, urge UI</p>	<p>Features of care intervention: Other: development of an online prediction tool Stages addressed by care intervention: Screening, Diagnosis Features of dissemination approach: Other dissemination strategies: not applicable Features of implementation approach: Implementation not yet addressed but would involve targeting appropriate patients for treatment Levels of primary care system involved: Primary care clinicians and/or staff, Patients</p>	<p>Control: Yes Randomization Process: Yes: historical cohorts of asymptomatic community women Analytic methods: Quantitative (e.g., clinical measures, patient surveys) Process outcomes: Other key process outcomes Impact outcomes: Economic outcomes (resource use, costs, or economic outcomes of the implementation strategy or intervention for practices, care providers, patients, or system stakeholders), System outcomes (change in capacity of primary care practices to implement evidence-based care or health care systems in disseminating evidence-based care)</p>	<p>Brief description of intervention: Develop then internally and externally validate a diagnostic prediction model (tool) based on the Australian Pelvic Floor Questionnaire and patient demographics to determine the presence of PFD and compare it with the orthodox method of diagnosis of common PFDs including history, examination, and investigations by gynaecologists. The aim is to allow women to complete the form prior to their PCP visit to facilitate communication. Study limitations: This study involved no actual patient or provider contact or D&I intervention and retrospectively validated a tool Study findings: Model was validated internally and externally and provides an accurate online tool for patient self-assessment of pelvic floor disorders</p>

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
<p>Davis et al., 2020 Study design: Pre/post assessment Country: United States Locale: Metropolitan area in southeastern United States Setting: Community</p>	<p>Practice type: N/A Number of PCPs by category: Other(s), if the specific focus of the study number involved in the study, Others: 3 family caregivers Types of physician practice: N/A (community study)</p>	<p>Number of women of all ages in the study: 3 Mean (SD) age of all women in the study: not reported Particular type of women: No UI Type(s): Not reported</p>	<p>Features of care intervention: Behavioral and Physical Therapies: Prompted voiding Stages addressed by care intervention: Management (treatment) Features of dissemination approach: Other dissemination strategies: Caregiver education Features of implementation approach: Engage with patients and families (involve patients in integrating evidence, link to community resources, support patient engagement in care) Levels of primary care system involved: Community</p>	<p>Control: No Randomization Process: No Analytic methods: Qualitative (e.g., interviews, focus groups): Three-day bladder diaries, caregiver perceptions and satisfaction questionnaire, Quantitative (e.g., clinical measures, patient surveys): caregivers complete surveys at baseline, three weeks, and six weeks with perceived competence scale, perceived ease of use subscale, adapted incontinence impact questionnaire, urinary knowledge scale, depression scale, Lawton instrument of daily living scale, physical self- management scales; module viewing logs; telephone visit logs; caregiver perceptions and satisfaction questionnaire Process outcomes: Feasibility of implementing or using the intervention Impact outcomes: Health outcomes (change in UI symptoms, health functioning, and/or quality</p>	<p>Brief description of intervention: Six-week multicomponent behavioral intervention delivered via telehealth targeting three domains (informal caregiver education, skill enhancement in effective toileting strategies, and social support); includes individual, weekly telehealth visits with NP expert in UI care Study limitations: Only three caregiver/patient dyads agreed to participate Study findings: Most caregivers found the overall intervention acceptable; adherence to prompted voiding was inconsistent, but symptoms improved. Results suggest that the tablet-facilitated intervention was feasible and acceptable to informal caregivers and showed promise for improving caregiver and patient outcomes.</p>

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
<p>Firet et al., 2019 Study design: Pre-/post-assessment, Descriptive (qualitative or quantitative) Country: The Netherlands Locale: Throughout the Netherlands Setting: Virtual, Other: GP interviews were conducted FTF and phone</p>	<p>Practice type: Not reported Number of PCPs by category: Physicians (MDs or DOs) - number involved in the study: 13 Types of physician practice: Other: General Practice (NL)</p>	<p>Number of Women of all ages in the study: 20 Mean (SD) age of all women in the study: 51 Particular type of women: Yes: women with SUI greater than 18 years old UI Type(s): Stress UI, mixed UI</p>	<p>Features of care intervention: Clinical Interventions: Treatment of underlying disease/cognitive impairment, Behavioral and Physical Therapies: PFMT Stages addressed by care intervention: Management (treatment) Features of dissemination approach: Other dissemination strategies: None: intervention involved only developers and patients Features of implementation approach: Seek evidence Levels of primary care system involved: Primary care clinicians and/or staff, Patients</p>	<p>of life of patients), Other key impact outcomes Control: No Randomization Process: No Analytic methods: Qualitative (e.g., interviews, focus groups): semistructured interviews among subset of 15–20 women; training reports, Quantitative (e.g., clinical measures, patient surveys): surveys at baseline, three weeks, and three and six months after baseline; training reports; website usage data Process outcomes: Feasibility of implementing or using the intervention, Compatibility of the intervention to practices/care routines, Barriers to disseminating/implementing the intervention, Facilitators to disseminating or implementing the intervention, Patient adherence to treatment Impact outcomes: Other key impact outcomes</p>	<p>Brief description of intervention: Three-month eHealth intervention on PFMT (text, audio fragments, images) with four different exercises in eight escalating modules; information about UI and lifestyle advice also provided; each module contains background info, training program, and test exercise to ensure women gained the correct skills; women recommended to train for 2–3 times a day for 2 to 12 minutes Study limitations: GP interviews: limited sample and not generalizable, response bias due to questioning GP on conceptual eHealth intervention; Women study: not all data fall into FITT framework, recall bias, highly educated sample may have been predisposed toward all forms of health care and information provision via electronic means, limited qualitative sample</p>

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
					Study Findings: Facilitators to adoption of e-Health intervention for SUI include preference for self-management, strong sense of self-discipline and ability to schedule routine exercises. Barriers were personal circumstances restricting time for exercises and lacking skills to perform exercises correctly. Some patients require additional provider support.
<p>Hess et al., 2013 Study design: RCT, Single arm trial Country: United States Locale: Recruited from the general communities surrounding 13 clinical sites Setting: Community</p>	<p>Practice type: Not reported Number of PCPs by category: Physicians (MDs or DOs) - number involved in the study: not reported Types of physician practice: Not reported</p>	<p>Number of Women of all ages in the study: 567 completed RCT, 454 completed open-label study Mean (SD) age of all women in the study: 56.9 (SD 13.8, range 21–90) Particular type of women: Yes: ambulatory, community-dwelling women aged 18 years and older with self-reported UUI UI Type(s): Urge UI</p>	<p>Features of care intervention: Pharmacological management: Antimuscarinic/anticholinergic drugs, Other: assessment Stages addressed by care intervention: Screening, diagnosis Features of dissemination approach: N/A Features of implementation approach: Seek evidence Levels of primary care system involved: Community, Primary care practices, Patients</p>	<p>Control: Yes: RCT included placebo control Randomization Process: Yes: 322 women randomized to fesoterodine, 323 to placebo Analytic methods: Qualitative (e.g., interviews, focus groups): Three-day voiding diary, Quantitative (e.g., clinical measures, patient surveys): validated questionnaires included (1) OAB-q, (2) PPBC, (3) PPUS Process outcomes: Feasibility of implementing or using the intervention, Patient experience or satisfaction</p>	<p>Brief description of intervention: BRIDGES: 12-week randomized, double-blind, placebo-controlled clinical trial of antimuscarinic therapy in ambulatory women who self-diagnosed as having UUI using 3IQ Study limitations: Women diagnosed in context of study rather than primary care practices should provide PCPs with common antimuscarinic side effects as well as 3IQ; study conducted with only one antimuscarinic medication Study findings: Patient satisfaction with treatment was high. The questionnaire misclassified a small</p>

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
				Impact outcomes: Health outcomes (change in UI symptoms, health functioning, and/or quality of life of patients), Sustainability outcomes (continued dissemination or implementation of the intervention, use of the intervention by practices or providers, and/or improvement in patient care and health outcomes)	number of patients but no adverse events resulted. Study concluded that use of the questionnaire for diagnosis and treatment initiation in primary care settings is safe and effective.
<p>Loohuis et al., 2018; Loohuis, Van Der Worp, et al., 2021; Loohuis, Wessels, et al., 2021; Van der Worp et al., 2020; Wessels et al., 2020; Wessels et al., 2021</p> <p>Study design: Randomized controlled trial (RCT), Descriptive (qualitative or quantitative) Country: The Netherlands Locale: northern</p>	<p>Practice type: Not reported Number of PCPs by category: Physicians (MDs or DOs) - number involved in the study: 88 Types of physician practice: Other: general practice</p>	<p>Number of Women of all ages in the study: 262</p> <p>Mean (SD) age of all women in the study: 53 (NR)</p> <p>Particular type of women: No</p> <p>UI Type(s): Stress UI, Urge UI, Mixed UI</p>	<p>Features of care intervention: Other: URinControl app Stages addressed by care intervention: Management (treatment) Features of dissemination approach: Other dissemination strategies: Not described Features of implementation approach: Seek evidence: study aimed to compare an app with usual care; study assessed providers attitudes toward implementation of the app in practices Levels of primary care system involved: Primary care clinicians and/or staff, Patients</p>	<p>Control: Yes: usual care Randomization Process: Yes: by patient Analytic methods: Qualitative (e.g., interviews, focus groups): semistructured interviews, Quantitative (e.g., clinical measures, patient surveys): clinical measures, cost assessment Process outcomes: Exposure/engagement of providers or other staff to the intervention, Feasibility of implementing or using the intervention, Barriers to D&I of the intervention, Facilitators to D&I of the intervention, Proportion of patients receiving specialty referrals, Patient</p>	<p>Brief description of intervention: Women who screened as having UI were randomized to use an app or usual care for four months with option to continue for another eight months. Study limitations: Because participants were recruited and screened via research physicians, patients in the intervention (app) arm may not have seen their PCP during the study, even if they were recruited from their PCP's practice. Also, patients in the app group had a slightly higher education level than those in the usual care group.</p>

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
Setting: Primary care practices, Other: Some participants recruited through social and print media; those assigned to the usual care group were told to see their own PCP				adherence to treatment, Patient experience or satisfaction Impact outcomes: Economic outcomes (resource use, costs, or economic outcomes of the implementation strategy or intervention for practices, care providers, patients, or system stakeholders), Health outcomes (change in UI symptoms, health functioning, and/or quality of life of patients), Sustainability outcomes (continued D&I of the intervention, use of the intervention by practices or providers, and/or improvement in patient care and health outcomes), Unintended consequences (unintended negative, positive, or spillover effects of the D&I of the intervention on practice setting, providers, or patients)	Patients and providers could not be blinded. Study findings: No difference was seen in improvement in symptom severity between the app and usual care in the primary care setting. App-based treatment is preferable in terms of patient privacy and accessibility and is lower in cost than provider visits.

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
<p>Ngigi, 2017 Study design: Pre-/post-assessment Country: United States Locale: Not specified Setting: Primary care practices</p>	<p>Practice type: Other: Retail clinic Number of PCPs by category: Advanced practice professionals (NPs or PAs)- number involved in the study: 153 Types of physician practice: Family medicine</p>	<p>Number of Women of all ages served by study practices: not applicable</p> <p>Number of Women of all ages in the study: not applicable</p> <p>Mean (SD) age of all women in the study practices: not applicable</p> <p>Mean (SD) age of all women in the study: not applicable</p> <p>Particular type of women: Yes: women over 40 years</p> <p>UI Type(s): Other: OAB</p>	<p>Features of care intervention: Other: screening education Stages addressed by care intervention: Screening, Diagnosis Features of dissemination approach: Provider/staff education; training Features of implementation approach: Implement QI: adopted QI approach, engaged care team via education and training, Nurture leadership (e.g., create a QI culture, encourage learning, forge a vision, identify champions, review measures, support evidence-based practice): Identified change champions (the chief nursing officer and market educators) Levels of primary care system involved: Primary care clinicians and/or staff</p>	<p>Control: Yes: baseline Randomization Process: No Analytic methods: Quantitative (e.g., clinical measures, patient surveys) Process outcomes: Exposure/engagement of providers or other staff to the intervention, Fidelity of intervention implementation or use to what was intended Impact outcomes: Other key impact outcomes</p>	<p>Brief description of intervention: A Doctor of Nursing student designed an intervention to increase NPs' understanding and use of an evidence-based OAB screening tool (Actionable Bladder Symptom Screen Tool, ABSST) in the retail clinic setting for women patients older than 40 (QI intervention); developed an online education module and practice change processes to implement use of the tool Study limitations: Of 1,000 providers targeted, only 153 agreed to participate and only 52 completed the study. The study also measured pre- and post-training knowledge but did not assess changes in use of screening. Study findings: Providers' knowledge and awareness of overactive bladder symptoms and screening in adult women increased following use of the educational online module. Results suggest that the screening tool) is likely to improve patient outcomes for patients who are</p>

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
<p>Schlittenhardt, Smith, and Ward-Smith, 2016 Study design: Descriptive (qualitative or quantitative), Other: participation by invitation Country: United States Locale: Not specified Setting: Primary care practices, Virtual</p>	<p>Practice type: Not reported Number of PCPs by category: Physicians (MDs or DOs): not reported, Physicians (MDs or DOs) - number involved in the study: 3 (1 PCP, 2 gynecologists), Advanced practice professionals (NPs or PAs)- number involved in the study: 2, Nurses - number involved in the study: 2, Other(s), 1 telehealth nurse, 1 telehealth coordinator Types of physician practice: Not reported</p>	<p>Number of Women of all ages in the study: 41 Mean (SD) age of all women in the study: 59 (NR) Particular type of women: No UI Type(s): Stress UI, urge UI, mixed UI, Other: incomplete bladder emptying, frequency</p>	<p>Features of care intervention: Other: not described Stages addressed by care intervention: Management (treatment) Features of dissemination approach: Other dissemination strategies: no dissemination strategy Features of implementation approach: Create Care Teams: Target appropriate patients, engage with patients and families (involve patients in integrating evidence), link to community resources, support patient engagement in care: support patient engagement in care Levels of primary care system involved: Health care delivery system (i.e., other delivery organizations beyond primary care), Primary care clinicians and/or staff, Patients</p>	<p>Control: Yes: historical comparison Randomization Process: No Analytic methods: Quantitative (e.g., clinical measures, patient surveys) Process outcomes: Patient adherence to treatment, Patient experience or satisfaction, Other key process outcomes Impact outcomes: Health outcomes (change in UI symptoms, health functioning, and/or quality of life of patients)</p>	<p>screened and begin early treatment when appropriate. Brief description of intervention: Study established telehealth follow-up visit option with NP for rural patients following UI in-person visits Study limitations: Study involved only one small clinic, and patients were selected to participate Study findings: Telehealth program resulted in improved follow-up rates, treatment plan effectiveness, patient satisfaction, and healthcare team support.</p>

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
<p>Schüssler-Fiorenza Rose et al., 2015 Study design: Other: randomized parallel group study in single outpatient clinic Country: United States Locale: Wisconsin Setting: Other: academically affiliated women's health internal medicine clinic</p>	<p>Practice type: Other: academically affiliated clinic Number of PCPs by category: Other(s), if the specific focus of the study number involved in the study, Others: PCPs, not otherwise described Types of physician practice: Not reported</p>	<p>Number of Women of all ages in the study: 284 Mean (SD) age of all women in the study: 56 (range 40–87) Particular type of women: No UI Type(s): Stress UI</p>	<p>Features of care intervention: Other: computerized pelvic floor questionnaire prior to visit Stages addressed by care intervention: Screening Features of dissemination approach: Other dissemination strategies: Not described Features of implementation approach: Seek evidence Levels of primary care system involved: Health care delivery system (i.e., other delivery organizations beyond primary care), Primary care practices and patients</p>	<p>Control: Yes: post-visit group: patients were asked to complete the electronic pelvic floor questionnaire (ePAQ-PF) after the appointment Randomization Process: Yes: patients were randomized within strata defined by clinicians, randomization list was computer-generated using a permuted block design Analytic methods: Qualitative (e.g., interviews, focus groups): mention of UI in clinic note, patient report of UI discussion and clinician-initiated UI discussion, Quantitative (e.g., clinical measures, patient surveys): referrals, percent of patients with UI and UI clinic note mention no prior UI and frequency of UI diagnostic codes in subgroup Process outcomes: Compatibility of the intervention to practices/care routines Impact outcomes: Sustainability outcomes (continued D&I of the intervention, use of the intervention by practices or</p>	<p>Brief description of intervention: ePAQ-PF for assessment of PFDs and to decrease burden of paper- based questionnaires Study limitations: Small percentage of control participants answered affirmatively to the question to whether participation in the study affected discussion with physician (22 percent of control UI discussants) Study findings: The primary finding was an increase in clinician-initiated UI discussions in the group that received the questionnaire. Use of the tool prior to clinic visits increases UI discussion , particularly clinician-initiated discussion. These findings suggest that such tools may increase the detection and treatment of UI.</p>

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
<p>Agnew, van den Heuvel, and Tannenbaum, 2013; Fritel et al., 2021; Tannenbaum et al., 2019; Tannenbaum et al., 2015</p> <p>Study design: RCT Country: Canada, France, United Kingdom Locale: Not specified Setting: Community, Other: CACTUS-D Trial</p>	<p>Practice type: N/A Number of PCPs by category: Others: research assistant facilitators Types of physician practice: N/A</p>	<p>Number of women of all ages in the study: 909</p> <p>Mean (SD) age of all women in the study: Intervention: 77.4 (7.8) Control: 78.6 (7.9)</p> <p>Particular type of women: Yes: older women</p> <p>UI Type(s): Stress UI, urge UI, mixed UI, Other: nocturia and "other"</p>	<p>Features of care intervention: Community-based multidisciplinary teams, Behavioral and Physical Therapies: PFMT, Behavioral and Physical Therapies: Psychological interventions, Other: Facilitated interactive discussion to address myths surrounding involuntary urine loss and possible causes; descriptions of self-management techniques, such as pelvic floor muscle exercises and lifestyle interventions, were provided; distribution of self-management brochure (Canadian Deprescribing Network, undated)</p> <p>Stages addressed by care intervention: Management (treatment)</p> <p>Features of dissemination approach: Other dissemination strategies: Not relevant; programs conducted at community centers</p> <p>Features of implementation approach: Engage with patients and families (involve patients in integrating evidence), link to community resources, support patient</p>	<p>providers, and/or improvement in patient care and health outcomes)</p> <p>Control: Yes: a single 45-minute interactive group workshop on other health topics of importance to older women Randomization Process: Yes: randomization by community organization Analytic methods: Quantitative (e.g., clinical measures, patient surveys) Process outcomes: Fidelity of intervention implementation or use to what was intended, Patient adherence to treatment Impact outcomes: Health outcomes (change in UI symptoms, health functioning, and/or quality of life of patients)</p>	<p>Brief description of intervention: a single 45-minute interactive group continence promotion program delivered by a trained research assistant/workshop facilitator, incorporating constructivist learning and discusses the risk factors, causes and treatments for incontinence and challenges the misconception that incontinence is a normal part of aging. It aims to motivate community-dwelling women to initiate evidence-based self-management and/or to consult for treatment Study limitations: The control group received health information that could have resulted in some positive outcomes (e.g., decreased falls in this group could have resulted from information women learned that led to medication deprescribing); Only 20 percent of community organizations internationally agreed to enroll in the</p>

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
			engagement in care: support patient engagement in care Levels of primary care system involved: Community		CACTUS-D trial, mainly because of disinterest in participating in health research; women self- selected to participate Study findings: Community-based group incontinence self- management workshops show long-term beneficial effects for older women's urinary symptoms but did not affect fall risk or healthy life expectancy compared with participation in a generic educational workshop.
Teunissen et al., 2015 Study design: Single arm trial Country: The Netherlands Locale: Eastern section Setting: Primary care practices	Practice type: Not reported Number of PCPs by category: Physicians (MDs or DOs) - number involved in the study: 16, Advanced practice professionals (NPs or PAs)- number involved in the study: 16, Nurses - number involved in the study: Not reported Types of physician practice: Family medicine	Number of Women of all ages in the study: 103 Mean (SD) age of all women in the study: 55.0 (14.6) Particular type of women: No UI Type(s): Stress UI, urge UI, mixed UI	Features of care intervention: Other: NP monitoring and treatment guidance Stages addressed by care intervention: Management (treatment) Features of dissemination approach: Provider/staff education; training Features of implementation approach: Other implementation strategies Levels of primary care system involved: Primary care practices, Primary care clinicians and/or staff, Patients	Control: Yes: unclear whether comparison was baseline or a group not assigned to NPs, No Randomization Process: No Analytic methods: Quantitative (e.g., clinical measures, patient surveys) Process outcomes: Patient adherence to treatment, Patient experience or satisfaction Impact outcomes: Health outcomes (change in UI symptoms, health functioning, and/or quality of life of patients)	Brief description of intervention: women seen by GPs for UI were assigned to trained NP for followup and management, and outcomes were measured at three months Study limitations: small number of clinics and patients; no random assignment or comparison with an untreated group. Study findings: Treatment by a trained NP had a beneficial effect on UI symptom severity and QoL compared with women who did not undergo or complete treatment.

