




Welcome to the TeamSTEPPS for Diagnosis Improvement Course. This presentation will cover the introduction to the TeamSTEPPS for Diagnosis Improvement material that you will review with the course participants (e.g., a diagnostic team) as a course facilitator. It sets the stage for the rest of the modules.

Individuals who plan to take the course but will not complete it as part of a team should follow the **Self-Paced Learner's Roadmap** found on the TeamSTEPPS® for Diagnosis Improvement Course web page. The roadmap provides step-by-step instructions to maximize the value of time spent on the course and ways to leverage core principles and tools. Throughout the presenter's notes, you will also find **Self-Paced Learner Tips**. 

Estimated Time to complete this module: 60 minutes (33 slides)

Introduction

- Diagnostic harm is an emerging area of concern in healthcare quality and patient safety, with few tools currently available to guide healthcare professionals.
- The TeamSTEPPS for Diagnosis Improvement Course applies the TeamSTEPPS framework to the specific problem of diagnostic error.

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Diagnostic harm, which can result from diagnostic error, is an emerging area of concern in healthcare quality and patient safety. A growing body of patient safety and risk management literature, as well as care delivery research, demonstrates that diagnostic harm is both widespread and costly and that diagnostic excellence is rare. Organizations and providers need resources to mitigate diagnostic harm, but few tools are currently available to guide such efforts.

TeamSTEPPS for Diagnosis Improvement was developed to help fill this gap. The course aims to:

- Raise diagnostic safety awareness,
- Introduce the concept of a broad multidisciplinary diagnostic team that includes nonclinicians and patients and their families, and
- Provide assessment and training tools to support local efforts to reduce diagnostic harm.

The course consists of seven PowerPoint training modules that are customizable to the needs of the local team and course facilitator. The modules can be delivered virtually, in a classroom setting, or as individual self-paced learning modules. The course includes supplemental resources for trainees: the Team Assessment Tool for Improving Diagnosis, the Diagnostic Journey of Mr. Kane, the Implementation Tip Sheet, and the Reflective Practice Tool.

Module 1 Objectives

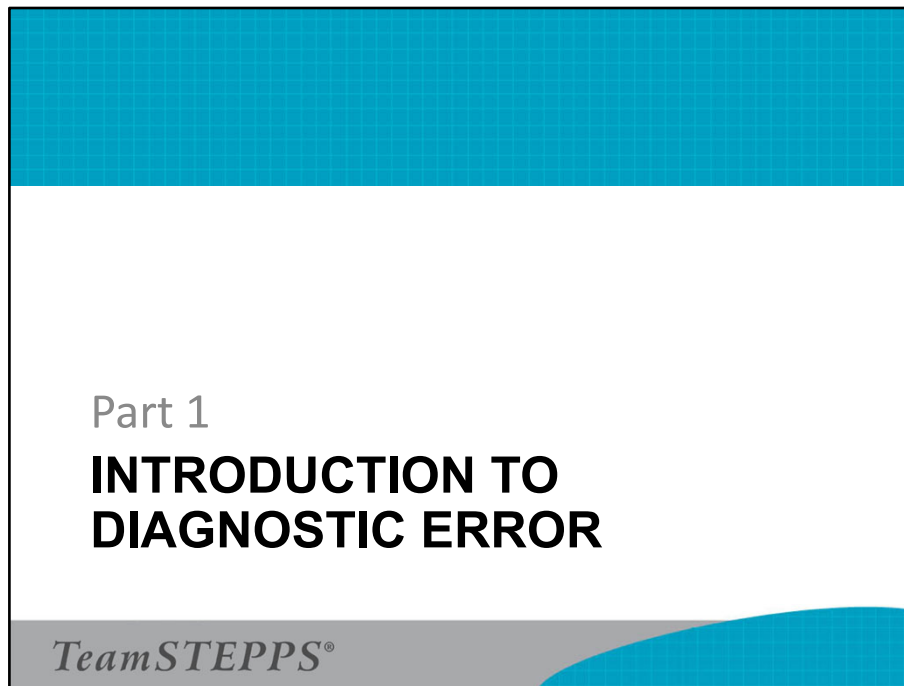
- Define diagnostic error and its importance as a patient safety issue.
- Explain the impact of provider communication breakdowns on diagnostic error.
- Describe TeamSTEPPS and why it is an important and appropriate intervention to reduce diagnostic error.
- Introduce course materials and how to use them.



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After completing this module, participants will be able to:

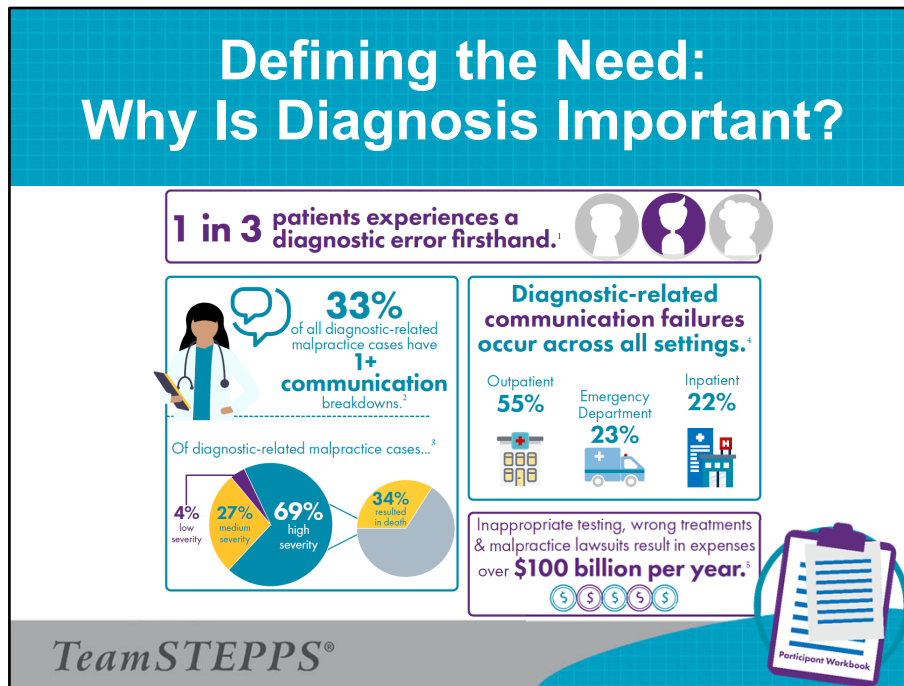
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Part 1
**INTRODUCTION TO
DIAGNOSTIC ERROR**

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The next seven slides provide succinct yet compelling facts about the nature, frequency, and costs of diagnostic error.



Getting the right diagnosis in a timely fashion is a crucial component of healthcare. The diagnosis explains a patient’s health problem, informs every subsequent healthcare decision, and is developed through iterative processes of information gathering, information integration, and information interpretation. Good patient outcomes hinge on having the right diagnosis.

You might wonder, **how often does diagnostic error happen?** The **Participant Workbook** has an infographic that depicts some of what we know about diagnostic error.

- Surveys find that 1 in 3 patients has a firsthand experience with a diagnostic error (Society to Improve Diagnosis in Medicine, 2020).
- Diagnostic errors are estimated to affect about 12 million Americans each year in ambulatory care settings alone, based on data from 2014 (Singh, Meyer, & Thomas, 2014).
- Estimates based on autopsy data suggest that 40,000 to 80,000 people die each year from diagnostic failures in U.S. hospitals alone (Society to Improve Diagnosis in Medicine, 2020).

Deaths, however, are just the “tip of the iceberg.” The National Academy of Medicine concluded that each of us will experience a diagnostic error in our lifetime, and some of these errors will have devastating consequences (National Academies of Sciences, Engineering, and Medicine, 2015).

Diagnostic error is a patient safety issue. The Institute for Healthcare Improvement (IHI) Triple Aim framework is an approach to optimizing health system performance focusing on three dimensions. Improving diagnosis requires addressing all three dimensions:

- Improving the patient experience of care (including quality and satisfaction). Diagnostic errors are a primary reason for medical liability claims.
- Improving the health of populations. Data on autopsies suggest that about 10 percent of them revealed missed or incorrect diagnoses (National Academies of Sciences, Engineering, and Medicine, 2015).
- Reducing the per capita cost of healthcare. Improving diagnostics was estimated to reduce costs by \$100 billion per year (Stiefel & Nolan, 2012).

Each of us has a part to play to improve diagnosis and reduce errors in the diagnostic process.

What Is Diagnostic Error?

Failure to (a) establish an accurate and timely explanation of the patient's health problem(s) or (b) communicate that explanation to the patient.

Reference: National Academies of Sciences, Engineering, and Medicine, 2015.