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
<p>Barentsen et al., 2012; Visser et al., 2014; Visser et al., 2012; Visser et al., 2015; Visser et al., 2013; Vermeulen et al., 2016 (The URINO Trial) Study design: RCT Country: The Netherlands Locale: Northern part of the country Setting: Primary care practices</p>	<p>Practice type: Other: single provider general practice offices Number of PCPs by category: Physicians (MDs or DOs) - number involved in the study: 14 Types of physician practice: Other: general practice</p>	<p>Number of Women of all ages in the study: Intervention: 166; Control: 184 Mean (SD) age of all women in the study: Intervention: 65.7 (8.4) Control: 65.9 (8.3) Particular type of women: Yes: women age 55 and over UI Type(s): Stress UI, urge UI, mixed UI</p>	<p>Features of care intervention: Behavioral and Physical Therapies: PFMT, Other: Following screening, multidisciplinary teams tailored treatment recommendations to individual patients based on initial exams. Included medication adjustment if needed, referral for physical therapy, or referral for specialty care Stages addressed by care intervention: Screening, Diagnosis, Management (treatment), Specialty referral Features of dissemination approach: On-site intervention resource/practice coordinator, Other direct technical assistance: research physician and assistant worked onsite to interview and examine patients who met enrollment criteria Features of implementation approach: Seek evidence: A primary aim of the study was to determine whether brief UI screening would identify women with UI symptoms and bring them into treatment, Create care teams: Multidisciplinary care teams were formed to examine patients and develop care plans, including referral if warranted, Engage with patients</p>	<p>Control: Yes: practices that did not implement screening Randomization Process: Yes: randomization by practice Analytic methods: Quantitative (e.g., clinical measures, patient surveys): clinical measures, patient surveys Process outcomes: Proportion of patients receiving specialty referrals, Patient adherence to treatment Impact outcomes: Economic outcomes (resource use, costs, or economic outcomes of the implementation strategy or intervention for practices, care providers, patients, or system stakeholders), Health outcomes (change in UI symptoms, health functioning, and/or quality of life of patients), System outcomes (change in capacity of primary care practices to implement evidence-based care or health care systems in disseminating evidence-based care)</p>	<p>Brief description of intervention: Study aimed to assess the effect of systematic screening of at-risk women for UI who were not already in care, bringing them into treatment, and establishing care plans on UI symptoms and quality of life, and to determine reasons women do not seek care. Study limitations: The study used research staff for some aspects of the study; in real life, GP offices' NPs would be expected to explain the screening and diagnostic practices to patients and GPs would take the place of the multidisciplinary team, engaging patients in shared decisionmaking about treatment options and referral; also, improvement at follow-up (one year) was modest but this might be attributable to at least 25 percent of patients having only mild symptoms. Study findings: Tailored screening and treatment Intervention patients had greater improvement in symptom severity, including</p>

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
			<p>and families (involve patients in integrating evidence, link to community resources, support patient engagement in care: targeting appropriate patients, supporting their engagement in care)</p> <p>Levels of primary care system involved: Payors, Health care delivery system (i.e., other delivery organizations beyond primary care), Primary care practices, Primary care clinicians and/or staff, Patients</p>		<p>incontinence episodes than did controls at 1 year; intervention is recommended for community dwelling women 55 and over.</p>
<p>Asklund et al., 2017; Wadensten et al., 2021; Wadensten et al., 2022</p> <p>Study design: RCT</p> <p>Country: Sweden</p> <p>Locale: Locale not specified</p> <p>Setting: Virtual</p>	<p>Practice type: N/A</p> <p>Number of PCPs by category: N/A</p> <p>Types of physician practice: N/A</p>	<p>Number of Women of all ages in the study: 123, Mean (SD) age of all women in the study: 58.3 (NR); treatment group: 58.9 (9.2); information group: 57.7 (9.9)</p> <p>Particular type of women: No</p> <p>UI Type(s): Urge UI, mixed UI</p>	<p>Features of care intervention: Behavioral and Physical Therapies: Bladder Training, Behavioral and Physical Therapies: PFMT, Behavioral and Physical Therapies: Psychological interventions, Other: Lifestyle advice, tailored</p> <p>Stages addressed by care intervention: Management (treatment)</p> <p>Features of dissemination approach: Other dissemination strategies: none</p> <p>Features of implementation approach: Other implementation strategies: no implementation involved; this was a long-term trial to test a device that can eventually be provided to patients by PCPs.</p>	<p>Control: Yes: an information-only app</p> <p>Randomization Process: Yes: patients were randomized to the treatment app or an information app by an independent administrator using high-quality methods</p> <p>Analytic methods: Qualitative (e.g., interviews, focus groups): web-based questionnaire to capture user feedback, Quantitative (e.g., clinical measures, patient surveys): patient bladder symptom diaries, validated UI surveys and measures (ICIQ-UI SF)</p>	<p>Brief description of intervention: A mobile App Tat(R)II, developed and piloted to help UI patients manage their condition, was tested in an RCT with health and QoL outcomes assessed at 15 weeks and one year</p> <p>Study limitations: The study was conducted in a research setting, and study participants had higher education and health literacy than the average PC patient; also, troubleshooting of the app was provided by the research team, not the patient's PCP. Outcomes were self reported.</p>

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
			Levels of primary care system involved: Health care delivery system (i.e., other delivery organizations beyond primary care), Patients	Process outcomes: Patient adherence to treatment Impact outcomes: Health outcomes (change in UI symptoms, health functioning, and/or quality of life of patients)	Study findings: The treatment app significantly improved UI and MUI. App- induced self-management showed significant effects on all outcome measures at 15 months. Study concluded that for appropriate patients, app is a useful alternative to usual management strategies.

NOTE: BRIDGES (trial) = Bringing Simple Urge Incontinence Diagnosis & Treatment to Providers; CACTUS-D = Continence Across Continents to Upend Stigma and Dependency; DO = doctor of osteopathy; ePAQ-PF = electronic pelvic floor questionnaire; FITT = Fit between Individuals, Task, and Technology; FTF = face to face; MD = medical doctor; NL = The Netherlands; NR = standard deviation not reported; OAB-q = OAB questionnaire; PA = physician assistant; PFD = pelvic floor disorder; PPBC = Patient Perception of Bladder Condition; PPUS = Patient Perception of Urgency Scale; QALY = quality-adjusted life year; SD = standard deviation; UI = urinary incontinence; UUI = urge urinary incontinence; 3IQ = 3 Incontinence Questions.

Table B.2. Evidence Table for New Studies Identified in the Replicated Literature Review Over the Extended Date Range (1996–2023)

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
<p>Albers-Heitner et al., 2012; Albers-Heitner et al., 2011 Study design: Randomized controlled trial (RCT) Country: Netherlands Locale: four Dutch regions (Maastricht, Nijmegen, Helmond, The Hague) Setting: Primary care practices Number of primary care practices: 65</p>	<p>Practice type: Not reported Number of PCPs by category: Physicians (MDs or DOs) - number involved in the study: 109, Advanced practice professionals (NPs or PAs)- number involved in the study: 6 Types of physician practice: Other: General Practice</p>	<p>Number of Women of all ages in the study: 384 patients (92% women), Mean (SD) age of all women in the study: Intervention group 64.5 (14.1); Control group 64.9 (11.6) Particular type of women: No** UI Type(s): Stress UI, Urge UI, Mixed UI</p>	<p>Features of care intervention: Educational/Informational Interventions: Caregiver education, Self-management (e.g. symptom tracking), Other: Nurse specialists underwent UI specialist training and assumed care of UI patients' further diagnosis, review of symptom diaries, lifestyle guidance and other interventions Stages addressed by care intervention: Management (treatment) Features of dissemination approach: Provider/staff education & training Features of implementation approach: Implement QI, Other implementation strategies: Provide upskilling Levels of primary care system involved: Primary care practices, Primary care clinicians and/or staff, Patients</p>	<p>Control: Yes: usual care Randomization Process: Yes: randomization by region Analytic methods: Quantitative (e.g., clinical measures, patient surveys): ICIQ-SF: patient surveys of UI severity; EuroQoL QoL Process outcomes: Other key process outcomes Impact outcomes: Economic outcomes (resource use, costs, or economic outcomes of the implementation strategy or intervention for practices, care providers, patients, or system stakeholders), Health outcomes (change in UI symptoms, health functioning, and/or quality of life of patients), Subgroup/equity outcomes (differences in economic, health, system, sustainability or unintended consequences for types of practices, providers, or patients in under-resourced</p>	<p>Brief description of intervention: GP practice nursing staff underwent specialized training in diagnosis and management of UI and took over patient education and followup Study limitations: Patients and GPs were not blinded to treatment condition, contamination was possible, study design was pragmatic, no assessment of process outcomes Study findings: Patients and GPs were not blinded to treatment condition, contamination was possible, study design was pragmatic, no assessment of process outcomes</p>

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
				or marginalized populations or communities)	
<p>Alewijnse et al., 2003 Study design: Randomized controlled trial (RCT) Country: Netherlands Locale: Maastricht Setting: Primary care practices Number of primary care practices: 23</p>	<p>Practice type: Private practice Number of PCPs by category: Physicians (MDs or DOs): 55, Other(s), if the specific focus of the study number involved in the study, Others: physiotherapists Types of physician practice: Family medicine</p>	<p>Number of Women of all ages in the study: 180, Mean (SD) age of all women in the study: 55.6 (10.9) Particular type of women: Yes: women with at least 1 risk factor for UI** UI Type(s): Stress UI, Urge UI, Mixed UI, Other: missing</p>	<p>Features of care intervention: Lifestyle Interventions: Diet-Fluid intake, Behavioral and Physical Therapies: Bladder Training, Behavioral and Physical Therapies: Pelvic floor muscle training (PFMT), Educational/Informational Interventions: Patient education, Self-management (e.g. symptom tracking) Stages addressed by care intervention: Management (treatment) Features of dissemination approach: Provider/staff education & training Features of implementation approach: Implement QI, Engage with Patients and Families families (involve patients in integrating evidence, link to community resources, support patient engagement in care) Levels of primary care system involved: Primary care practices, Primary care clinicians and/or staff, Patients</p>	<p>Control: Yes: referral to PFMT physiotherapists Randomization Process: Yes: by practice Analytic methods: Qualitative (e.g., interviews, focus groups): questionnaires, Quantitative (e.g., clinical measures, patient surveys): frequency of wetting and adherence behavior Process outcomes: Feasibility of implementing or using the intervention, Barriers to D&I the intervention, Other key process outcomes Impact outcomes: Health outcomes (change in UI symptoms, health functioning, and/or quality of life of patients), Other key impact outcomes</p>	<p>Brief description of intervention: 4-arm RCT: women recruited from primary care clinic rosters based on 1 or more UI risk factor who screened as positive for UI were assigned to referral to PFMT, PFMT with attendance reminders, PFMT with reminders and educational materials, or all of the previous plus verbal counseling and education Study limitations: blinding was not possible, proportion of eligible participants who enrolled and loss to follow up were relatively high; neither the reminder nor the counseling intervention were implemented as planned; possible contamination, although attempts were made to prevent Study findings: blinding was not</p>

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
					<p>possible, proportion of eligible participants who enrolled and loss to follow up were relatively high; neither the reminder nor the counseling intervention were implemented as planned; possible contamination, although attempts were made to prevent</p>
<p>Bland et al., 2003 Study design: Randomized controlled trial (RCT) Country: United States Locale: Northwest North Carolina Setting: Primary care practices Number of primary care practices: 41 (4 lost to followup)</p>	<p>Practice type: Not reported Number of PCPs by category: Physicians (MDs or DOs): 57, Physicians (MDs or DOs) - number involved in the study: 45, Advanced practice professionals (NPs or PAs)- total number employed by practices in the study: NR, Advanced practice professionals (NPs or PAs)- number involved in the study: NR, Nurses-</p>	<p>Number of Women of all ages served by study practices: NR, Number of Women of all ages in the study: 507, Mean (SD) age of all women in the study practices: NR, Mean (SD) age of all women in the study: NR Particular type of women: No**</p>	<p>Features of care intervention: Clinical Interventions: Screening for UI Stages addressed by care intervention: Screening Features of dissemination approach: Provider/staff education and training, Other direct technical assistance: logistical support, frequent interaction and feedback, patient screening forms, and patient education materials Features of implementation approach: Implement QI Levels of primary care system involved: Primary care practices, Primary care clinicians and/or staff, Patients</p>	<p>Control: Yes: usual care Randomization Process: Yes: practice Analytic methods: Quantitative (e.g., clinical measures, patient surveys): patient telephone surveys Process outcomes: Extent the intervention was adopted/used in practice, Barriers to disseminating/implementing the intervention, Facilitators to disseminating/implementing the intervention Impact outcomes: Health outcomes (change in UI symptoms, health functioning, and/or quality of life of patients)</p>	<p>Brief description of intervention: primary care office-based intervention to improve implementation and adoption of AHRQ UI screening guidelines: patients were screened for UI status (symptoms and management) at enrollment and were characterized as symptomatic or asymptomatic. Practice received multicomponent training and assistance in UI care guidelines. Study limitations: Patient follow-up was relatively low;</p>

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
	total number employed by practices in the study: NR, Nurses - number involved in the study: NR Types of physician practice: Family medicine, General internal medicine	UI Type(s): Not reported			evaluation and management following positive screening were assessed by patient survey and appeared limited (e.g., referral) Study findings: Patient follow-up was relatively low; evaluation and management following positive screening were assessed by patient survey and appeared limited (e.g., referral)
Byles et al., 2005 Study design: Pre/post assessment, Descriptive (qualitative or quantitative), Other: helpline audit Country: Australia Locale: Project 1 (Centralised Continence Service) was based in a large, inland rural area in Australia. Project 2 (General Practice-based Continence Service) was based in a coastal area covering	Practice type: Not reported Number of PCPs by category: Physicians (MDs or DOs) - number involved in the study: interviews: 5 GPs, Nurses - number involved in the study: interviews: 2, Others: interviews: 2 PTs Types of physician practice: Family medicine	Number of Women of all ages in the study: GP waiting room survey 1: 1299 (72%), survey 2: 904 (71%); Patient survey: 91% of 114 were women, Mean (SD) age of all women in the study: GP waiting room survey 1: 54	Features of care intervention: Community-based multidisciplinary teams, Clinical Interventions: Screening for UI, Educational/Informational Interventions: Patient education, Educational/Informational Interventions: Caregiver education Stages addressed by care intervention: Screening, Specialty referral: Other (Describe): local continence services Features of dissemination approach: Provider/staff education and training, Other dissemination strategies: media campaign	Control: No Randomization Process: No Analytic methods: Qualitative (e.g., interviews, focus groups): provider interviews, Quantitative (e.g., clinical measures, patient surveys): provider knowledge survey, GP waiting room survey, patient survey, helpline audit Process outcomes: Barriers to disseminating/implementing the intervention, Facilitators to	Brief description of intervention: training to GPs and pharmacists and other health care providers; public awareness-raising campaigns for UI; referral to local continence services; training nurses to co-manage with GPs; networking existing services to help GPs refer Study limitations: 1) provider interviewees were self-selected, 2) provider survey lacked control group, 3) low

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<p>both rural areas and a major Australian urban centre. Project 3 (Continence Service Network) covered a large coastal capital city.</p> <p>Setting: Primary care practices, Community</p> <p>Number of primary care practices: unknown</p>		<p>(17.6) survey 2 51 (17.6) for both men and women; patient survey: 63.3 years</p> <p>Particular type of women: No**</p> <p>UI Type(s): Stress UI, Urge UI, Mixed UI, Other: not described</p>	<p>Features of implementation approach: Create Care Teams teams</p> <p>Levels of primary care system involved: Community, Primary care practices, Primary care clinicians and/or staff, Patients</p>	<p>disseminating/implementing the intervention, Proportion of patients receiving specialty referrals, Patient experience or satisfaction</p> <p>Impact outcomes: System outcomes (change in capacity of primary care practices to implement evidence-based care or health care systems in disseminating evidence-based care)</p>	<p>number of calls to helpline prevented stat analysis; 4) helpline audit was less than 12 months so unable to account for seasonality; 5) GP waiting room survey lacked population denominator and reasons for decline to participate; 6) short timespan between surveys may have limited ability to see changes; 7) small number of patient surveys</p> <p>Study findings: 1) provider interviewees were self-selected, 2) provider survey lacked control group, 3) low number of calls to helpline prevented stat analysis; 4) helpline audit was less than 12 months so unable to account for seasonality; 5) GP waiting room survey lacked population denominator and reasons for decline to</p>

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
					participate; 6) short timespan between surveys may have limited ability to see changes; 7) small number of patient surveys
<p>Celik et al., 2008 Study design: Descriptive (qualitative or quantitative) Country: Netherlands Locale: not reported but mentions Maastricht University, University of Amsterdam and Radboud University Nijmegen Medical Center Setting: Primary care practices Number of primary care practices: not reported</p>	<p>Practice type: Not reported Number of PCPs by category: Physicians (MDs or DOs) - number involved in the study: 9 experienced GPs & 9 GPs in third year of training Types of physician practice: Family medicine</p>	<p>Particular type of women: No** UI Type(s): Not reported</p>	<p>Features of care intervention: Self-management (e.g. symptom tracking) Stages addressed by care intervention: Screening,Diagnosis Features of dissemination approach: Provider/staff education & training Features of implementation approach: Implement QI Levels of primary care system involved: Primary care clinicians and/or staff</p>	<p>Control: No Randomization Process: No Analytic methods: Quantitative (e.g., clinical measures, patient surveys): Explorative study using standardized registration forms for patients seen the first time for the disease, immediately after consultation; form was intended to support GP's gender sensitivity and if GP did not follow rec, they had to explain reason on form; daily conversations between GP pairs were conducted for training; forms collected over 6-month period Process outcomes: Exposure/engagement of providers or other staff to the intervention</p>	<p>Brief description of intervention: Interactive training program - 2 modules - general intro to gender-related issues & interactive lectures to help put recommendations into practice; recommendations for UI were 1) rec use of diary, 2) consider sexual issues since UI is a risk factor for sexual dysfunction, 3) promptly provide active Tx for women with UI for a long period Study limitations: no pre/post measurement so study is only exploratory; samples too small to detect a trend in GP sensitivity over the 6 month period</p>

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				Impact outcomes: Unintended consequences (unintended negative, positive, or spillover effects of the D&I of the intervention on practice setting, providers, or patients), Subgroup/equity outcomes (differences in economic, health, system, sustainability or unintended consequences for types of practices, providers, or patients in under-resourced or marginalized populations or communities)	Study findings: no pre/post measurement so study is only exploratory; samples too small to detect a trend in GP sensitivity over the 6 month period
<p>Eckhardt et al., 2022 Study design: Pre/post assessment Country: United States Locale: not specified - large academic institution serving an underserved, urban patient population (main author at UCLA) Setting: Other: internal medicine department at large academic medical center Number of primary care practices: 1 IM clinic</p>	<p>Practice type: Not reported Number of PCPs by category: Physicians (MDs or DOs) - number involved in the study: 65 IM residents Types of physician practice: General internal medicine</p>	<p>Number of Women of all ages in the study: 410, Mean (SD) age of all women in the study: Control: 56 (8.5), Phase 1: 54 (8.8), Phase 2: 54 (8.6) Particular type of women: No** UI Type(s): Not reported</p>	<p>Features of care intervention: Clinical Interventions: Screening for UI, Educational/Informational Interventions: Patient education Stages addressed by care intervention: Screening Features of dissemination approach: Provider/staff education and training, Other dissemination strategies: patient poster Features of implementation approach: Create Care Teams teams, Engage with Patients and Families families (involve patients in integrating evidence, link to community resources, support patient engagement in care</p>	<p>Control: No Randomization Process: No Analytic methods: Quantitative (e.g., clinical measures, patient surveys): chart review of new IM patients over 8-month period as control, chart review 96 clinic days immediately after each phase Process outcomes: Exposure/engagement of providers or other staff to the intervention, Proportion</p>	<p>Brief description of intervention: two phases: a physician directed education intervention for IM residents (phase 1) and a patient-directed education intervention (phase 2). Study limitations: Power calculation was performed post hoc; majority of data was extracted by chart review & could have missed patients not properly screened; documentation may</p>

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			Levels of primary care system involved: Primary care clinicians and/or staff, Patients	of patients receiving specialty referrals Impact outcomes: System outcomes (change in capacity of primary care practices to implement evidence-based care or health care systems in disseminating evidence-based care)	have missed tx; some residents received both or just one intervention; other covariates could have contributed to effect; primarily urban & underserved population with large Latino & Spanish-speaking population which may limit generalizability Study findings: Power calculation was performed post hoc; majority of data was extracted by chart review & could have missed patients not properly screened; documentation may have missed tx; some residents received both or just one intervention; other covariates could have contributed to effect; primarily urban & underserved population with large Latino & Spanish-speaking population which may limit generalizability
Jha et al., 2007 Study design: Prospective cohort trial	Practice type: Other: primary	Number of Women of all ages in the	Features of care intervention: Clinical Interventions: Screening for UI, Behavioral and Physical	Control: Yes: The 20 patients who completed the pathway were compared	Brief description of intervention: Pts seen in nurse-led clinic and

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(comparison but no randomization) Country: United Kingdom Locale: Worcester Royal Hospital (WRH) is a large UK district general hospital Setting: Primary care practices Number of primary care practices: 1	care dept within WRH Number of PCPs by category: Not reported Types of physician practice: Family medicine	study: 65, Mean (SD) age of all women in the study: 59 for direct access patients, 61 for women referred thru GYN outpatient clinic (no SD reported) Particular type of women: No** UI Type(s): Stress UI, Urge UI, Mixed UI	Therapies: Physical Therapy, Pharmacological management: Antimuscarinic/anticholinergic drugs, Self-management (e.g. symptom tracking) Stages addressed by care intervention: Screening, Diagnosis, Management (treatment), Specialty referral: Physical therapy, Specialty referral: Urogynecology Features of dissemination approach: Features of implementation approach: Implement QI: implemented care pathway called direct access in June 2004 that had patients seen in nurse-led clinic and then referred for urodynamic studies or PT or continence advisory team review Levels of primary care system involved: Primary care clinicians and/or staff, Patients	with 20 randomly selected patients referred to gynecology outpatient services with similar problems Randomization Process: Yes: selection of 20 pts was based on medical secretary to avoid bias Analytic methods: Quantitative (e.g., clinical measures, patient surveys): used Mann-Whitney test to compare time in days from referral based on medical records Process outcomes: Feasibility of implementing or using the intervention, Proportion of patients receiving specialty referrals Impact outcomes:	then referred to urodynamic studies or PT or continence advisory team review depending on primary care workup - endpoints were discharge after conservative measures, surgery, or med Tx following urodynamic Dx Study limitations: study sample was very small, did not look at patient perceptions/satisfaction with care pathways, lack of generalizability to other areas as care pathways need to be adapted for local use Study findings: study sample was very small, did not look at patient perceptions/satisfaction with care pathways, lack of generalizability to other areas as care pathways need to be adapted for local use

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
Knight and Procter, 1999 Study design: Descriptive (qualitative or quantitative) Country: United Kingdom Locale: not reported Setting: Other: site 1: community trust; site 2: joint acute and community trust Number of primary care practices: not reported	Practice type: Other: acute and community trusts in UK Number of PCPs by category: Physicians (MDs or DOs) - number involved in the study: 1 GP, 1 consultant urologist, Advanced practice professionals (NPs or PAs)- number involved in the study: 2 NPs at site 1, Nurses - number involved in the study: 1 practice nurse, 6 district nurses, 3 community nurses, 1 practice development nurse, Others: 2 continence advisors, 2 health visitors, 1 physiotherapist Types of physician practice: Family	Particular type of women: No** UI Type(s): Not reported	Features of care intervention: Community-based multidisciplinary teams Stages addressed by care intervention: Diagnosis, Management (treatment) Features of dissemination approach: Provider/staff education and training Features of implementation approach: Implement QI Levels of primary care system involved: Health care delivery system (i.e., other delivery organizations beyond primary care)	Control: No Randomization Process: No Analytic methods: Qualitative (e.g., interviews, focus groups): 20 semi-structured interviews with providers Process outcomes: Barriers to disseminating/implementing the intervention, Facilitators to disseminating/implementing the intervention Impact outcomes: System outcomes (change in capacity of primary care practices to implement evidence-based care or health care systems in disseminating evidence-based care)	Brief description of intervention: implementation of evidence-based practice guidelines Study limitations: Interview data provides experiences of interviewees and not what actually happens in practice; external validity as two sites may not be typical of other sites; absence of data from GPs Study findings: Interview data provides experiences of interviewees and not what actually happens in practice; external validity as two sites may not be typical of other sites; absence of data from GPs

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
	medicine, Other: urologist				
<p>Mcfall, Yerkes, and Cowan, 2000b; Mcfall, Yerkes, and Cowan, 2000a</p> <p>Study design: Randomized controlled trial (RCT), Pre/post assessment</p> <p>Country: United States</p> <p>Locale: 4 central Oklahoma counties</p> <p>Setting: Community</p> <p>Number of primary care practices: n/a</p>	<p>Practice type: Other: 6 sites included patient education areas of hospitals, a continuous care housing development, and an aging center</p> <p>Number of PCPs by category: Not reported</p> <p>Types of physician practice: Not reported</p>	<p>Number of Women of all ages in the study: 145 elderly women were recruited, Mean (SD) age of all women in the study: 74.7 (no SD)</p> <p>Particular type of women: Yes: women 65 years or older**</p> <p>UI Type(s): Stress UI, Urge UI</p>	<p>Features of care intervention: Lifestyle Interventions: Diet-Other, Behavioral and Physical Therapies: Prompted voiding, Behavioral and Physical Therapies: Bladder Training, Behavioral and Physical Therapies: Pelvic floor muscle training (PFMT), Self-management (e.g. symptom tracking), Other: relaxation and breathing techniques to control the urge to urinate</p> <p>Stages addressed by care intervention: Management (treatment)</p> <p>Features of dissemination approach: Provider/staff education & training, Other dissemination strategies: Train-the-trainer</p> <p>Features of implementation approach: Seek Evidence: evaluation of behavioral therapy program for small groups rather than individuals</p> <p>Levels of primary care system involved: Community, Patients</p>	<p>Control: Yes: wait control - following postintervention data collection, control participants were admitted into an intervention class if desired</p> <p>Randomization Process: Yes: women selected site and when 10-18 had selected a site, the intervention class was scheduled and they were randomized into intervention or control</p> <p>Analytic methods: Qualitative (e.g., interviews, focus groups): voiding diaries (intervention group kept it throughout program & control group kept it for 1 week at beginning and 9-week); interviews (prior to 1st class & 9 weeks later at conclusion of program), Quantitative (e.g., clinical measures, patient surveys): surveys (baseline & 12-month follow-up)</p>	<p>Brief description of intervention: Dry Anticipations curriculum for delivery to small groups of elderly women at 6 contracting sites - 5 biweekly sessions on bladder training, managing urge, performing pelvic muscle exercises; participants kept voiding diaries to assist with self-regulation and problem-solving with instructors; group support was part of program</p> <p>Study limitations: homogeneous sample (highly educated, affluent group) limits ability to generalize; included women with zero episodes in baseline week which led to ceiling effect</p> <p>Study findings: homogeneous sample (highly educated,</p>

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				Process outcomes: Feasibility of implementing or using the intervention Impact outcomes: Health outcomes (change in UI symptoms, health functioning, and/or quality of life of patients)	affluent group) limits ability to generalize; included women with zero episodes in baseline week which led to ceiling effect
<p>Sampsel et al., 2000b; Sampsel et al., 2000a</p> <p>Study design: Descriptive (qualitative or quantitative)</p> <p>Country: United States</p> <p>Locale: 21 sites were across the US</p> <p>Setting: Primary care practices, Other: Federally qualified health centers</p> <p>Number of primary care practices: 21 ambulatory care sites: 19% FQHCs, 33% public clinics, 33% private practices, 14% other types of ambulatory care clinics (e.g. nurse-managed clinics)</p>	<p>Practice type: Private practice, Safety-net, Other: public</p> <p>Number of PCPs by category: Other(s), if the specific focus of the study number involved in the study, Others: 29 site coordinators</p> <p>Types of physician practice: Not reported</p>	<p>Number of Women of all ages in the study: 1474 patients across the 21 sites</p> <p>Particular type of women: No**</p> <p>UI Type(s): Stress UI, Urge UI, Mixed UI</p>	<p>Features of care intervention: Behavioral and Physical Therapies: Bladder Training, Behavioral and Physical Therapies: Pelvic floor muscle training (PFMT)</p> <p>Stages addressed by care intervention: Screening, Diagnosis, Management (treatment), Specialty referral: Other (Describe): article didn't describe type of referral</p> <p>Features of dissemination approach: Provider/staff education and training, Other dissemination strategies: data management form</p> <p>Features of implementation approach:</p> <p>Levels of primary care system involved: Primary care practices, Primary care clinicians and/or staff, Patients</p>	<p>Control: No</p> <p>Randomization Process: No</p> <p>Analytic methods: Qualitative (e.g., interviews, focus groups): written reports from 6 site coordinators, Quantitative (e.g., clinical measures, patient surveys): screening form data; evaluation form for site coordinator training</p> <p>Process outcomes: Feasibility of implementing or using the intervention, Barriers to disseminating/implementing the intervention, Facilitators to disseminating/implementing the intervention</p> <p>Impact outcomes: System outcomes (change in capacity of primary care practices to implement</p>	<p>Brief description of intervention: Step-by-step protocol for a) assessing women for UI, b) conducting a baseline evaluation of symptomatic women to identify complicating factors, c) giving behavioral instruction for bladder training and pelvic floor muscle training, d) referring women for specialized care when indicated</p> <p>Study limitations: small sample; no comparison group; limited discussion of analysis of qualitative sources of data and analysis</p> <p>Study findings: small sample; no comparison group; limited</p>

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
				evidence-based care or health care systems in disseminating evidence-based care)	discussion of analysis of qualitative sources of data and analysis
<p>St. John and Wallis, 2004; St John et al., 2004; Zhou et al., 2019</p> <p>Study design: Pre/post assessment</p> <p>Country: Australia</p> <p>Locale: Gold Coast, South East Queensland</p> <p>Setting: Community</p> <p>Number of primary care practices: not relevant</p>	<p>Practice type: Other: community health center-based</p> <p>Number of PCPs by category: Advanced practice professionals (NPs or PAs)- total number employed by practices in the study: continence nurses: number not reported, Advanced practice professionals (NPs or PAs)- number involved in the study: continence nurses: number not reported, Other(s), if the specific focus of the study total number employed by practices in the study, Others: a multidisciplinary team of continence</p>	<p>Number of Women of all ages served by study practices: NR, Number of Women of all ages in the study: 123, Mean (SD) age of all women in the study practices: NR, Mean (SD) age of all women in the study: 63.9 (12.2), range 33–88</p> <p>Particular type of women: No**</p> <p>UI Type(s): Stress UI, Urge UI, Other: Overflow and Other</p>	<p>Features of care intervention: Community-based multidisciplinary teams, Clinical Interventions: Containment products (e.g., absorbent pads, external collection devices, intravaginal devices, pessaries), Clinical Interventions: Screening for UI, Lifestyle Interventions: Diet-Caffeine reduction, Lifestyle Interventions: Diet-Fluid intake, Behavioral and Physical Therapies: Prompted voiding, Behavioral and Physical Therapies: Bladder Training, Behavioral and Physical Therapies: Physical Therapy, Behavioral and Physical Therapies: Psychological interventions, Educational/Informational Interventions: Patient education, Other: referrals were made to physiotherapists or back to primary care physicians</p> <p>Stages addressed by care intervention: Screening, Diagnosis, Management (treatment), Specialty referral: Physical therapy</p> <p>Features of dissemination approach: Provider/staff education and training, Other dissemination</p>	<p>Control: No</p> <p>Randomization Process: No</p> <p>Analytic methods: Quantitative (e.g., clinical measures, patient surveys): ICSUSI-SF-F</p> <p>Process outcomes: Other key process outcomes</p> <p>Impact outcomes: Health outcomes (change in UI symptoms, health functioning, and/or quality of life of patients), Subgroup/equity outcomes (differences in economic, health, system, sustainability or unintended consequences for types of practices, providers, or patients in under-resourced or marginalized populations or communities)</p>	<p>Brief description of intervention: A continence care center, the Waterworxx Centre, was developed to provide diagnosis, management, physiotherapy, patient education, and referrals back to patients' primary care physicians; patients were referred to the center by their primary care physicians or were self-referred. Each patient's primary care doctors was linked into the patient's care with a letter informing the physician of the patient's ongoing care and management and providing education.</p> <p>Study limitations: The number of participants was small; no reach or dissemination measures</p>

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	specialist nurses and physiotherapists linked to medical practitioners Types of physician practice: Other: continence nurses and physiotherapists		strategies: primary care doctors and the community received brochures informing them of the center Features of implementation approach: Implement QI, Create Care Teams teams, Engage with Patients and Families families (involve patients in integrating evidence, link to community resources, support patient engagement in care Levels of primary care system involved: Community, Primary care clinicians and/or staff, Patients		Study findings: The number of participants was small; no reach or dissemination measures
Viktrup and Møller, 2004 Study design: Other: study that took advantage of dissemination of clinical guidelines Country: Denmark Locale: Denmark Frederiksborg County Setting: Other: mailed survey to general practitioners Number of primary care practices: 128	Practice type: Not reported Number of PCPs by category: Physicians (MDs or DOs): 243, Physicians (MDs or DOs) - number involved in the study: 132, Advanced practice professionals (NPs or PAs)- total number employed by practices in the study: NR, Advanced practice professionals (NPs or PAs)— number	Number of Women of all ages served by study practices: NR, Number of Women of all ages in the study: NR, Mean (SD) age of all women in the study practices: NR, Mean (SD) age of all women in the study: NR	Features of care intervention: Clinical Interventions: Containment products (e.g., absorbent pads, external collection devices, intravaginal devices, pessaries), Self-management (e.g. symptom tracking), Other: all UI care recommended by 2001 clinical guidelines distributed to all Danish GPs Stages addressed by care intervention: Screening, Diagnosis, Management (treatment), Specialty referral: Urogynecology, Specialty referral: Other (Describe): UI specialty care clinic Features of dissemination approach: Funding, payment, and/or reimbursement incentives,	Control: No Randomization Process: No Analytic methods: Quantitative (e.g., clinical measures, patient surveys): provider surveys Process outcomes: Exposure/engagement of providers or other staff to the intervention, Extent the intervention was adopted/used in practice, Proportion of patients receiving specialty referrals Impact outcomes: Other key impact outcomes	Brief description of intervention: Following distribution of 1999 clinical UI management guidelines to GPs (and implementation of a reimbursement system for certain GP behaviors and patient behaviors), a questionnaire was sent to all GPs in a single county to assess their familiarity with, attitudes toward, and use of recommendations

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
	involved in the study: 0, Nurses—total number employed by practices in the study: NR, Nurses—number involved in the study: 0 Types of physician practice: Family medicine	Particular type of women: No** UI Type(s): Not reported	Other dissemination strategies: distribution of 2001 national clinical guidelines for management of UI to all Danish GPs; reimbursement to patients for UI supplies; reimbursement to GPs for having patient Features of implementation approach: Other implementation strategies: Not described Levels of primary care system involved: Primary care practices, Primary care clinicians and/or staff, Patients		Study limitations: Response rate to the questionnaire was low; it was not possible to ascertain the impact of the most recent guidelines on current reported behavior; registry data were too incomplete to validate GP reports of screening, using voiding diaries, prescribing or referral Study findings: Response rate to the questionnaire was low; it was not possible to ascertain the impact of the most recent guidelines on current reported behavior; registry data were too incomplete to validate GP reports of screening, using voiding diaries, prescribing or referral
Wenger et al., 2010; Wenger et al., 2009 Study design: Randomized controlled trial (RCT)	Practice type: Not reported Number of PCPs by category: Physicians (MDs or DOs): NR,	Number of Women of all ages served by study practices: NR, Number	Features of care intervention: Educational/Informational Interventions: Patient education, Educational/Informational Interventions: Caregiver education	Control: Yes: Usual care practices Randomization Process: Yes: the intervention was implemented among a	Brief description of intervention: Prior to clinic visits, patients 75 and over were screened; Study researchers provided

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
<p>Country: United States Locale: rural New York and small to medium cities in Pennsylvania, Wisconsin, Arizona, and Oregon Setting: Primary care practices Number of primary care practices: 5</p>	<p>Physicians (MDs or DOs) - number involved in the study: 42, Advanced practice professionals (NPs or PAs)- total number employed by practices in the study: NR, Advanced practice professionals (NPs or PAs)- number involved in the study: 2, Nurses- total number employed by practices in the study: NR, Nurses - number involved in the study: NR Types of physician practice: Family medicine, General internal medicine, Geriatric medicine</p>	<p>of Women of all ages in the study: 281, Mean (SD) age of all women in the study practices: NR, Mean (SD) age of all women in the study: 83 Particular type of women: Yes: age 75 and over** UI Type(s): Not reported</p>	<p>Stages addressed by care intervention: Diagnosis, Management (treatment) Features of dissemination approach: Provider/staff education and training Features of implementation approach: Implement QI, Engage with Patients and Families families (involve patients in integrating evidence, link to community resources, support patient engagement in care) Levels of primary care system involved: Primary care practices, Primary care clinicians and/or staff, Families or caregivers, Patients</p>	<p>subset pf providers in each of 5 practices Analytic methods: Quantitative (e.g., clinical measures, patient surveys): patient chart audits to assess completion of care processes Process outcomes: Extent the intervention was adopted/used in practice Impact outcomes: System outcomes (change in capacity of primary care practices to implement evidence-based care or health care systems in disseminating evidence-based care)</p>	<p>training to providers and office staff; structured visit notes and educational materials were added to patient charts prior to visits; providers and office staff made needed changes to patient flow to facilitate data collection; medical record prompts guided providers through addressing UI, diagnostic and treatment processes, patient education, and referrals; patient and caregiver education materials were provided; and decision support and education were provided to providers and office staff Study limitations: clinic participation was self-selected and voluntary; sites were not selected randomly; care received at other sites, including specialty care providers, could not be</p>

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
					<p>considered; effects of practice/process redesign components were not directly assessed; no health outcomes were assessed; providing screening results to the control clinic providers may have minimized effect of intervention; outcomes were not reported separately for men and women.</p> <p>Study findings: clinic participation was self-selected and voluntary; sites were not selected randomly; care received at other sites, including specialty care providers, could not be considered; effects of practice/process redesign components were not directly assessed; no health outcomes were assessed; providing screening results to the control clinic providers may have minimized effect of intervention; outcomes were not</p>

Author, Year Related Studies Study Design Country Locale Study Settings	Practice Type(s) Number of PCPs Involved in the Study Types of Physician Practice	Number of Women in the Study Mean Age of Women in Study Particular Type of Women UI Type(s)	Features of Care Intervention Stages Addressed by Care Intervention Features of Dissemination Approach Features of Implementation Approach Levels of Primary Care System	Control Randomization Process Analytic Methods Process Outcomes Impact Outcomes	Brief Description of Intervention Study Limitations Authors' Study Findings
					reported separately for men and women.