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The National Academy of Medicine developed a patient-centered definition of diagnostic error as *“the failure to: (a) establish an accurate and timely explanation of the patient’s health problem(s) or (b) communicate that explanation to the patient.”*

(National Academies of Sciences, Engineering, and Medicine, 2015)

Types of Diagnostic Error

- **By error type:**
 - **Missed** – No diagnosis is ever reached.
 - **Wrong** – The diagnosis is incorrect.
 - **Delayed** – The diagnosis should have been made earlier.

- **By reference to ideal care:**
 - A diagnostic error represents a breakdown in the diagnostic process or a missed opportunity.

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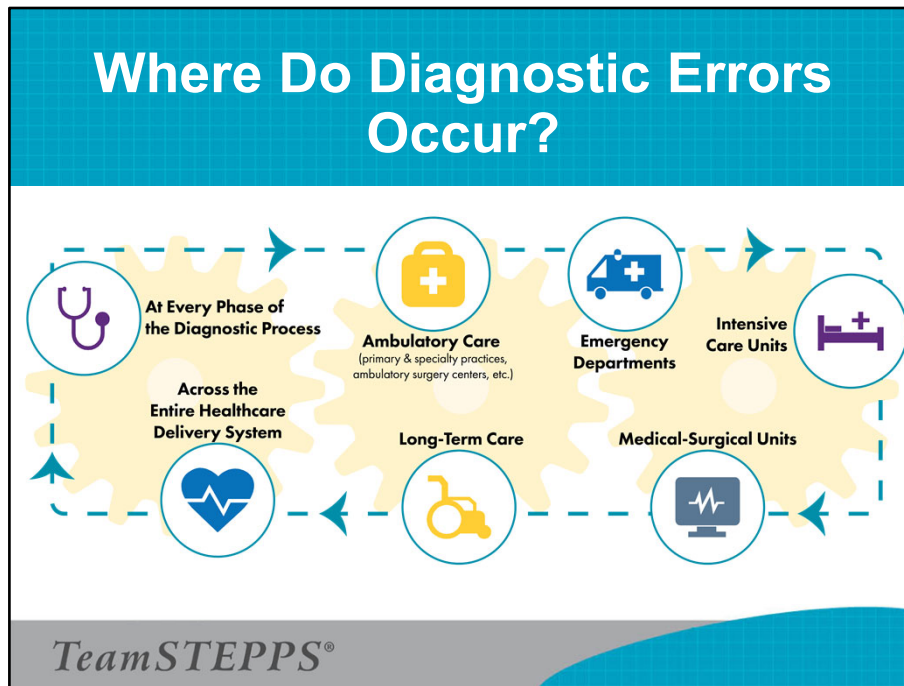
To explain the different types of diagnostic error, the Society to Improve Diagnosis in Medicine (<https://www.improvediagnosis.org/what-is-diagnostic-error/>) uses the following main categories:

- * **Missed diagnosis:** when the diagnostic tests do not provide an explanation for a patient's complaints (common in patients with chronic fatigue or chronic pain).
- * **Wrong diagnosis:** when the original diagnosis is found to be incorrect because the true cause is discovered later (e.g., a patient having a heart attack is told their pain is from indigestion).
- * **Delayed diagnosis:** when the diagnosis should have been made earlier (the most common type of diagnostic error).

Emerging evidence further classifies diagnostic errors as breakdowns in the diagnostic process and missed opportunities.