Appendix C. Background Publications

This appendix contains a bibliography of background articles that did not meet the full inclusion criteria of the OY1 literatures searches but had information deemed relevant and potentially useful as reference material for the design, D&I of interventions to improve the management of UI in primary care. Articles with citations and abstracts (where available) are listed in alphabetical name order below for each of the four literature searches conducted for the OY1 environmental scan.

The background publications used in the replicated Base Year search for D&I studies on managing UI within primary care practices for women are as follows:

1. Diaz, S. M., H. Pierce, J. Lee, et al., “A Community-Based Education Program for Overactive Bladder in a Predominantly Minority Older Female Population: A Pilot Study,” *Journal of Urology*, Vol. 207, No. 5, May 2022, E646-E. PMID: WOS:000836935505212. *Background*
2. Dufour S, A. Clancy, M. Wu, “Technical Update No. 433: eHealth Solutions for Urinary Incontinence Among Women,” *Journal of Obstetrics and Gynaecology Canada*, Vol. 45, No. 2, February 2023. doi: 10.1016/j.jogc.2022.10.005. PMID: 36273716. *Background*

OBJECTIVE: The purpose of this technical update is to establish the state of the science regarding emerging and novel electronic health (eHealth) and mobile health (mHealth) solutions for urinary incontinence among women. **TARGET POPULATION:** Women over 18 years with urinary incontinence. **OPTIONS:** Websites and mobile health applications are useful in the conservative care of urinary incontinence. Relevant care providers should be familiar with such tools, particularly those that use motivational principles for behaviour change, which can be used as adjunct tools for urinary incontinence care. Telemedicine is an effect mode to provide services for the conservative care of urinary incontinence. **OUTCOMES:** Use of eHealth and mHealth solutions has potentially significant health outcomes for patients, providers, and global health systems. Broader use of telemedicine, in and of itself, could improve care access and reduce costs incurred by patients and the health care system. **BENEFITS, HARMS, AND COSTS:** Evidence for the efficacy of eHealth and mHealth technologies and applications for urinary incontinence ranges from weak to strong. However, the research landscape for many of these novel solutions is developing rapidly. Furthermore, these options have minimal or no harm and confer an established cost benefit and care access benefit. **EVIDENCE:** The Cochrane Library, Medline, EMBASE, CENTRAL databases (from January 2014 to April 2019) were searched to find articles related to conservative care of urinary incontinence in women (over 18 years) and studies on eHealth and mHealth interventions for urinary incontinence. Articles were appraised, and the collective evidence was graded. **VALIDATION METHODS:** The authors rated the quality of evidence and strength of recommendations using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach. See online Appendix A (Tables A1 for definitions and A2 for interpretations of strong and conditional [weak] recommendations). **INTENDED AUDIENCE:** Relevant primary care providers and medical specialists, including physicians, nurses, midwives, and pelvic health physiotherapists. **SUMMARY STATEMENTS: RECOMMENDATIONS.**

3. Newman, D. K., "Conservative Management of Urinary Incontinence in Women," *Primary Care Update for OB/GYNs*, Vol. 8, No., 4, July 2001. doi: 10.1016/s1068-607x(01)00076-2. PMID: 11435123. *Background*

Urinary incontinence (UI) is now recognized as a growing health care problem and a personal concern for women. UI is felt to be a significant aging health issue for women. Much is known about the prevalence of UI in women. Almost one third (31%) of women between the ages of 42 and 50 and two in five (38%) women over the age of 60 suffer from UI. Urine leakage varies, with about 1 in 10 women leaking enough urine that it soaks through underclothes. About one in three (30%) women have problems with incontinence during pregnancy. Society incurs a significant economic burden as a result of UI, which cost the Medicare Part A program \$26.3 billion in 1995. One of the biggest obstacles to effective management of incontinence is the perception that incontinence is inevitable and irreversible, a perception almost as common among health care providers as patients. Therefore, most women do not report their UI problem to primary care practitioners. Primary care practitioners are in a key position to influence prevention, screen for incontinence, and improve outcomes of women at risk for incontinence. Current research supports the value of noninvasive, conservative treatment strategies, education, and emotional support.

4. Olenek, K., T. Skowronski, and D. Schmaltz, "Geriatric Nursing Assessment," *Journal of Gerontological Nursing*, Vol. 29, No. 8, August 2003. doi: 10.3928/0098-9134-20030801-04. PMID: 13677154. *Background*

Gerontological nursing is a unique area of nursing. The cornerstone of the gerontological nursing process is assessment. In some traditional education models, nurses are taught assessments in general areas, such as cardiology, neurology, urology, and orthopedics. Little emphasis is placed on integrating these systems. A one-day workshop was developed with the objective to further develop the assessment skills of the registered nurse (RN) in continuing care by demonstrating a holistic approach to assessment and care planning. For this workshop, the "giants of geriatric medicine," namely falls, incontinence, confusion, iatrogenic illness, and impaired homeostasis (Cape, 1978) were further developed into a geriatric nursing model to include the psychosocial issues. This model demonstrates a way of assessing and integrating the information known about the resident. To ensure the workshop content was practical for the nurse, existing resident care documentation within the sponsoring organization, The Capital Care Group, was used. Through the education provided in the workshop, the RNs recognized that individualized care is based on full assessment of the resident, integration of the information gathered, and complete documentation.

5. Paudel, R., and G. I. Lane, "Delivering Patient-Centered Care Through Shared Decision Making in Overactive Bladder," *Neurology and Urodynamics*, Vol. 41, No. 4, April 2022. doi: 10.1002/nau.24915. PMID: 35332575. *Background*

INTRODUCTION: Men and women living with overactive bladder (OAB) face many treatment decisions as they progress through the treatment pathway. Decisions to pursue specific therapies are highly preference sensitive and ideal for shared decision making (SDM). The aim of this narrative review is to provide urologists with a practical summary of methods to elicit preferences and facilitate SDM to promote patient-centered care for OAB. **METHODS:** We explore OAB as a preference sensitive condition through a review of treatment outcomes and present available data on prediction tools, patient preferences, and decision aids. We propose a

paradigm for applying Everyday SDM to OAB care. RESULTS: Clinical outcome data points to equipoise (balanced outcomes) between options for first-, second-, and third-line OAB therapies, making OAB preference sensitive and appropriate for SDM. Methods to personalize care through individualized outcome prediction calculators and tools to elicit patient preferences are emerging. While patient information about OAB is readily available, we identified few OAB decision aids that facilitate patient preference elicitation and SDM. CONCLUSIONS: OAB is a preference sensitive condition, where treatment is largely based on the patient's preferences and values. SDM is an ideal approach to supporting patients through these treatment decisions. We propose the application of Everyday SDM, a personalized, clinically efficient methodology as a method to support patient-centered OAB care.

6. Sampsel, C. M., P. A. Burns, M. C. Dougherty, et al., "Continence for Women: Evidence-Based Practice," *Journal of Obstetric, Gynecologic and Neonatal Nursing*, Vol. 26, No. 4, July–August 1997. doi: 10.1111/j.1552-6909.1997.tb02719.x. PMID: 9252885. *Background*

Approximately 20% of women ages 25-64 years' experience urinary incontinence. The symptoms increase during perimenopause, when 31% of women report that they experience incontinent episodes at least once per month. Bladder training and pelvic muscle exercise are the recommended initial treatment and can be taught effectively in the ambulatory care setting. Bladder training enables women to accommodate greater volumes of urine and extend between-voiding intervals. Pelvic muscle exercise increases muscle strength and reduces unwanted urine leakage. Accumulated research results provide evidence-based guidelines for nursing practice. The Association of Women's Health, Obstetric, and Neonatal Nurses has identified continence for women as the focus of its third research utilization project. This article presents the rationale, evidence base, and educational strategies compiled by the Research Utilization 3 Nurse Scientist Team. Nurses can enable women to incorporate these noninvasive techniques into self-care.

7. Senekjian, L., K. Heintz, M. J. Egger, et al., "Do Women Understand Urogynecologic Terminology?" *Female Pelvic Medicine and Reconstructive Surgery*, Vol. 17, No. 5, September 2011. doi: 10.1097/SPV.0b013e31822dcffe. PMID: 21984964. *Background*

OBJECTIVES: The aims of this study were to describe women's stated knowledge of the primary urogynecologic diagnostic terms (urinary incontinence, pelvic floor disorder, and pelvic organ prolapse) and to assess factors associated with knowledge. METHODS: Before any education about pelvic floor disorders, 376 women presenting to primary care-level gynecologic clinics were asked whether they knew what the terms urinary incontinence, pelvic organ prolapse, and pelvic floor disorder meant. χ^2 and t tests were used to compare characteristics of women with complete knowledge versus partial or no knowledge of terms. $P < 0.05$ was considered significant. RESULTS: Of all women, 25% knew all 3 terms and 18% knew none. Moreover, 80%, 52%, and 27% of women reported that they knew the meaning of the terms urinary incontinence, pelvic organ prolapse, and pelvic floor disorder, respectively. Of women with stress urinary incontinence symptoms, 88% knew the term urinary incontinence compared with 78% without stress urinary incontinence ($P = 0.07$). Of 41 women, 31 (76%) with the symptom of vaginal bulge knew the term pelvic organ prolapse compared with 49% without ($P = 0.001$). Only higher education and symptom of vaginal bulge were associated with complete knowledge of the 3 terms; 30% of women who completed college or higher reported complete knowledge compared with 18% who did not ($P = 0.013$). CONCLUSIONS: Public health campaigns using terms pelvic organ prolapse or pelvic floor disorders are unlikely to reach most

women. Further education and research are needed to improve women's health literacy in urogynecology.

8. Shaw, C., C. Atwell, F. Wood, et al., "A Qualitative Study of the Assessment and Treatment of Incontinence in Primary Care," *Family Practice*, Vol. 24, No. 5, October 2007. doi: 10.1093/fampra/cmm041. PMID: 17670805. *Background*

BACKGROUND: Although incontinence is a common condition, previous studies have suggested that access to appropriate treatment is variable. Recent guidelines recommend initial conservative treatment in primary care and this study explores GPs management practices and the feasibility of applying guidelines. **OBJECTIVES:** To describe the assessment and management practices of incontinence by GPs in primary care. **METHODS:** Semi-structured interviews were carried out with 32 GPs practicing in South East Wales. Sampling was purposive to include a range of characteristics such as gender, age and size and location of practice. Interviews were audio taped and transcribed and a thematic analysis carried out using a grounded theory approach. **RESULTS:** The extent to which GPs felt adequately informed to carry out assessment and treatment of incontinence was varied. While most were aware of appropriate assessment and investigation, none felt in a position to undertake conservative treatments such as bladder training or to monitor pelvic floor therapy either due to lack of knowledge or organizational constraints. Access to specialist continence services was also variable across different localities with many GPs being unaware of the remit of specialist nurses. However, there was a high rate of referral to secondary care which will result in high cost to the National Health Service. **CONCLUSIONS:** There are a number of barriers to provision of first-line treatments in primary care, including variability in training and knowledge of GPs, as well as practical barriers (such as time resource) to carrying out assessments and treatment in routine surgeries. This results in increased likelihood of referral to secondary care.

9. Steers, W., H. Richter, L. Nyberg, et al., "Challenges of Conducting Multi-Center, Multi-Disciplinary Urinary Incontinence Clinical Trials: Experience of the Urinary Incontinence Treatment Network," *Neurourology and Urodynamics*, Vol. 28, No. 3, 2009. doi: 10.1002/nau.20653. PMID: 19030190. *Background*

AIMS: The Urinary Incontinence Treatment Network (UITN) was established in 2000 as a multi-disciplinary, multi-institutional network by the National Institute for Diabetes, Digestive, and Kidney Diseases (NIDDK) to investigate treatments for urinary incontinence in women. **METHODS:** Over 8 years this network composed of urologists, urogynecologists, geriatricians, behavioral psychologists, physical therapists, nurses, epidemiologists, social scientists and statisticians from nine academic sites and a Data Coordinating Center has been effective in designing and completing prospective randomized clinical trials for treatments of urinary incontinence in women. **RESULTS:** Two major clinical trials have been completed and a third has completed recruitment. The focus of the completed trials was a comparison of surgical methods to treat stress urinary incontinence whereas the third examined the potential benefit of combined behavioral intervention and antimuscarinic drug therapy to eliminate the need for long-term use of drug therapy alone to manage urge urinary incontinence. The scientific output of the network measured by abstracts, original papers and presentations demonstrates the productivity of the network. **CONCLUSIONS:** Many unique challenges are posed by a multi-disciplinary team located at sites across the United States undertaking several clinical trials. This review presents some of the logistics, barriers, tactics, and strategies used to create this successful clinical trials network focused on urinary incontinence.

10. Talley, K. M., J. F. Wyman, and T. A. Shamliyan, "State of the Science: Conservative Interventions for Urinary Incontinence in Frail Community-Dwelling Older Adults," *Nursing Outlook*, Vol. 59, No. 4, July–August 2011. doi: 10.1016/j.outlook.2011.05.010. PMID: 21757078. *Background*

This systematic literature review aimed to identify conservative interventions for reducing urinary incontinence (UI) in non-institutionalized frail older adults. Randomized and quasi-experimental studies published in English reporting outcomes on UI frequency, severity, or quality of life were included and rated for quality. Studies reporting improvements over 50% in UI outcomes were considered clinically significant. Seven studies with 683 participants (75% female) were eligible. Multicomponent behavioral interventions including pelvic floor muscle exercises and bladder training had the strongest evidence for reducing UI. The evidence supporting comprehensive geriatric assessment with multicomponent behavioral interventions, pattern urge response training, and toilet skills was limited. There is insufficient evidence to derive firm conclusions regarding the use of conservative interventions. Clinical trials are needed on a variety of interventions to guide practice on UI prevention and management in frail community-dwelling older adults.

11. Teunissen, D., W. van den Bosch, C. van Weel, et al., "Urinary Incontinence in the Elderly: Attitudes and Experiences of General Practitioners. A Focus Group Study," *Scandinavian Journal of Primary Health Care*, Vol. 24, No., March 2006. doi: 10.1080/02813430500417920. PMID: 16464816. *Background*

OBJECTIVE: To assess general practitioners' (GPs') attitudes to urinary incontinence in elderly patients and their experiences in the application of the Dutch College of General Practitioners' guideline in daily practice. **DESIGN:** Two existed groups of six GPs working in villages and seven GPs working in urban practices. **METHOD:** Two focus-group discussions with recording of discussions and transcription. Transcripts were analysed by two independent researchers. **RESULTS:** During the discussions three main themes of attitudes came forward: (1) therapeutic nihilism of GPs and low motivation of patients, (2): GPs experienced lack of time because of difficulties in explaining the therapy and because of impaired mobility of older patients, (3) because of the complexity of the problem and co-morbidity, GPs as well as patients were reluctant to treat the UI. The most remarkable findings in the application of the guideline were: (1) because of the barriers mentioned above, physical examination did not take place in spite of GPs' conviction as to the benefit of it; (2) GPs' knowledge of treatment options in the elderly with UI is substandard. **CONCLUSION:** Several patient (comorbidity, impaired mobility, low motivation, and acceptance of the problem) and GP factors (therapeutic nihilism, lack of time and knowledge) interfere with good management of UI in the elderly.

12. Wagg, A., D. Lowe, P. Peel, et al., "Do Self-Reported 'Integrated' Continence Services Provide High-Quality Continence Care?" *Age Ageing*, Vol. 38, No. 6, November 2009. doi: 10.1093/ageing/afp177. PMID: 19793925. *Background*

INTRODUCTION: systematic collection of clinical outcome data remains the most difficult task in the measurement of clinical effectiveness. However, the examination of the relationship between organisational and clinical process of care may provide a surrogate measure of quality in care. **METHODS:** data from the 2006 National Audit of Continence Care for Older People were used to examine whether there was an association between organisational structure and standard of continence care for older people. "Quality" scores were produced and the

relationship between scores was examined. RESULTS: there were statistically significant correlations between organisational and process scores for continence care. Primary care scored higher than hospitals or care homes in regard to service organisation [median (IQR): 57 (45-68) vs 48 (36-65) vs 50 (38-55), $P = 0.001$]. Differences were less with clinical process scores for urinary incontinence (UI) [median (IQR): 42 (32-52) vs 40 (29-49) vs 43 (34-52), $P = 0.06$] and for faecal incontinence (FI) [median: 42 (34-53) vs 45 (36-55) vs 47 (41-53), $P = 0.12$].

CONCLUSION: those with an integrated service provide higher quality care to older people. The provision of high-quality care for continence appears to be dependent upon well-organised services with personnel who have the appropriate training and skills to deliver the care.

13. Williams, K., R. Assassa, N. Smith, et al., "Continence Management. Good Practice in Continence Care: Development of Nurse-Led Service," *British Journal of Nursing*, Vol. 11, No. 8, 2002. doi: 10.12968/bjon.2002.11.8.10164. PMID: 106975530. Corporate Author: Leicestershire MRC Incontinence Study Team. Language: English. Entry Date: 20021108. Revision Date: 20200701. Publication Type: Journal Article. *Background*

The implementation of evidence-based interventions in clinical practice is often alluded to in the literature; however, the development of these interventions is rarely documented. Within continence care, there is a large body of relevant literature on which primary clinical interventions can be based. The Leicestershire Medical Research Council (MRC) Incontinence Study is a series of inter-related studies exploring the epidemiology of urinary symptoms, including incontinence, and evaluating service provision and treatment options for these symptoms. This article describes one aspect of the Leicestershire study, namely the development of evidence-based intervention protocols for use in a new nurse-led continence service. This service is currently being evaluated in a randomized controlled trial.

14. Williams, K. S., R. P. Assassa, N. J. Cooper, et al., "Clinical and Cost-Effectiveness of a New Nurse-Led Continence Service: A Randomised Controlled Trial," *British Journal of General Practice*, Vol. 55, No. 518, September 2005. PMID: 16176737. *Background*

BACKGROUND: Continence services in the UK have developed at different rates within differing care models, resulting in scattered and inconsistent services. Consequently, questions remain about the most cost-effective method of delivering these services. AIM: To evaluate the impact of a new service led by a continence nurse practitioner compared with existing primary/secondary care provision for people with urinary incontinence and storage symptoms. DESIGN OF STUDY: Randomised controlled trial with a 3- and 6-month follow-up in men and women ($n = 3746$) aged 40 years and over living in private households (intervention [$n = 2958$]; control [$n = 788$]). SETTING: Leicestershire and Rutland, UK. METHOD: The continence nurse practitioner intervention comprised a continence service provided by specially trained nurses delivering evidence-based interventions using predetermined care pathways. They delivered an 8-week primary intervention package that included advice on diet and fluids; bladder training; pelvic floor awareness and lifestyle advice. The standard care arm comprised access to existing primary care including GP and continence advisory services in the area. Outcome measures were recorded at 3 and 6 months post-randomisation. RESULTS: The percentage of individuals who improved (with at least one symptom alleviated) at 3 months was 59% in the intervention group compared with 48% in the standard care group (difference of 11%, 95% CI = 7 to 16; $P < 0.001$). The percentage of people reporting no symptoms or 'cured' was 25% in the intervention group and 15% in the standard care group (difference of 10%, 95% CI = 6 to 13, $P = 0.001$). At 6 months the difference was maintained. There was a significant difference in impact scores

between the two groups at 3 and 6 months. CONCLUSIONS: The continence nurse practitioner-led intervention reduced the symptoms of incontinence, frequency, urgency and nocturia at 3 and 6 months; impact was reduced; and satisfaction with the new service was high.

15. Wyman, J. F., K. L. Burgio, and D. K. Newman, "Practical Aspects of Lifestyle Modifications and Behavioural Interventions in the Treatment of Overactive Bladder and Urgency Urinary Incontinence," *International Journal of Clinical Practice*, Vol. 63, No. 8, August 2009. doi: 10.1111/j.1742-1241.2009.02078.x. PMID: 19575724. *Background*

Behavioural interventions are effective treatments for overactive bladder (OAB) and urgency urinary incontinence (UUI). They are in part aimed at improving symptoms with patient education on healthy bladder habits and lifestyle modifications, including the establishment of normal voiding intervals, elimination of bladder irritants from the diet, management of fluid intake, weight control, management of bowel regularity and smoking cessation. Behavioural interventions also include specific training techniques aimed at re-establishing normal voiding intervals and continence. Training techniques include bladder training, which includes a progressive voiding schedule together with relaxation and distraction for urgency suppression, and multicomponent behavioural training, which, in conjunction with pelvic floor muscle (PFM) exercises, includes PFM contraction to control urgency and increase the interval between voids. Guidelines for the conservative treatment of OAB and UUI have been published by several organisations and the physiological basis and evidence for the effectiveness of behavioural interventions, including lifestyle modifications, in the treatment of OAB and UUI have been described. However, many primary care clinicians may have a limited awareness of the evidence supporting the often straight-forward treatment recommendations and guidance for incorporating behavioural interventions into busy primary care practices, because most of this information has appeared in the specialty literature. The purpose of this review is to provide an overview of behavioural interventions for OAB and UUI that can be incorporated with minimal time and effort into the treatment armamentarium of all clinicians that care for patients with bladder problems. Practical supporting materials that will facilitate the use of these interventions in the clinic are included; these can be used to help patients understand lifestyle choices and voiding behaviours that may improve function in patients experiencing OAB symptoms and/or UUI as well as promote healthy bladder behaviours and perhaps even prevent future bladder problems. Interventions for stress urinary incontinence are beyond the scope of this review.

The background publications related to referral to physical therapy for UI in nonprimary care settings are as follows:

1. Diaz, S. M., H. Pierce, J. Lee, et al., “A Community-Based Education Program for Overactive Bladder in a Predominantly Minority Older Female Population: A Pilot Study,” *Journal of Urology*, Vol. 207, No. 5, May 2022, E646-E. PMID: WOS:000836935505212. *Background*
2. Dufour, S., A. Clancy, M. Wu, “Technical Update No. 433: eHealth Solutions for Urinary Incontinence Among Women,” *Journal of Obstetrics and Gynaecology Canada*, Vol. 45, No. 2, February 2023. doi: 10.1016/j.jogc.2022.10.005. PMID: 36273716. *Background*

OBJECTIVE: The purpose of this technical update is to establish the state of the science regarding emerging and novel electronic health (eHealth) and mobile health (mHealth) solutions for urinary incontinence among women. **TARGET POPULATION:** Women over 18 years with urinary incontinence. **OPTIONS:** Websites and mobile health applications are useful in the conservative care of urinary incontinence. Relevant care providers should be familiar with such tools, particularly those that use motivational principles for behaviour change, which can be used as adjunct tools for urinary incontinence care. Telemedicine is an effect mode to provide services for the conservative care of urinary incontinence. **OUTCOMES:** Use of eHealth and mHealth solutions has potentially significant health outcomes for patients, providers, and global health systems. Broader use of telemedicine, in and of itself, could improve care access and reduce costs incurred by patients and the health care system. **BENEFITS, HARMS, AND COSTS:** Evidence for the efficacy of eHealth and mHealth technologies and applications for urinary incontinence ranges from weak to strong. However, the research landscape for many of these novel solutions is developing rapidly. Furthermore, these options have minimal or no harm and confer an established cost benefit and care access benefit. **EVIDENCE:** The Cochrane Library, Medline, EMBASE, CENTRAL databases (from January 2014 to April 2019) were searched to find articles related to conservative care of urinary incontinence in women (over 18 years) and studies on eHealth and mHealth interventions for urinary incontinence. Articles were appraised, and the collective evidence was graded. **VALIDATION METHODS:** The authors rated the quality of evidence and strength of recommendations using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach. See online Appendix A (Tables A1 for definitions and A2 for interpretations of strong and conditional [weak] recommendations). **INTENDED AUDIENCE:** Relevant primary care providers and medical specialists, including physicians, nurses, midwives, and pelvic health physiotherapists. **SUMMARY STATEMENTS: RECOMMENDATIONS.**

3. Newman, D. K., “Conservative Management of Urinary Incontinence in Women,” *Primary Care Update for OB/GYNs*, Vol. 8, No. 4, July 2001. doi: 10.1016/s1068-607x(01)00076-2. PMID: 11435123. *Background*

Urinary incontinence (UI) is now recognized as a growing health care problem and a personal concern for women. UI is felt to be a significant aging health issue for women. Much is known about the prevalence of UI in women. Almost one third (31%) of women between the ages of 42 and 50 and two in five (38%) women over the age of 60 suffer from UI. Urine leakage varies, with about 1 in 10 women leaking enough urine that it soaks through underclothes. About one in three (30%) women have problems with incontinence during pregnancy. Society incurs a significant economic burden as a result of UI, which cost the Medicare Part A program \$26.3

billion in 1995. One of the biggest obstacles to effective management of incontinence is the perception that incontinence is inevitable and irreversible, a perception almost as common among health care providers as patients. Therefore, most women do not report their UI problem to primary care practitioners. Primary care practitioners are in a key position to influence prevention, screen for incontinence, and improve outcomes of women at risk for incontinence. Current research supports the value of noninvasive, conservative treatment strategies, education, and emotional support.

4. Olenek, K., T. Skowronski, and D. Schmaltz, "Geriatric Nursing Assessment," *Journal of Gerontological Nursing*, Vol. 29, No. 8, August 2003. doi: 10.3928/0098-9134-20030801-04. PMID: 13677154. *Background*

Gerontological nursing is a unique area of nursing. The cornerstone of the gerontological nursing process is assessment. In some traditional education models, nurses are taught assessments in general areas, such as cardiology, neurology, urology, and orthopedics. Little emphasis is placed on integrating these systems. A one-day workshop was developed with the objective to further develop the assessment skills of the registered nurse (RN) in continuing care by demonstrating a holistic approach to assessment and care planning. For this workshop, the "giants of geriatric medicine," namely falls, incontinence, confusion, iatrogenic illness, and impaired homeostasis (Cape, 1978) were further developed into a geriatric nursing model to include the psychosocial issues. This model demonstrates a way of assessing and integrating the information known about the resident. To ensure the workshop content was practical for the nurse, existing resident care documentation within the sponsoring organization, The Capital Care Group, was used. Through the education provided in the workshop, the RNs recognized that individualized care is based on full assessment of the resident, integration of the information gathered, and complete documentation.

5. Paudel, R., and G. I. Lane, "Delivering Patient-Centered Care Through Shared Decision Making in Overactive Bladder," *Neurology and Urodynamics*, Vol. 41, No. 4, April 2022. doi: 10.1002/nau.24915. PMID: 35332575. *Background*

INTRODUCTION: Men and women living with overactive bladder (OAB) face many treatment decisions as they progress through the treatment pathway. Decisions to pursue specific therapies are highly preference sensitive and ideal for shared decision making (SDM). The aim of this narrative review is to provide urologists with a practical summary of methods to elicit preferences and facilitate SDM to promote patient-centered care for OAB. **METHODS:** We explore OAB as a preference sensitive condition through a review of treatment outcomes and present available data on prediction tools, patient preferences, and decision aids. We propose a paradigm for applying Everyday SDM to OAB care. **RESULTS:** Clinical outcome data points to equipoise (balanced outcomes) between options for first-, second-, and third-line OAB therapies, making OAB preference sensitive and appropriate for SDM. Methods to personalize care through individualized outcome prediction calculators and tools to elicit patient preferences are emerging. While patient information about OAB is readily available, we identified few OAB decision aids that facilitate patient preference elicitation and SDM. **CONCLUSIONS:** OAB is a preference sensitive condition, where treatment is largely based on the patient's preferences and values. SDM is an ideal approach to supporting patients through these treatment decisions. We propose the application of Everyday SDM, a personalized, clinically efficient methodology as a method to support patient-centered OAB care.

6. Sampsel, C. M., P. A. Burns, M. C. Dougherty, et al., "Continence for Women: Evidence-Based Practice," *Journal of Obstetric, Gynecologic and Neonatal Nursing*, Vol. 26, No. 4, July–August 1997. doi: 10.1111/j.1552-6909.1997.tb02719.x. PMID: 9252885. *Background*

Approximately 20% of women ages 25–64 years' experience urinary incontinence. The symptoms increase during perimenopause, when 31% of women report that they experience incontinent episodes at least once per month. Bladder training and pelvic muscle exercise are the recommended initial treatment and can be taught effectively in the ambulatory care setting. Bladder training enables women to accommodate greater volumes of urine and extend between-voiding intervals. Pelvic muscle exercise increases muscle strength and reduces unwanted urine leakage. Accumulated research results provide evidence-based guidelines for nursing practice. The Association of Women's Health, Obstetric, and Neonatal Nurses has identified continence for women as the focus of its third research utilization project. This article presents the rationale, evidence base, and educational strategies compiled by the Research Utilization 3 Nurse Scientist Team. Nurses can enable women to incorporate these noninvasive techniques into self-care.

7. Senekjian, L., K. Heintz, M. J. Egger, et al., "Do Women Understand Urogynecologic Terminology?" *Female Pelvic Medicine and Reconstructive Surgery*, Vol. 17, No. 5, September 2011. doi: 10.1097/SPV.0b013e31822dcffe. PMID: 21984964. *Background*

OBJECTIVES: The aims of this study were to describe women's stated knowledge of the primary urogynecologic diagnostic terms (urinary incontinence, pelvic floor disorder, and pelvic organ prolapse) and to assess factors associated with knowledge. **METHODS:** Before any education about pelvic floor disorders, 376 women presenting to primary care-level gynecologic clinics were asked whether they knew what the terms urinary incontinence, pelvic organ prolapse, and pelvic floor disorder meant. χ^2 and t tests were used to compare characteristics of women with complete knowledge versus partial or no knowledge of terms. $P < 0.05$ was considered significant. **RESULTS:** Of all women, 25% knew all 3 terms and 18% knew none. Moreover, 80%, 52%, and 27% of women reported that they knew the meaning of the terms urinary incontinence, pelvic organ prolapse, and pelvic floor disorder, respectively. Of women with stress urinary incontinence symptoms, 88% knew the term urinary incontinence compared with 78% without stress urinary incontinence ($P = 0.07$). Of 41 women, 31 (76%) with the symptom of vaginal bulge knew the term pelvic organ prolapse compared with 49% without ($P = 0.001$). Only higher education and symptom of vaginal bulge were associated with complete knowledge of the 3 terms; 30% of women who completed college or higher reported complete knowledge compared with 18% who did not ($P = 0.013$). **CONCLUSIONS:** Public health campaigns using terms pelvic organ prolapse or pelvic floor disorders are unlikely to reach most women. Further education and research are needed to improve women's health literacy in urogynecology.

8. Shaw, C., C. Atwell, F. Wood, et al., "A Qualitative Study of the Assessment and Treatment of Incontinence in Primary Care," *Family Practice*, Vol. 24, No. 5, October 2007. doi: 10.1093/fampra/cmm041. PMID: 17670805. *Background*

BACKGROUND: Although incontinence is a common condition, previous studies have suggested that access to appropriate treatment is variable. Recent guidelines recommend initial conservative treatment in primary care and this study explores GPs management practices and the feasibility of applying guidelines. **OBJECTIVES:** To describe the assessment and management practices of incontinence by GPs in primary care. **METHODS:** Semi-structured interviews were carried out with 32 GPs practicing in South East Wales. Sampling was purposive to include a range of characteristics such as gender, age and size and location of practice. Interviews were audio taped and transcribed and a thematic analysis carried out using a grounded theory approach. **RESULTS:** The extent to which GPs felt adequately informed to carry out assessment and treatment of incontinence was varied. While most were aware of appropriate assessment and investigation, none felt in a position to undertake conservative

treatments such as bladder training or to monitor pelvic floor therapy either due to lack of knowledge or organizational constraints. Access to specialist continence services was also variable across different localities with many GPs being unaware of the remit of specialist nurses. However, there was a high rate of referral to secondary care which will result in high cost to the National Health Service. CONCLUSIONS: There are a number of barriers to provision of first-line treatments in primary care, including variability in training and knowledge of GPs, as well as practical barriers (such as time resource) to carrying out assessments and treatment in routine surgeries. This results in increased likelihood of referral to secondary care.

9. Steers, W., H. Richter, L. Nyberg, et al., "Challenges of Conducting Multi-Center, Multi-Disciplinary Urinary Incontinence Clinical Trials: Experience of the Urinary Incontinence Treatment Network," *Neurourology and Urodynamics*, Vol. 28, No. 3, 2009. doi: 10.1002/nau.20653. PMID: 19030190. *Background*

AIMS: The Urinary Incontinence Treatment Network (UITN) was established in 2000 as a multi-disciplinary, multi-institutional network by the National Institute for Diabetes, Digestive, and Kidney Diseases (NIDDK) to investigate treatments for urinary incontinence in women. METHODS: Over 8 years this network composed of urologists, urogynecologists, geriatricians, behavioral psychologists, physical therapists, nurses, epidemiologists, social scientists and statisticians from nine academic sites and a Data Coordinating Center has been effective in designing and completing prospective randomized clinical trials for treatments of urinary incontinence in women. RESULTS: Two major clinical trials have been completed and a third has completed recruitment. The focus of the completed trials was a comparison of surgical methods to treat stress urinary incontinence whereas the third examined the potential benefit of combined behavioral intervention and antimuscarinic drug therapy to eliminate the need for long-term use of drug therapy alone to manage urge urinary incontinence. The scientific output of the network measured by abstracts, original papers and presentations demonstrates the productivity of the network. CONCLUSIONS: Many unique challenges are posed by a multi-disciplinary team located at sites across the United States undertaking several clinical trials. This review presents some of the logistics, barriers, tactics, and strategies used to create this successful clinical trials network focused on urinary incontinence.

10. Talley, K. M., J. F. Wyman, and T. A. Shamliyan, "State of the Science: Conservative Interventions for Urinary Incontinence in Frail Community-Dwelling Older Adults," *Nursing Outlook*, Vol. 59, No. 4, July–August 2011. doi: 10.1016/j.outlook.2011.05.010. PMID: 21757078. *Background*

This systematic literature review aimed to identify conservative interventions for reducing urinary incontinence (UI) in non-institutionalized frail older adults. Randomized and quasi-experimental studies published in English reporting outcomes on UI frequency, severity, or quality of life were included and rated for quality. Studies reporting improvements over 50% in UI outcomes were considered clinically significant. Seven studies with 683 participants (75% female) were eligible. Multicomponent behavioral interventions including pelvic floor muscle exercises and bladder training had the strongest evidence for reducing UI. The evidence supporting comprehensive geriatric assessment with multicomponent behavioral interventions, pattern urge response training, and toilet skills was limited. There is insufficient evidence to derive firm conclusions regarding the use of conservative interventions. Clinical trials are needed on a variety of interventions to guide practice on UI prevention and management in frail community-dwelling older adults.

11. Teunissen, D., W. van den Bosch, C. van Weel, et al., "Urinary Incontinence in the Elderly: Attitudes and Experiences of General Practitioners. A Focus Group Study," *Scandinavian Journal of Primary Health Care*, Vol. 24, No., March 2006. doi: 10.1080/02813430500417920. PMID: 16464816. *Background*

OBJECTIVE: To assess general practitioners' (GPs') attitudes to urinary incontinence in elderly patients and their experiences in the application of the Dutch College of General Practitioners' guideline in daily practice. **DESIGN:** Two existed groups of six GPs working in villages and seven GPs working in urban practices. **METHOD:** Two focus-group discussions with recording of discussions and transcription. Transcripts were analysed by two independent researchers. **RESULTS:** During the discussions three main themes of attitudes came forward: (1) therapeutic nihilism of GPs and low motivation of patients, (2): GPs experienced lack of time because of difficulties in explaining the therapy and because of impaired mobility of older patients, (3) because of the complexity of the problem and co-morbidity, GPs as well as patients were reluctant to treat the UI. The most remarkable findings in the application of the guideline were: (1) because of the barriers mentioned above, physical examination did not take place in spite of GPs' conviction as to the benefit of it; (2) GPs' knowledge of treatment options in the elderly with UI is substandard. **CONCLUSION:** Several patient (comorbidity, impaired mobility, low motivation, and acceptance of the problem) and GP factors (therapeutic nihilism, lack of time and knowledge) interfere with good management of UI in the elderly.