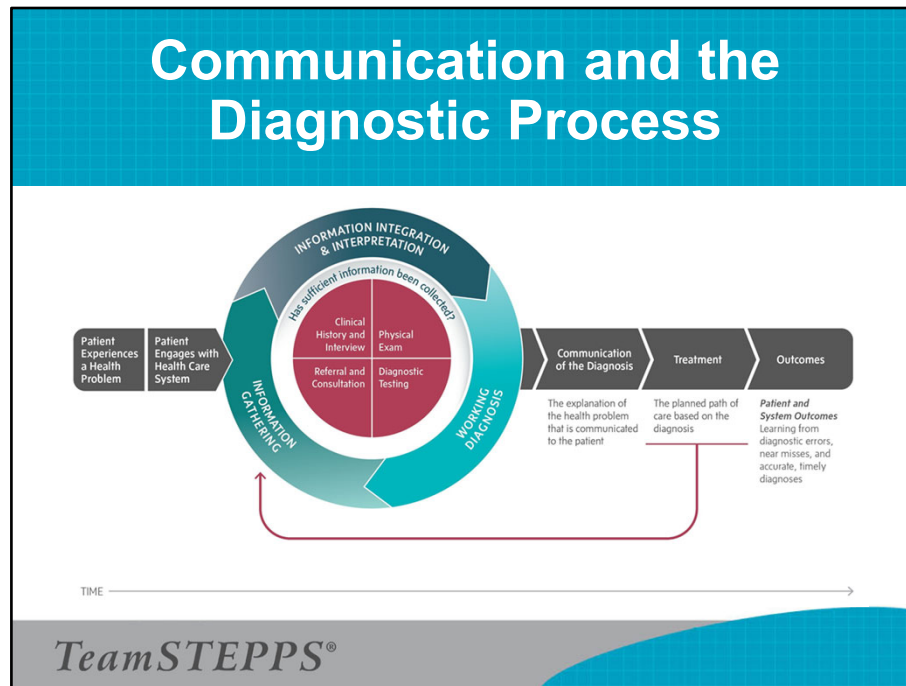
(Society to Improve Diagnosis in Medicine, 2020)

(National Academies of Sciences, Engineering, and Medicine, 2015)



Better identification, analysis, and implementation of approaches to improve diagnosis and reduce diagnostic error are needed throughout ALL healthcare settings. The term “healthcare” is used for simplicity but is meant to encompass all settings in which the diagnostic process takes place. Settings include integrated care delivery settings, hospitals (every unit), ambulatory care (primary and specialty practices, ambulatory surgery centers, etc.), retail clinics, and long-term care settings. To put it simply, errors that affect diagnosis can occur anywhere in the healthcare delivery system.

(CRICO, 2014)



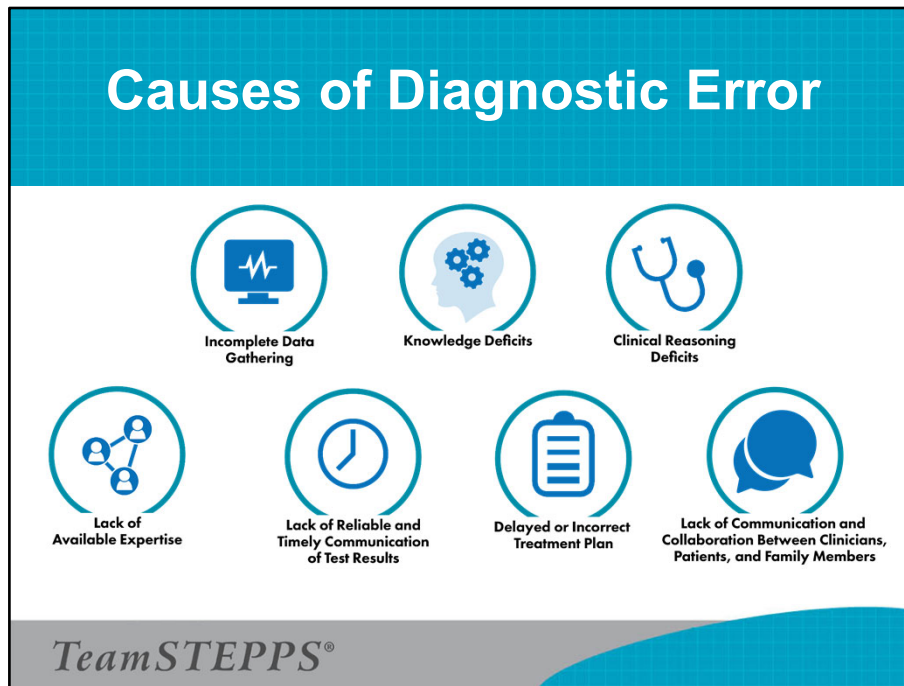
The diagnostic process is a complex, patient-centered, collaborative activity that involves information gathering and clinical reasoning with the goal of determining a patient's health problem. This process occurs over time, within the context of a larger healthcare work system that influences the diagnostic process.

Diagnostic errors stem from a wide variety of causes, including:

- Inadequate collaboration and communication among clinicians, patients, and their families, other members of the diagnostic team, and support personnel.
- A healthcare work system that is not well designed to support the diagnostic process.
- Limited feedback to clinicians about diagnostic performance.
- Breakdowns in clinical reasoning.