12. Wagg, A., D. Lowe, P. Peel, et al., "Do Self-Reported 'Integrated' Continence Services Provide High-Quality Continence Care?" *Age Ageing*, Vol. 38, No. 6, November 2009. doi: 10.1093/ageing/afp177. PMID: 19793925. *Background*

INTRODUCTION: systematic collection of clinical outcome data remains the most difficult task in the measurement of clinical effectiveness. However, the examination of the relationship between organisational and clinical process of care may provide a surrogate measure of quality in care. **METHODS:** data from the 2006 National Audit of Continence Care for Older People were used to examine whether there was an association between organisational structure and standard of continence care for older people. 'Quality' scores were produced and the relationship between scores was examined. **RESULTS:** there were statistically significant correlations between organisational and process scores for continence care. Primary care scored higher than hospitals or care homes in regard to service organisation [median (IQR): 57 (45-68) vs 48 (36-65) vs 50 (38-55), $P = 0.001$]. Differences were less with clinical process scores for urinary incontinence (UI) [median (IQR): 42 (32-52) vs 40 (29-49) vs 43 (34-52), $P = 0.06$] and for faecal incontinence (FI) [median: 42 (34-53) vs 45 (36-55) vs 47 (41-53), $P = 0.12$]. **CONCLUSION:** those with an integrated service provide higher quality care to older people. The provision of high-quality care for continence appears to be dependent upon well-organised services with personnel who have the appropriate training and skills to deliver the care.

13. Williams, K., R. Assassa, N. Smith, et al., "Continence Management. Good Practice in Continence Care: Development of Nurse-Led Service," *British Journal of Nursing*, Vol. 11, No. 8, 2002. doi: 10.12968/bjon.2002.11.8.10164. PMID: 106975530. Corporate Author: Leicestershire MRC Incontinence Study Team. Language: English. Entry Date: 20021108. Revision Date: 20200701. Publication Type: Journal Article. *Background*

The implementation of evidence-based interventions in clinical practice is often alluded to in the literature; however, the development of these interventions is rarely documented. Within

continence care, there is a large body of relevant literature on which primary clinical interventions can be based. The Leicestershire Medical Research Council (MRC) Incontinence Study is a series of inter-related studies exploring the epidemiology of urinary symptoms, including incontinence, and evaluating service provision and treatment options for these symptoms. This article describes one aspect of the Leicestershire study, namely the development of evidence-based intervention protocols for use in a new nurse-led continence service. This service is currently being evaluated in a randomized controlled trial.

14. Williams, K. S., R. P. Assassa, N. J. Cooper, et al., "Clinical and Cost-Effectiveness of a New Nurse-Led Continence Service: A Randomised Controlled Trial," *British Journal of General Practice*, Vol. 55, No. 518, September 2005. PMID: 16176737. *Background*

BACKGROUND: Continence services in the UK have developed at different rates within differing care models, resulting in scattered and inconsistent services. Consequently, questions remain about the most cost-effective method of delivering these services. **AIM:** To evaluate the impact of a new service led by a continence nurse practitioner compared with existing primary/secondary care provision for people with urinary incontinence and storage symptoms. **DESIGN OF STUDY:** Randomised controlled trial with a 3- and 6-month follow-up in men and women (n = 3746) aged 40 years and over living in private households (intervention [n = 2958]; control [n = 788]). **SETTING:** Leicestershire and Rutland, UK. **METHOD:** The continence nurse practitioner intervention comprised a continence service provided by specially trained nurses delivering evidence-based interventions using predetermined care pathways. They delivered an 8-week primary intervention package that included advice on diet and fluids; bladder training; pelvic floor awareness and lifestyle advice. The standard care arm comprised access to existing primary care including GP and continence advisory services in the area. Outcome measures were recorded at 3 and 6 months post-randomisation. **RESULTS:** The percentage of individuals who improved (with at least one symptom alleviated) at 3 months was 59% in the intervention group compared with 48% in the standard care group (difference of 11%, 95% CI = 7 to 16; P<0.001) The percentage of people reporting no symptoms or 'cured' was 25% in the intervention group and 15% in the standard care group (difference of 10%, 95% CI = 6 to 13, P = 0.001). At 6 months the difference was maintained. There was a significant difference in impact scores between the two groups at 3 and 6 months. **CONCLUSIONS:** The continence nurse practitioner-led intervention reduced the symptoms of incontinence, frequency, urgency and nocturia at 3 and 6 months; impact was reduced; and satisfaction with the new service was high.

15. Wyman, J. F., K. L. Burgio, and D. K. Newman, "Practical Aspects of Lifestyle Modifications and Behavioural Interventions in the Treatment of Overactive Bladder and Urgency Urinary Incontinence," *International Journal of Clinical Practice*, Vol. 63, No. 8, August 2009. doi: 10.1111/j.1742-1241.2009.02078.x. PMID: 19575724. *Background*

Behavioural interventions are effective treatments for overactive bladder (OAB) and urgency urinary incontinence (UUI). They are in part aimed at improving symptoms with patient education on healthy bladder habits and lifestyle modifications, including the establishment of normal voiding intervals, elimination of bladder irritants from the diet, management of fluid intake, weight control, management of bowel regularity and smoking cessation. Behavioural interventions also include specific training techniques aimed at re-establishing normal voiding intervals and continence. Training techniques include bladder training, which includes a progressive voiding schedule together with relaxation and distraction for urgency suppression, and multicomponent behavioural training, which, in conjunction with pelvic floor muscle (PFM)

exercises, includes PFM contraction to control urgency and increase the interval between voids. Guidelines for the conservative treatment of OAB and UI have been published by several organisations and the physiological basis and evidence for the effectiveness of behavioural interventions, including lifestyle modifications, in the treatment of OAB and UI have been described. However, many primary care clinicians may have a limited awareness of the evidence supporting the often straight-forward treatment recommendations and guidance for incorporating behavioural interventions into busy primary care practices, because most of this information has appeared in the specialty literature. The purpose of this review is to provide an overview of behavioural interventions for OAB and UI that can be incorporated with minimal time and effort into the treatment armamentarium of all clinicians that care for patients with bladder problems. Practical supporting materials that will facilitate the use of these interventions in the clinic are included; these can be used to help patients understand lifestyle choices and voiding behaviours that may improve function in patients experiencing OAB symptoms and/or UI as well as promote healthy bladder behaviours and perhaps even prevent future bladder problems. Interventions for stress urinary incontinence are beyond the scope of this review.

The background publications related to referral to physical therapy in primary care for non-UI conditions are as follows:

1. Freburger, J. K., G. M. Holmes, and T. S. Carey, "Physician Referrals to Physical Therapy for the Treatment of Musculoskeletal Conditions," *Archives of Physical Medicine & Rehabilitation*, Vol. 84, No. 12, 2003. PMID: 106748673. Language: English. Entry Date: 20040625. Revision Date: 20150711. Publication Type: Journal Article. *Background*

OBJECTIVES: To identify factors associated with orthopedic surgeons' and primary care physicians' referrals to physical therapy (PT) for musculoskeletal conditions. **DESIGN:** Cross-sectional analysis of National Ambulatory Medical Care Survey data. **SETTING:** US office-based physician practices. **PARTICIPANTS:** Visits to primary care physicians (N=4911) or orthopedic surgeons (N=4201) for musculoskeletal conditions. **INTERVENTIONS:** Not applicable. **MAIN OUTCOME MEASURES:** Whether a PT referral was made. **RESULTS:** After controlling for diagnosis, illness severity, and PT supply, insurance status and physician characteristics remained strong predictors of PT referral. Primary care visits covered by Medicaid or a managed care plan were less likely to result in PT referral than were visits covered by private insurance or a nonmanaged care plan. Orthopedic surgeon visits covered by workers' compensation or managed care were more likely to result in PT referral than were visits not covered by workers' compensation or not covered by managed care. Osteopathic primary care visits were more likely than allopathic primary care visits to result in PT referral. Given identical visit characteristics, orthopedic surgeon visits were more likely than primary care visits to result in PT referral. **CONCLUSIONS:** Significant differences exist in orthopedic surgeons' and primary care physicians' referrals to PT, both within and across specialties. Variation in PT referral may be indicative of problems with access and/or inappropriate referral. Copyright © 2003 by the American Congress of Rehabilitation Medicine and the American Academy of Physical Medicine and Rehabilitation

2. McKenna, C., N. J. Farber, K. S. Eschbach, et al., "Primary Care Practitioners' Understanding of Psychiatric Practice: Effects on Intention to Refer," *Archives of Physical Medicine & Rehabilitation*, Vol. 86, No. 5, 2005. doi:

10.1016/j.apmr.2004.09.014. PMID: 106513950. Language: English. Entry Date: 20050916. Revision Date: 20200624. Publication Type: Journal Article. *Background*

OBJECTIVES: To learn what family practice and internal medicine physicians understand about the scope of practice of physical medicine and rehabilitation (PM&R) and to study what effect that understanding and various demographic variables have on their intention to refer to physiatrists. **DESIGN:** Survey-based. **SETTING:** National survey. **PARTICIPANTS:** One thousand internal medicine and family practice physicians were contacted, with 460 respondents. **INTERVENTIONS:** Not applicable. **MAIN OUTCOME MEASURES:** Intention to refer patients to physiatrists using 13 case scenarios (10 appropriate referrals, 4 inappropriate referrals) and self-reported number of referrals per year associated with understanding of 7 skills of physiatrists analyzed by multiple logistic regression analyses. **RESULTS:** Although most respondents were likely to refer to physiatrists, a wide variation existed in the types of patients referred. Physicians with a greater understanding of the scope of psychiatric practice were more likely to refer ($P = .003$). Female physicians were more likely to refer than male physicians ($P = .003$). **CONCLUSIONS:** There appears to be an association between an understanding of psychiatric practice and primary care practitioners' willingness to refer to PM&R. Primary care physicians should be educated about the benefits of referring patients to physiatrists. Copyright © 2005 by the American Congress of Rehabilitation Medicine and the American Academy of Physical Medicine and Rehabilitation

3. Pavey, T. G., N. Anokye, A. H. Taylor, et al., "The Clinical Effectiveness and Cost-Effectiveness of Exercise Referral Schemes: A Systematic Review and Economic Evaluation," *Health Technology Assessment*, Vol. 15, No. 44, December 2011. doi: 10.3310/hta15440. PMID: 22182828. *Background*

BACKGROUND: Exercise referral schemes (ERS) aim to identify inactive adults in the primary-care setting. The GP or health-care professional then refers the patient to a third-party service, with this service taking responsibility for prescribing and monitoring an exercise programme tailored to the needs of the individual. **OBJECTIVE:** To assess the clinical effectiveness and cost-effectiveness of ERS for people with a diagnosed medical condition known to benefit from physical activity (PA). The scope of this report was broadened to consider individuals without a diagnosed condition who are sedentary. **DATA SOURCES:** MEDLINE; EMBASE; PsycINFO; The Cochrane Library, ISI Web of Science; SPORTDiscus and ongoing trial registries were searched (from 1990 to October 2009) and included study references were checked. **METHODS:** Systematic reviews: the effectiveness of ERS, predictors of ERS uptake and adherence, and the cost-effectiveness of ERS; and the development of a decision-analytic economic model to assess cost-effectiveness of ERS. **RESULTS:** Seven randomised controlled trials (UK, $n = 5$; non-UK, $n = 2$) met the effectiveness inclusion criteria, five comparing ERS with usual care, two compared ERS with an alternative PA intervention, and one to an ERS plus a self-determination theory (SDT) intervention. In intention-to-treat analysis, compared with usual care, there was weak evidence of an increase in the number of ERS participants who achieved a self-reported 90-150 minutes of at least moderate-intensity PA per week at 6-12 months' follow-up [pooled relative risk (RR) 1.11, 95% confidence interval 0.99 to 1.25]. There was no consistent evidence of a difference between ERS and usual care in the duration of moderate/vigorous intensity and total PA or other outcomes, for example physical fitness, serum lipids, health-related quality of life (HRQoL). There was no between-group difference in outcomes between ERS and alternative PA interventions or ERS plus a SDT intervention. None

of the included trials separately reported outcomes in individuals with medical diagnoses. Fourteen observational studies and five randomised controlled trials provided a numerical assessment of ERS uptake and adherence (UK, n = 16; non-UK, n = 3). Women and older people were more likely to take up ERS but women, when compared with men, were less likely to adhere. The four previous economic evaluations identified suggest ERS to be a cost-effective intervention. Indicative incremental cost per quality-adjusted life-year (QALY) estimates for ERS for various scenarios were based on a de novo model-based economic evaluation. Compared with usual care, the mean incremental cost for ERS was £169 and the mean incremental QALY was 0.008, with the base-case incremental cost-effectiveness ratio at £20,876 per QALY in sedentary people without a medical condition and a cost per QALY of £14,618 in sedentary obese individuals, £12,834 in sedentary hypertensive patients, and £8414 for sedentary individuals with depression. Estimates of cost-effectiveness were highly sensitive to plausible variations in the RR for change in PA and cost of ERS. LIMITATIONS: We found very limited evidence of the effectiveness of ERS. The estimates of the cost-effectiveness of ERS are based on a simple analytical framework. The economic evaluation reports small differences in costs and effects, and findings highlight the wide range of uncertainty associated with the estimates of effectiveness and the impact of effectiveness on HRQoL. No data were identified as part of the effectiveness review to allow for adjustment of the effect of ERS in different populations. CONCLUSIONS: There remains considerable uncertainty as to the effectiveness of ERS for increasing activity, fitness or health indicators or whether they are an efficient use of resources in sedentary people without a medical diagnosis. We failed to identify any trial-based evidence of the effectiveness of ERS in those with a medical diagnosis. Future work should include randomised controlled trials assessing the clinical effectiveness and cost-effectiveness of ERS in disease groups that may benefit from PA. FUNDING: The National Institute for Health Research Health Technology Assessment programme.

The background publications related to referral in primary care for obesity and weight loss are as follows:

1. Kamstrup-Larsen, N., M. Broholm-Jørgensen, S. O. Dalton, et al., "Why Do General Practitioners Not Refer Patients to Behaviour-Change Programmes After Preventive Health Checks? A Mixed-Method Study," *BMC Family Practice*, Vol. 20, No. 1, October 2019. doi: 10.1186/s12875-019-1028-2. PMID: 31604416. *Background*

BACKGROUND: This study was embedded in the Check-In randomised controlled trial that investigated the effectiveness of general practice-based preventive health checks on adverse health behaviour and early detection of non-communicable diseases offered to individuals with low socioeconomic positions. Despite successful recruitment of patients, the intervention had no effect. One reason for the lack of effectiveness could be low rates of referral to behaviour-change programmes in the municipality, resulting in a low dose of the intervention delivered. The aim of this study is to examine the referral pattern of the general practitioners and potential barriers to referring eligible patients to these behaviour-change programmes. METHODS: A mixed-method design was used, including patients' questionnaires, recording sheet from the health checks and semi-structured qualitative interviews with general practitioners. All data used in the study were collected during the time of the intervention. Logistic regressions were used to estimate odds ratios for being eligible and for receiving referrals. The qualitative empirical material was analysed thematically. Emerging themes were grouped, discussed and the material was re-read.

The themes were reviewed alongside the analysis of the quantitative material to refine and discuss the themes. RESULTS: Of the 364 patients, who attended the health check, 165 (45%) were marked as eligible for a referral to behaviour-change programme by their general practitioner and of these, 90 (55%) received referrals. Daily smoking (OR = 3.22; 95% CI:2.01-5.17), high-risk alcohol consumption (OR = 2.66; 95% CI:1.38-5.12), obesity (OR = 2.89; 95% CI:1.61-5.16) and poor lung function (OR = 2.05; 95% CI:1.14-3.70) were all significantly associated with being eligible, but not with receiving referral. Four themes emerged as the main barriers to referring patients to behaviour-change programmes: 1) general practitioners' responsibility and ownership for their patients, 2) balancing information and accepting a rejection, 3) assessment of the right time for behavioural change and 4) general practitioners' attitudes towards behaviour-change programmes in the municipality. CONCLUSION: We identified important barriers among the general practitioners which influenced whether the patients received referrals to behaviour-change programmes in the municipality and thereby influenced the dose of intervention delivered in Check-In. The findings suggest that an effort is needed to assist the collaboration between general practices and the municipalities' primary preventive services. TRIAL REGISTRATION: Clinical Trials NCT01979107 ; October 25, 2013.

2. Krist, A. H., S. H. Woolf, R. E. Johnson, et al., "Patient Costs as a Barrier to Intensive Health Behavior Counseling," *American Journal of Preventive Medicine*, Vol. 38, No. 3, March 2010. doi: 10.1016/j.amepre.2009.11.010. PMID: 20171538. *Background*

BACKGROUND: Although intensive health behavior counseling has been demonstrated to help patients lose weight and quit smoking, many payers offer limited coverage for such counseling. PURPOSE: This mixed-methods case study examined how coverage affected utilization of an electronic linkage system (eLinkS) to help adult patients obtain intensive health behavior counseling, provided through a collaboration of primary care practices and community programs. METHODS: Grant support enabled patients to obtain counseling at no cost, but funds were exhausted within 5 weeks as a result of an overwhelming response. To study the influence of cost as a barrier, referrals were resumed for an additional 3 weeks, but patients were required to pay for them. Use of eLinkS, level of clinician counseling and referrals, and patient interest in referrals were measured using electronic medical record data and patient and clinician interviews. RESULTS: When counseling was free, approximately one in five patients with an unhealthy behavior and an eLinkS prompt was referred for intensive counseling. However, when patient charges were instituted, referrals decreased by 97% (from 21.8% to 0.7%, $p < 0.001$); clinicians asked fewer patients about health behaviors (37% vs 29%, $p < 0.001$); clinicians offered fewer patients referrals (29% vs 6%, $p < 0.001$); and patients were less interested in accepting referrals (76% vs 14%, $p < 0.001$). In interviews, patients and clinicians cited cost as a major barrier. CONCLUSIONS: Coverage for intensive health behavior counseling is important to utilization, particularly for interventions that involve clinician-community partnerships. The potential public health benefits of such collaborations to reduce unhealthy behaviors justify the elimination of financial barriers (e.g., copayments) by payers.