Improving the diagnostic process is most readily achieved when organizations encourage transparency and disclosure of diagnostic errors, focus on learning from diagnostic events, and disseminate lessons learned and use them to enhance policies and practices (National Academies of Sciences, Engineering, and Medicine, 2015).

Image Source: National Academy of Medicine conceptualization of the diagnostic process, 2015.

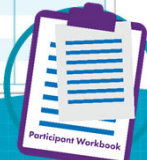


Diagnosis is one of the most complex processes in medical care. It is not surprising, therefore, that errors in the process occur. Peer review evidence, liability claims data, morbidity and mortality rounds, sentinel event data, and patient safety event data, as well as routine quality improvement projects, all provide insight on some of the causes of diagnostic error. These include but are not limited to:

- Incomplete data.
- Knowledge deficits.
- Clinical reasoning deficits.
- Lack of available expertise.
- Lack of reliable and timely communication of test results.
- Delayed or incorrect treatment plan.
- Lack of communication and collaboration between clinicians, patients, and family members.

Diagnostic Error Is Common and Harmful and Affects Many

What do we know?	How do we know it ?	Who should get the message?			
		Leadership/ C-Suite	Dx Team: Clinicians+	Dx Team: Patients+	General Public
We know it's <i>real</i>	NAM, WHO	X	X	X	
	SIDM, AHRQ, Diagnosis-based Patient Organizations		X	X	X
	Peer-Reviewed Publications	X	X		
	Event, Med Mal, National Datasets	X	X		
We know it <i>hurts</i>	Patient Stories, Blogs, Registries		X	X	X
	Patient Satisfaction Surveys, Complaints	X		X	
	Employee Satisfaction, Culture Surveys	X	X		
We know it has <i>consequences</i>	Lawsuits, Financial Impact, Business Losses	X	X		
	Media Coverage, Optics, Reputation	X	X		X
	Increased Errors, Burnout, Workforce Reduction	X	X		
We know (some) ways in which we can <i>make it better</i>	Awareness, Education	X	X	X	X
	Teamwork, Communication		X	X	
	System (Process) Improvements	X	X	X	
	Decision Support Tools		X	X	
	Research, Policy		X	X	



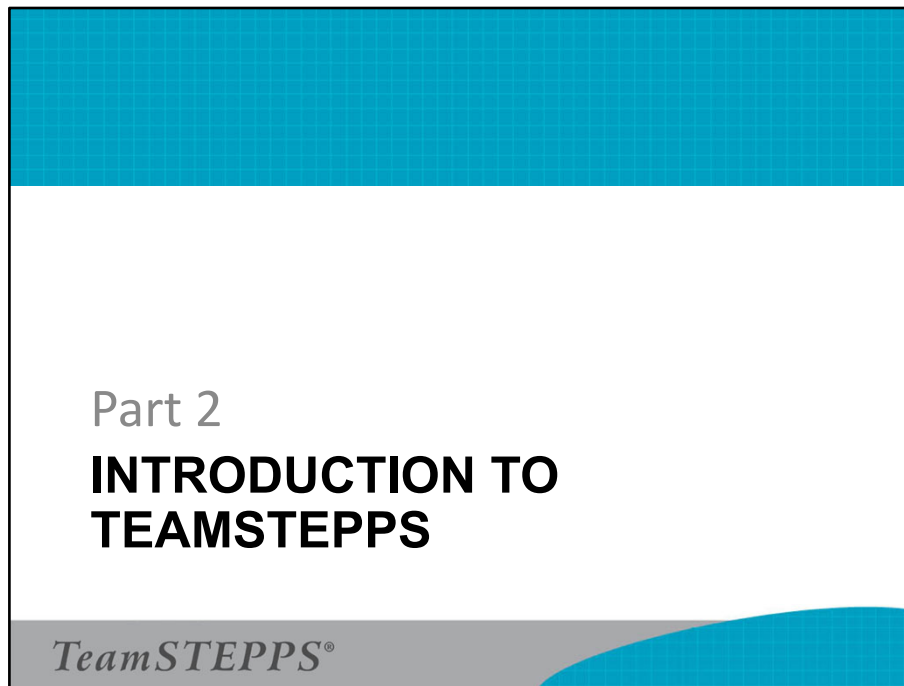
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Diagnostic error is common and harmful and affects many. **Appropriate communication can mitigate diagnostic errors.** A lot of information about the diagnostic process is known by what we learn from patient stories, frontline accounts, liability claims, and research. We know that diagnostic error is real, it causes harm for our patients and their families, and if unaddressed, it can have serious consequences for many others. We all can improve this process.