Appendix D. Data Abstraction Fields and Form

D.1. Data Abstraction Fields

Table D.1. Data Abstraction Fields

Data Domain	Dissemination and Implementation Intervention	Clinical Care Intervention
Contextual characteristics	Primary care practice characteristics: <ul style="list-style-type: none"> • Practice type and location • Funding levels and mix • Staff size, composition • Ownership type • System affiliation 	Patients' or intended patients' characteristics: <ul style="list-style-type: none"> • UI type • Age • Race and ethnicity • Other SDOH
Key intervention features	<ul style="list-style-type: none"> • Whether document describes a D&I strategy, resource, tool, or some combination thereof • Number and types of health care system levels included in the strategy, resource, or tool • Components of the strategy, resource, or tool • Logic model or theory of action • Prior evidence of effectiveness 	<ul style="list-style-type: none"> • Whether document describes a clinical intervention, resource, tool, or some combination thereof • Number and types of health care system levels included in the clinical intervention, resource, or tool • Treatment elements included (screening, diagnosis, management, specialty referral) • Components of the clinical intervention, resource, or tool • Logic model/theory of action • Prior evidence of effectiveness
Study design	<ul style="list-style-type: none"> • Sample size of practices • Qualitative, quantitative, or mixed methods used • Hybrid effectiveness and other implementation models • Type or degree of randomization of practices or care providers • Comparator or control practices or providers (if any) not included in the target D&I effort (or receiving an alternate strategy, resource, or tool) 	<ul style="list-style-type: none"> • Sample size of care providers and patients • Qualitative, quantitative, or mixed methods used • Type or degree of randomization of patients • Comparator or control patients (if any) receiving usual care or an alternate clinical intervention
Outcomes		
Reach outcomes	Proportion of the targeted practices or providers included in the D&I effort	Proportion of the targeted patients included in the intervention

Data Domain	Dissemination and Implementation Intervention	Clinical Care Intervention
Process outcomes	<ul style="list-style-type: none"> • Proportion of targeted practices or providers exposed to the D&I efforts • Fidelity to or adoption of the implementation strategy as planned • Barriers and facilitators to the D&I efforts as planned • Feasibility of the implementation strategy, resources, or tools • Compatibility of the implementation strategy, resource, or tools to the practice setting 	<ul style="list-style-type: none"> • Proportion of adoption, use, or both of the intervention by practices or care providers • Fidelity to or adoption of the clinical intervention • Barriers and facilitators to implementing the intervention as planned • Feasibility of the intervention for practices, providers, or patients • Compatibility of the intervention to the practice setting, care routines, or patient circumstances • Proportion of patients receiving or adhering to treatment • Patient experience or satisfaction with the intervention care • Proportion of patients receiving or following through on a referral to specialty or community-based services (if applicable)
Economic outcomes	Resource use, costs, economic outcomes of the implementation strategy for practices, care providers, or system stakeholders	Resource use, costs, economic outcomes of the intervention for practices, care providers, patients, or system stakeholders
Health and system outcomes	<ul style="list-style-type: none"> • Sustainability of the implementation or dissemination strategy • Increased capacity of practices to implement evidence-based practices 	<ul style="list-style-type: none"> • Improvement in patient UI symptoms, health functioning, quality of life, or a combination thereof • Sustainability of the clinical intervention by practices or care providers • Sustainability of improved patient care and health outcomes by practices and care providers
Subgroup outcomes	Representativeness and outcomes of process, economic, or health and system outcomes for different types of practice contexts, including under-resourced practice settings or those serving under-resourced or marginalized patient populations	Representativeness and outcomes of process, economic, or patient care or health outcomes for different types of providers or patients, including those in under-resourced practice settings or patients from under-resourced or marginalized populations
Unintended consequences	Unintended negative, positive, or spillover effects of the D&I effort on practice settings or provider	Harms or other unintended effects on patients or subgroups of patients receiving or exposed to the clinical intervention

D.2. Data Abstraction Form

The form reproduced here was revised and reformatted for use in the DistillerSR literature review software program.

Study Reference:

[Study ID] Author, Year

Additional (multiple) publications: [Study ID] Author, Year

Contextual Characteristics:

1. Country _____
2. Locale (city, state, or region) _____
3. Study settings: *mark all that apply*
 - Primary care practices (includes clinics, offices, etc.)
 - Community (e.g., patient homes, social services, senior centers, etc.)
 - Virtual (e.g., telehealth, phone, etc.)
 - Other (Describe) _____

Practice Characteristics

4. Number of primary care practices included in study _____
5. Practice types: *mark all that apply*
 - Private practice
 - Safety-net (FQHC, community health center)
 - Other (Describe) _____
 - Not reported
6. Practice ownership: *mark all that apply*
 - For-profit
 - Non-profit
 - Government-state or local
 - Government-federal (e.g., military, VA)
 - Other (Describe) _____
 - Not reported
7. Practice system affiliation: *mark all that apply*
 - Medical group
 - Integrated health care or hospital system
 - Academic medical center (medical school-affiliated)
 - VA system
 - Other (Describe) _____
 - Not reported

Provider Characteristics

8. Number of PCPs (leave cells blank if not reported): _____

Primary care professionals	Total number employed by practices in the study	Number involved in the intervention(s) studied
Physicians (MDs, DOs)		
Advanced practice professionals (NPs, PAs)		
Nurses		
Others (if specifically a focus of the study)		

If Others, describe: _____

9. Types of primary care providers (i.e., physicians and advance practice professionals): *mark all that apply*

- Family medicine
- General internal medicine
- Women’s health specialty
- Geriatric medicine
- Other (Describe) _____
- Not reported

Patient Characteristics

10. Total number of patients served by practices in the study: _____

11. Insurance/health plan coverage: *mark all that apply*

- Medicare (including Medicare Advantage)
- Medicaid
- Private/commercial insurance (individual or group)
- Uninsured/self-pay
- Non-US public insurance (if study is in an OECD country)
- Non-US private coverage (if study is in an OECD country)
- Other (Describe) _____
- Not reported

12. Number of **adult women patients** (leave cells blank if not reported):

Adult women patients	Total number served by practices in the study	Number involved in the intervention(s) studied
All ages		
Mean (of all ages)		
Standard deviation (of all ages)		

If multiple settings or intervention groups, describe number per each: _____

13. Does this study focus on any particular type of woman (e.g. post-partum, post-menopausal)?

- Yes (Describe) _____
- No

14. Race of adult women in the intervention(s) studied: *mark all that apply*
- White
 - Black/African American
 - American Indian/Alaskan native
 - Asian
 - Hawaiian or other Pacific Islander
 - Other (Describe) _____
 - Not reported
15. Ethnicity of adult women in the intervention(s) studied: *mark all that apply*
- Hispanic
 - Non-Hispanic
 - Not reported
16. Other social determinants of health (SDOH) of adult women in the intervention(s) studied:
(Describe) _____
17. Type of condition in the intervention(s) studied:
- UI
 - Weight loss or obesity
 - Other (Describe) _____
18. [If UI selected at Q17] UI types of adult women in the intervention(s) studied: *mark all that apply*
- Stress UI
 - Urge UI
 - Mixed UI
 - Other (e.g. overflow, insensible) (Describe) _____
 - Not reported

Intervention Design:

Notes: Intervention design includes both (a) clinical care intervention and (b) dissemination and implementation (D&I) approach.

The term “intervention” may refer to a care process and D&I approach, even if not implemented by the researchers/authors of the publication.

Clinical Care Intervention Components

19. What features are included in the **clinical care intervention**?* *mark all that apply*
- Community-based multidisciplinary teams
 - Clinical screening and treatment
 - Screening for UI
 - Screening for weight loss or obesity
 - Treatment of underlying disease/cognitive impairment
 - Review and adjust non-incontinence medication associated with development or worsening of UI
 - Treat constipation

- Containment products (e.g., absorbent pads, external collection devices, intravaginal devices, pessaries)
- Urinary catheters
- Posterior tibial nerve stimulation (PTNS)
- Lifestyle Interventions
 - Diet-Caffeine reduction
 - Diet-Fluid intake
 - Diet-Other
 - Physical exercise
 - Obesity and weight loss
 - Smoking cessation
- Behavioral and Physical Therapies
 - Prompted voiding
 - Bladder Training
 - Physical Therapy
 - Pelvic floor muscle training (PFMT)
 - Psychological interventions
- Pharmacological management
 - Antimuscarinic/anticholinergic drugs
 - Mirabegron (beta3 agonist)
 - Drugs for stress urinary incontinence (Duloxetine)
 - Estrogen
 - Desmopressin
- Educational/Informational Interventions
 - Patient education
 - Caregiver education
 - App-based interventions
- Self-management (e.g. symptom tracking)
- Other (Describe) _____

* Adapted from EAU Guidelines on UI, 2020; AUA/SUFU Guideline for Overactive Bladder; NICE Guidelines; AUGS Guidance.

20. What stage(s) of care does the care intervention address? *mark all that apply*

- Screening
- Diagnosis
- Management (treatment)
- Specialty referral
 - Physical therapy
 - Urology
 - Urogynecology
 - Other (Describe) _____

D&I Approach Components

21. What features are included in the **dissemination approach**?** *mark all that apply*

- Practice facilitation/coaching (including academic detailing)
- Assessment of practice readiness/capacity for change
- On-site intervention resource/practice coordinator
- Provider/staff education & training
- Other direct technical assistance (Describe)_____
- Learning communities/collaboratives
- Other peer-to-peer learning strategies (Describe)_____
- Accountability-Policy, program and/or contractual requirements
- Accountability-Transparency, public reporting
- Funding, payment, and/or reimbursement incentives
- Other dissemination strategies (Describe)_____

** *Adapted from the AHRQ EvidenceNOW Publications website, <https://www.ahrq.gov/evidencenow/projects/heart-health/research-results/results/publications.html>, and Kahn et al. 2017.*

22. What features are included in the **implementation approach**?*** *mark all that apply*

- Seek Evidence
 - Develop a Process to Seek New Evidence
 - Select and Customize Evidence
 - Embed in Clinical Info Systems (electronic or paper; e.g., CDS, checklists)
 - Inform Patients that Practice is Evidence-Based
- Implement QI
 - Adopt QI Approach
 - Develop QI Team
 - Engage Care Team (e.g., provider/staff education & training)
 - Select QI Measures
- Optimize Health IT
 - Create a QI Dashboard
 - Focus on Data Quality
 - Identify Data Coordinator
 - Involve Care Teams
 - Link Patients and Teams in Info System
 - Maximize EHRs
 - Use Registries and More
- Create Care Teams
 - Assign Patients to Care Teams
 - Empower Team Members
 - Engage with Evidence
 - Establish Care Teams
 - Optimize Communication
 - Participate in QI
- Engage with Patients and Families
 - Involve Patients in Integrating Evidence
 - Link to Community Resources

- Support Patient Engagement in Care (e.g., shared decision-making)
- Target Appropriate Patients
- Nurture Leadership
 - Create a QI Culture
 - Encourage Learning
 - Forge a Vision
 - Identify Champions
 - Review Measures
 - Support Evidence-based Practice
- Other implementation strategies (Describe)_____

*** Adapted from AHRQ EvidenceNOW Key Drivers and Change Strategies.

For the EvidenceNOW Key Driver Diagram, see

<https://www.ahrq.gov/evidencenow/tools/keydrivers/index.html>.

For definitions of each Key Driver, see

<https://www.ahrq.gov/evidencenow/tools/keydrivers/description.html?tca=Uh7at9YNY2Es6Py8EEfBJNitZgd39c3s5co-A31x2KQ>.

23. Briefly describe the overall intervention (care intervention and D&I approach):

24. Does the study provide or reference any specific intervention tools or resources (e.g., patient or provider education materials, implementation toolkits, templates, websites, etc.)?

- Yes (Describe)_____
- No

25. Which levels of the **primary care system** does the overall intervention address? *mark all that apply*

- Payors
- Community
- Health care delivery system (i.e., other delivery organizations beyond primary care)
- Primary care practices
- Primary care clinicians and/or staff
- Families or caregivers
- Patients

26. What evidence base does the study give for the care intervention or D&I approach? (include key cites)

Study Design:

27. What was the design of the study?

- Randomized controlled trial (RCT)
- Single arm trial
- Prospective cohort trial (comparison but no randomization)
- Pre/post assessment

- Descriptive (qualitative or quantitative)
- Other (Describe)_____

28. Did the study include control or comparison condition(s)?

- Yes (Describe)_____
- No

29. Did the study include randomization (by practice, provider, and/or patients, etc.)?

- Yes (Describe)_____
- No

30. What types of methods did the study use?

- Qualitative (e.g., interviews, focus groups) (Describe)_____
- Quantitative (e.g., clinical measures, patient surveys) (Describe)_____

Outcomes:

Reach outcomes

31. What reach outcomes did the study measure or report on? *mark all that apply*

- Proportion of **primary care practices** in the targeted/sampled health care systems or locales that were involved in the study/demonstration of the intervention
- Proportion of **primary care providers** in the study/demonstration’s primary care practices that were involved in the intervention *****
- Proportion of **adult women patients** in the study/demonstration’s primary care practices that were involved the intervention *****
- Access or barriers to treatment due to insurance coverage
- Access in rural or specific geographical areas
- Other key reach outcome(s) (Describe) _____
- Not reported

**** Mark this response if, in Q8, the study reported both the total number of primary care providers (physicians and/or advanced practice professionals) employed by the practices in the study **and** the number of those providers involved in the intervention (even if the study did not report the proportion).

***** Mark this response if, in Q12, the study reported both the total number of adult women patients (All ages) served by the practices in the study **and** the number of those patients involved in the intervention (even if the study did not report the proportion).

32. Summarize the key reach outcomes for all checked above:

Process outcomes

33. What process outcomes did the study measure or report on? *mark all that apply*

Note: “intervention” refers to the care intervention and/or D&I approach, unless otherwise specified.

- Exposure/engagement of practices to the intervention
- Exposure/engagement of providers or other staff to the intervention

- Extent the intervention was adopted/used in practice
- Fidelity of intervention implementation or use to what was intended
- Adaptations to the intervention (before or during implementation)
- Feasibility of implementing or using the intervention
- Compatibility of the intervention to practices/care routines
- Barriers to disseminating/implementing the intervention
- Facilitators to disseminating/implementing the intervention
- Proportion of patients receiving specialty referrals
- Proportion of patients following through on specialty referrals
- Patient adherence to treatment
- Patient experience or satisfaction
- Other key process outcomes

34. Summarize the key process outcomes for all checked above:

Impact outcomes

35. What impact outcomes did the study measure or report on? *mark all that apply*

- Economic outcomes** (resource use, costs, or economic outcomes of the implementation strategy or intervention for practices, care providers, patients, or system stakeholders)
- Health outcomes** (change in UI symptoms, health functioning, and/or quality of life of patients)
- System outcomes** (change in capacity of primary care practices to implement evidence-based care or health care systems in disseminating evidence-based care)
- Sustainability outcomes** (continued dissemination or implementation of the intervention, use of the intervention by practices or providers, and/or improvement in patient care and health outcomes)
- Unintended consequences** (unintended negative, positive, or spillover effects of the dissemination or implementation of the intervention on practice setting, providers, or patients)
- Subgroup/equity outcomes** (differences in economic, health, system, sustainability or unintended consequences for types of practices, providers, or patients in under-resourced or marginalized populations or communities)
- Other key impact outcomes

36. Summarize the key impact outcomes for all checked above:

37. Summarize the study limitations.

38. Summarize the key findings.

Appendix E. Detailed Narrative Review Tables for Supplemental Searches

This appendix contains the detailed narrative review tables used to generate the narrative summaries for each of the three referral-related supplemental literature searches in Chapter 4:

- referrals by UI specialists to PT
- referrals by PCPs to PT for non-UI conditions
- referrals by PCPs to nonsurgical services for obesity and weight loss.

The tables provide detailed information on study context, interventions, and outcomes for the individual in-scope publication in each supplemental search.

Table E.1. Detailed Narrative Review Table for Supplemental Search 1: Referrals by UI Specialists to PT

Article (author, date)	Study context (countries, practices, providers, patients)	Interventions (clinical/care, D&I interventions)	Outcomes (types assessed, key outcomes)
Brennen, Sherburn, and Rosamilia, 2019	<p>Australia</p> <p>Two sites:</p> <p>Monash Health—100 patient surveys, 5 staff workforce surveys (unable to survey referring doctors) 32 adv practice C&WHP assessment clinics w/ 233 new patients assessed and 28 did not attends</p> <p>Barwon Health—36 patient surveys; 12 clinics with 35 patients seen and 25 did not attends</p>	<p>Development, implementation & initial evaluation of public health advanced practice PT-led assessment clinic integrated into triage and assessment process of gynecology, urogynecology and urology clinics.</p> <p>Model of care: Advanced practice continence and women’s health physiotherapy (C&WHP) model—referrals were triaged by the registrar and a senior clinician. Patients were triaged to either the Medical Specialist clinic or the advanced practice assessment clinic. Dipstick urinalysis, post-void residual (PVR) bladder volume scanning and uroflow could be completed in the advanced practice assessment. Once assessed, patients could be referred for ongoing physiotherapy or urodynamic investigation from either clinic. Patients were able to be booked directly to the Medical Specialist clinic from the advanced practice C&WHP assessment clinic.</p>	<p>Integrating advanced practice C&WHP into the triage and assessment process in the tertiary setting can provide access to conservative management prior to or instead of Medical Specialist assessment and treatment. Our results demonstrate high patient satisfaction, timely access to appointments and improved workforce integration.</p> <p>Health service outcomes:</p> <ul style="list-style-type: none"> • Wait time in days from referral to initial assessment (Barwon Health average wait for category 2 assessment was 386 days in Feb 2015 and 123 days in Nov 2015) • Wait time in minutes at clinic (Monash Health avg wait for PT was 16 min, 44 min for med clinics; Barwon Health avg wait time 5 min for PT, 65 min for Med Specialist) <p>Clinical Service Provision outcomes:</p> <ul style="list-style-type: none"> • Assessments & investigations completed

Article (author, date)	Study context (countries, practices, providers, patients)	Interventions (clinical/care, D&I interventions)	Outcomes (types assessed, key outcomes)
		<p>Patients were able to be discharged from any of advanced practice C&WHP assessment, Medical Specialist assessment, Medical Specialist review, or their outpatient physiotherapy review appointment(s) if they had been referred from the advanced practice C&WHP assessment and met set discharge criteria.</p> <p>Clinical education: Learning plans, self-assessment tools, clinical logs and supervisor assessment tools were developed for these competencies in consultation with medical, nursing and physiotherapy clinical specialists. These were designed for physiotherapists to be assessed against competency criteria by Medical Specialists or clinic nurse consultants.</p>	<ul style="list-style-type: none"> • Planned Tx • Previous conservative mgmt. <p>Monash Health: 99% had not received conservative mgmt. > 35% received conservative mgmt. & specialist review; 31% received conservative mgmt. only.</p> <p>Barwon Health: 100% did not receive conservative mgmt. > 83% received conservative mgmt. only; 14% received conservative mgmt. & specialist review</p>
Jopling, 2020	<p>United States Setting: large, urban OB/GYN clinic where care is provided by 14 physicians and four nurse practitioners (NPs). This urban clinic in Northeast Louisiana serves a rural population drawn from 13 surrounding parishes in four office locations. Sample: 14 nurses, 3 NPs, and 6 gynecologists.</p>	<p>Screening, Brief Intervention, and Referral to Treatment (SBIRT) model was used as a basis for an effective ‘right care’ quality improvement Doctor of Nursing Practice (DNP) project: Team engagement interventions included a kickoff training meeting, weekly meetings or huddles, a team lapel pin, and a final contest for prizes. For patient engagement, an original shared-decision aid (SDA) was used to educate women about incontinence types, risk factors, bladder irritants, lifestyle changes, and daily Kegel exercises (Figures 2a, b). It concluded with a checklist for commitments to lifestyle changes, daily Kegel exercises, or need for referral.</p>	<p>As a result of this project, routine screening of UI is included in every well-woman examination, when indicated. Based on results of the screening, education is guided by the decision aid, with appropriate referrals occurring when indicated. These nurses now educate women that involuntary loss of urine is never normal.</p> <p>Team engagement: nurses’ confidence in screening & participation went from 8% to 80% (goal) within first week and remained above goal.</p> <p>Patient engagement: Goal of 80% commitments to lifestyle changes and daily Kegel exercises - goal met in Cycle 3 but fluctuated between 50%-63%.</p> <p>Screening: rates 33%, 48%, 37%, and 39% across the cycles which was consistent with national rate 20-50%</p> <p>Referrals Initiated: Goal was 80%, ranged from 29% to 50% but after referral criteria was changed to include women who try self-improvement measures first and then return for 3-month f/u, rate increased to 83%</p>

Table E.2. Detailed Narrative Review Table for Supplemental Search 2: Referrals by PCPs to PT for Non-UI Conditions

Article (author, date)	Study context (countries, practices, providers, patients)	Interventions (clinical/care, D&I interventions)	Outcomes (types assessed, key outcomes)
Dey et al., 2004	UK—Birkenhead, Wallasey and West Wirral Primary Care Groups RCT Setting: 24 health centers randomized to intervention & control Sample: 2187 patients (18-64 years) with acute low back pain - 1049 intervention, 1138 control	Intervention: guideline team facilitated a structured interactive discussion with the GP , which was based on the ‘elaboration likelihood model of persuasion’. ⁶ This discussion was used to: raise awareness of the RCGP guidelines for management of acute low back pain in primary care, adapted to the local context; emphasize the key messages in the guidelines; identify potential barriers to implementation; and suggest strategies for overcoming the barriers identified. GPs were given a poster reinforcing guideline recommendations and a copy of a text recommended by the RCGP for patients. Referral forms for access to fast-track physiotherapy were distributed at this session, as were forms for direct access to the back clinic of patients who had failed to respond to conservative management within 6 weeks. Control: no access to outreach intervention; PT referral via standard referral forms	An educational strategy based on RCGP guidelines failed to change the management of patients with acute low back pain in primary care. More patients in the intervention arm were first referred to physiotherapy or educational programs, but most of these additional referrals were made by the triage service set up to facilitate the management of cases that had not resolved within 6 weeks. The estimated annual consultation rate for acute low back pain was 35 per 1,000 adults in the intervention group, compared with 38 per 1,000 in the control group. GPs may feel pressurized to defer to expectations of patients for more active management. Future attempts to promote adherence with guidelines may need to focus on patient, as well as professional, education.
Edwards et al., 2015; Jordan et al., 2017	UK Setting: 8 general practices in West Midlands and North West of England Sample: Template fired for 1730 (93%) of 1851 patients with OA or joint pain code (≥ 45 years) Total of 86 clinical staff fired the template with a median of 14 patients each 2017 study: 1960 patients (1118 intervention: 842 control)	Intervention: 6 months use of a computerized template to record management during an OA consultation for use in general practices was developed which included 8 quality indicators per 2008 National Institute for Health Care Excellence guidelines for OA management - consideration of PT referral is one of the quality indicators 2017 study - MOAC (enhanced initial GP consultation, nurse-led clinic, OA guidebook); training – updates on National Institute for Health Care Excellence recommendations of OA, training on how to deliver initial consultation, nurses received 4 days of training on how to	Although there was variation in the way clinicians completed the template, the best-performing clinicians achieved high rates of template completion and quality indicator achievement. The template, which reminded clinicians to consider recommended first-line pharmacological and nonpharmacological treatments, resulted in a modest increase in prescriptions of paracetamol and topical NSAIDs but not in physiotherapy referral rates. consideration of physiotherapy referral the least achieved of all indicators (36%) The only difference in achievement of individual indicators between new episode and ongoing consulters was <i>for consideration of physiotherapy</i>

		<p>support and enable patients to self-manage OA, OA guidebook, goal setting, pain mgmt. and core National Institute for Health Care Excellence recommendations</p> <p><u>Control: usual care</u>; no training, guidebook or OA nurse clinic</p>	<p><i>referral, where a higher percentage of ongoing consulters had evidence of achievement (40% vs 34%, P = 0.001).</i></p> <p>2017 study: increases were found for written advice on OA (4-28%), exercise (4-22%) and weight loss (1-15%) in intervention practices but not controls (1-3%). Intervention practices were more likely to refer to physiotherapy (10% vs 2%, odds ratio 5.30; 95% CI 2.11, 13.34), and prescribe paracetamol (22% vs 14%, 1.74; 95% CI 1.27, 2.38).</p>
Foster et al., 2014	<p>UK—Cheshire, England</p> <p>Setting: 64 family physicians from 5 practices in single healthcare region</p> <p>Sample: 922 adult patients with low back pain</p>	<p>IMPACT Back was a prospective, primary care-based, quality improvement study in England with a before and-after design to implement stratified care into the consultations by providing educational sessions, regular audit, peer feedback, and clinical mentoring. Tool consists of 9 self-report items to allocate patients into 3 risk groups. Physicians were encouraged to refer medium-risk group to PT. trained 15 community-based physical therapists to stratify patients and provide risk-matched treatment</p>	<p>Key process outcome was risk-appropriate use of physical therapy (i.e., nonreferral of patients at low risk and referral of patients at medium or high risk). Detailed data on physical therapy treatments were captured using case report forms for a sample of 40 patients each in phases 1 and 3 (80 patients in total).</p> <p>Implementation of stratified care led to significantly more risk-appropriate referrals to physical therapy for medium- and high-risk patients (40% referred in phase 1 vs 72% referred in phase 3) but little difference for low-risk patients (65% vs 68% not referred). Stratified care led to a significant more than 30% reduction in sickness certifications, as well as prescribing changes that included a decrease in use of nonopioids and a concurrent increase in use of mild opioids.</p>
Gurden et al., 2012	<p>UK—North East Essex Primary Care Trust (PCT) commissioned a manual therapy service comprising chiropractors, osteopaths and physiotherapists to manage patients referred by GPs with persistent back or neck pain.</p> <p>Providers: 3 chiropractic, 3 osteopathic and 10 physiotherapist clinics in the independent sector. The</p>	<p>Patients saw their GP to rule out any red flag pathologies, then received usual GP care (e.g. advice, reassurance and analgesia) for at least 4 weeks. Then Pts offered manual therapy, in consultation with GP, and choice of provider (chiro, osteopath, or PT). Saw provider within 14 days and assessed and treated up to 6 txs. Then discharged and referred back to GP or referred to secondary care.</p>	<p>Demonstration of a primary care service working in partnership with GPs in the delivery of faster, local and evidence-based care for patients. Service capable of handling almost 3000 patients in one year who were all seen within 2 weeks. 2/3 patients reported improvement after 6 txs and were recommended for discharge with advice of self-management. Less than 3% were recommended for subsequent secondary care. Evaluation by the PCT demonstrated that the service reduced primary care consultations, imaging and inappropriate referrals</p>

	<p>number of practitioners in each clinic ranged from 1 to 9. Sample: 2810 patients were referred into the service during the pilot phase</p>		<p>to secondary care. Referrals to spinal surgeons reduced by more than 25%.</p>
<p>Hattam and Smeatham, 1999</p>	<p>UK - Sheffield Setting: Patients taken from the orthopedic waiting list of one GP in Sheffield for one year Sample: 76 patients with complete data</p>	<p>Orthopaedic Screening Service (OSS) in primary care staffed by 2 clinical PT specialists; 40-min appt where patient was assessed and given dx and discussed mgmt. (e.g., advice & exercises); pts requiring injection were treated during first visit and given review appt; full report sent to GP within 5 working days outlining dx, investigations required, proposed mgmt. and prognosis of condition.</p>	<p>Large proportion of patients with orthopaedic disorders do not need to be seen in hospital orthopaedic departments but can be managed effectively within the primary care environment. In this study 72.4 per cent of patients taken from the orthopaedic waiting list were effectively managed by clinical physiotherapy specialists who gave advice on management, referral to physiotherapy or podiatry, injection therapy or onward referral for further investigation. Waiting times for the OSS averaged 32 working days during the study period. The orthopaedic waiting times for a non-urgent appointment was in excess of 11 months during the same period. The OSS was able to reduce the initial waiting time for patients on average by over nine months.</p>
<p>Mackenzie, Clemson, and Irving, 2020</p>	<p>Australia Setting: Trial conducted across 2 GP practices (one semi-rural & one urban metro) Sample: Process evaluation among two GPs, six AHPs (3 OT & 3 PT) and eight older people using semi-structured interviews</p>	<p>Evidence-based falls prevention programme using five sessions available through the chronic disease management programme involving local private occupational therapists and physiotherapists to implement individualised home-based exercise and home modifications, with eight older people over the age of 75.</p>	<p>CDM program for falls prevention is feasible in the community. Opportunities for OTs & PTs to partner with GPs to deliver falls prevention and further cultural change needed to occur in primary care settings. GPs had key role in selecting older people for the program and initiating falls prevention activities but more focused inclusion criteria may need to be developed to better target selection for the program. AHPs were able to implement the project activities and considered them part of their usual role. Home environmental component were less problematic than exercise components. Concerns about billing among AHPs. AHPs had not used the assessment tools and felt the process took too long. 5 CDM sessions not considered sufficient to sustain behavior change. More in-depth training is needed for AHPs to implement the evidence-based interventions</p>

			consistently across their patients.
Magel et al., 2018	<p>US - University of Utah Health (Salt Lake City)</p> <p>Sample: work group included a frontline physical therapist and physiatrist, physical therapy and physiatry clinic managers, patient scheduling staff, informatics support, and academic physical therapists with expertise in implementation science.</p> <p>400 of 1,556 patients with low back pain eligible for RapidAccess—124 participated (31%)</p>	<p>Used RE-AIM framework to evaluate implementation of RapidAccess pathway which emphasized PT mgmt. before physiatry consultation. Patients with LBP could schedule a RapidAccess PT appointment with physiatrist appt. PT appointment would be scheduled within 72 hours. Physiatry consultation was reserved for additional care.</p>	<p>Adoption: 225 (56.3%) of 400 were offered RapidAccess.</p> <p>Effectiveness: RapidAccess participants demonstrated improvement in physical function with physical therapist management.</p> <p>Implementation: a majority (58.9%) cancelled their physiatrist visit, and rates of imaging and injections were lower than for nonparticipants (effectiveness).</p> <p>Maintenance: Program reach and adoption were suboptimal and challenging to maintain over time, beyond first 6 months.</p> <p>Barriers to implementation include patient perceptions of PT (enrolled patients were younger and had longer wait times for physiatry appt). Education & informed decision-making could increase reach. Staff failure to adopt RapidAccess and offer it to eligible patients accounted for a greater proportion of the failure to reach patients. Not well integrated into staff's workflow, relied on staff to remember screening script, high volume of calls and time constraints, staff turnover</p>
Moi et al., 2018	<p>Country: Australia (Melbourne)</p> <p>Providers: 88% general practitioners; 12% specialists</p> <p>Patients: 522 patients with back pain (age > 16 years; mean age 54 years)</p>	<p>Intervention: Back Pain Assessment Clinic (BAC), a pilot trial of a community primary care-based specialist service for assessing and managing neck and lower back pain referrals; a collaborative initiative among specialists and physiotherapists to provide a triage process and rapid access to physiotherapists or other specialty care; 1 year</p>	<p>Outcomes: (1) access to care; (2) appropriate and safe care; (3) workforce optimization and integration; and (4) efficiency and sustainability</p> <p>Of 522 patients seen in primary care, most were referred to hospital services by GPs (87%) for LBP (63%) and neck pain (24%). All patients were seen within 10 weeks of referral and commenced community-based allied health intervention within 2–4 weeks of assessment. 57% of patients were referred to PT. Most referrals (to all services) were deemed appropriate and patient and staff satisfaction was high.</p>
Pinnington, Miller, and Stanley, 2004	<p>UK (Widnes, North Cheshire)</p> <p>Providers: 5 demographically representative primary care practices of 1–7 GPs (17 GPs, panel sizes of 2–10k patients)</p>	<p>Intervention: patients with new LBP episode were referred by their GP to a back pain clinic staffed by the research PT to provide access within 72 hours.</p>	<p>Outcomes: access to PT within 72 hours, pain and disability, need for follow-up, referral to specialty services or rehab, lost work time</p> <p>Findings: 855 of referred patients were seen at the PT clinic within 3–4 days; More than 70% required</p>

	<p>Patients: 614 patients (3.2% of the adult population) 18–65 years with new LBP episode</p>		<p>only 1 clinic visit. Levels of improvement were comparable and lost worktime was better than those seen in other intervention studies for LBP. Prompt access to PT is both feasible and acceptable. Questions remain regarding sufficiency of numbers of PTs and influence of the service on GPs' own practice and management approaches.</p>
<p>Hendriks et al., 2003</p>	<p>Netherlands (4 regions) Providers: 59 primary care physician: PT pairs Patients: 352 patients referred</p>	<p>In a 7-month trial, PCPs automatically referred eligible patients to the PTs with whom they were partnered for a 1-time referral, prior to referral of patients for a PT intervention if they were uncertain whether to refer. PTs then consulted with the PCPs regarding follow-up care.</p>	<p>Outcomes: referral rates, feasibility Findings: The PCPs referred 352 patients to PTs for a 1-time consultation (mean of 6 patients per PCP) or a mean of 5 referrals per 1,000 registered patients per PCP per year. PCPs were satisfied with the 1-time consultation process, and their management decisions changed after the consultations. Referred patients tended to be younger, more highly educated, and less likely to have seen a PT before than the average patient nationwide. PTs tended to find the process feasible to incorporate into daily practice.</p>
<p>Holdsworth and Webster, 2004</p>	<p>Country: UK (Scotland) Providers: general practice physicians in 1 clinic, number not reported Patients: 340 patients of all ages</p>	<p>A 1-year intervention introduced direct access (self-referral) to physical therapy to a clinic that already had open (but physician-initiated) referral. Prior to the start of the study, the intervention was introduced to patients using newsletters, clinic posters, and information shared by the care team. Admin staff made the appointments for patients. Control: the year prior to implementation of the intervention.</p>	<p>Outcomes: Pre- and post-VAS of problem severity, PT outcome scale (goals achieved), GP workload, follow-up patient status and attitudes; PT and GP feedback Findings: GP referral rates did not change during the intervention. Self-referred patients were more likely to be employed, less likely to miss work; more likely to complete PT, but with fewer PT visits; more likely to report improvement; and non-significantly more likely to report having achieved their goals than GP-referred patients. Patients and GPs reported satisfaction with direct access. The method appears to be feasible and to reduce GP workload.</p>

Table E.3. Detailed Narrative Review Table for Supplemental Search 3: Referrals by PCPs to Nonsurgical Services for Obesity and Weight Loss

Article (author, date)	Study context (countries, practices, providers, patients)	Interventions (clinical/care, D&I interventions)	Outcomes (types assessed, key outcomes)
Schriefer et al., 2009	Country: United States (Asheville, North Carolina) Practices: Family medicine residency program clinic Providers: 37 family physicians Patients: 846 obese adult patients	Intervention: Randomized controlled trial of 2 months duration assigned half of patients to have a BMI chart prompt placed in their EMR. Control: no prompt.	Outcomes: Chart audit to identify evidence of an obesity diagnosis and referral for specific obesity treatments; assessment of whether the presence of comorbidities in obese patients influenced the likelihood of diagnoses and treatments by the physicians Findings: “Inclusion of a computerized BMI chart prompt increased the likelihood that physicians would diagnose obesity in obese patients and refer them for treatment” but only obstructive sleep apnea diagnosis predicted obesity diagnosis.
Fitzpatrick et al., 2017	Country: U.S. (Chicago) Practices: 14 primary care clinics at an academic medical center Providers: family practice residents Patients: 26,471 total primary care encounters with 12,981 unique adult patients with BMI \geq 30	Intervention: 6-month Cluster-randomized controlled trial of best practice passive chart alerts for obesity (triggered when height and weight entered, resulting in BMI \geq 30) with “nutrition education handouts and a list of clinic-based and community-based services for weight management” Control: 1) best practice chart alerts for obesity with nutrition education handouts only	Outcome: “primary outcome was proportion of eligible patients with (1) obesity-related documentation and (2) referral” Findings: Documentation doubled with implementation of the alert, but intervention clinics were not more likely to refer patients to weight management than were control clinics.
Krist et al., 2008	Country: U.S. (Richmond VA) Practices: 9 primary care practices within a single medical group Providers: 1–30 PC providers per clinic Patients: 5679 total patient visits, of which 3612 were overweight or obese	Intervention: Following training, 5-week implementation of an EMR prompt (eLinkS) for overweight/obesity, smoking, or problem drinking, triggered by entry of height, weight, smoking, or drinking status, asking PCP if they wanted to address the flagged behavior at the visit. A yes response then triggered a checklist to address, assess readiness, discuss referral, and how patient sought practice follow-up.	Outcomes: Delivery of behavioral counseling (measured by the 5 As: ask, address, advise, assess, agree, arrange) and patients’ reported experience with the intervention Findings: 10% of patients were referred for intensive counseling from a community program. The intervention increased referral rates. It was used more often by middle-aged female adult patients and by more experienced physicians. 12% of obese patients, 3% of overweight patients were referred for intensive counseling
Dodd-Reynolds et al., 2019	Country: UK (Northumberland) Practices: 6 “general practice surgeries”	Intervention: Program to prompt telephone referrals by PCPs to a 12-week behavioral weight management program (“Momenta”) delivered at	Outcomes: Qualitative themes assessed via mixed-methods preliminary assessment of intervention and program, including PCP interviews and patient

	<p>Providers: 6 primary care physicians Patients: 153 overweight or obese adult patients referred to a weight management program</p>	<p>2 fitness sites. Clinic program managers and public health improvement managers helped design intervention, attended trainings, and disseminated referral criteria and advertising materials to clinic staff.</p>	<p>interviews; preliminary exploration of recruitment, uptake, retention, and health outcomes. Findings: providers and patients reported positive experiences, but implementation gaps were identified around the referral process and practitioner knowledge. Need to broaden inclusion criteria (25.0 to 29.9 kg/m²) to increase higher end. Preliminary data suggested positive health outcomes.</p>
<p>Clark et al., 2010</p>	<p>Country: U.S. (Indiana) Practices: 5 community health centers Providers: 6–11 primary care providers (FPs, IMs, NPs) per site plus residents Patients: 26,661 adults, of whom 53% were overweight or obese</p>	<p>Intervention: EMR reminders for adult overweight were implemented for PCPs when writing end-of-visit orders to refer to a clinic-based weight management program. Patients who received referrals but did not make appointments were contacted by behavioral coaches.</p>	<p>Outcomes: screening and referral, comorbidities, number of contacts with program staff (participation in program) Findings: 40% of eligible patients received a program referral from a PCP, 15.6% of those contacted the program at least once, and 2.1% had more than 10 program contacts. Those with 10 or more contacts lost a mean of 7# by 2-years follow-up compared with no weight loss in those with fewer contacts. Achieving impact will require greater provider and patient participation.</p>



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