It is important to tailor communication about the diagnostic process and diagnostic errors to various stakeholders across the delivery system. This table, located in the **Participant Workbook**, is a list of stakeholders who may benefit from learning about diagnostic error and their role in improving the diagnostic process. This list is not exhaustive, but rather an example of how to tailor messages for the greatest potential impact. It is important to know your audience when soliciting champions to support improvement efforts.

C Suite/Leadership: Given that many diagnostic errors take place in ambulatory care, it is important to recognize that C Suite leadership is likely related to hospital-based clinics and ambulatory centers under hospital leadership. However, we also need to think of office management if we are to get support for the entire diagnostic team.

Diagnostic Teams: Diagnostic teams vary in composition. Most people think of the doctors, but we know that it is also important to recognize others who are very much a part of the diagnostic process. “Clinicians+” as identified on the table is meant to depict all clinicians (primary care and specialists) PLUS the additional/extended/support staff who are part of the patient’s diagnostic journey (e.g., office staff who take calls, nurses and medical assistants who see patients during their visit, radiology and laboratory technicians who process tests and send results, physical and occupational therapists, home care staff who see patients at home). “Patients+” is meant to depict the patients and their families/support person(s). Clinicians+ and patients+ embody the comprehensive diagnostic team, although they have different needs, experiences, roles, and perspectives on the diagnostic process and how to improve it.



Part 2
**INTRODUCTION TO
TEAMSTEPPS**

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The next set of slides introduces the TeamSTEPPS model and describes how it can be used to enhance communication and teamwork to improve the diagnostic process.

What Is TeamSTEPPS?

- An evidence-based teamwork system
- Designed to improve team effectiveness, specifically:
 - Quality
 - Safety
 - Efficiency of healthcare
- Practical and adaptable
- Ready-to-use materials for training and ongoing teamwork

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TeamSTEPPS is an **evidence-based teamwork system** based on 20 years of experience and lessons learned from high-reliability organizations such as military operations, aviation, community emergency response services, and nuclear power. These types of organizations have conducted extensive research on how teams work, what makes them effective, and how to enhance their performance. This research is relevant to healthcare because delivering effective care requires teamwork.

TeamSTEPPS for healthcare has been continuously updated and refined to meet context-sensitive demands of various care delivery sites and patient safety issues. It is now used in thousands of healthcare organizations.

TeamSTEPPS for Diagnosis Improvement was developed to apply TeamSTEPPS principles to the problem of diagnostic error.

TeamSTEPPS is **designed to improve team effectiveness** by incorporating best practices learned from previous research and practice into a program designed specifically to improve the quality, safety, timeliness, and efficiency of healthcare. Learning from best practices in teamwork and communication can lead to important team outcomes and enable care teams to:

- Adapt to changing situations.
- Have a shared understanding of the care plan.
- Develop positive attitudes toward and appreciate the benefits of teamwork.
- Provide more safe, reliable, and efficient care.
- Catch errors that might have been made upstream.

TeamSTEPPS is **practical and adaptable** in that it was designed with input from the medical community, works within the daily functioning of an organization, and can be customized to meet the organization's needs. For example, you could identify an appropriate teamwork tool or process to help address a known problem, adapt the tool to work best within a specific department, and then train the team to use that tool. The processes and tools presented in this course can be used in ambulatory care, inpatient care, and everywhere diagnoses are made, as well as in the areas that support diagnosis (laboratory, imaging, etc.).

TeamSTEPPS has **ready-to-use materials** to help integrate teamwork principles into all areas of care delivery (for example, administrative, clinical, and support areas) so that everyone focuses on collaboration and ongoing mutual support needed during daily work. This program reinforces high-reliability concepts and leverages the unique importance of teamwork to enhance safety culture.

[Facilitator Tip: As a facilitator, it is recommended that you review all the TeamSTEPPS materials before planning your training. In this way, you can determine your site's communication needs and develop a targeted approach using the diagnosis-specific and general TeamSTEPPS tools as appropriate.]

(TeamSTEPPS: Research/Evidence Base, 2015)

(About TeamSTEPPS, 2019)

Why Use TeamSTEPPS?

- Even highly skilled, motivated professionals are vulnerable to error.
- Communication is the leading system-related breakdown in cases of diagnostic error.
- TeamSTEPPS improves communication and other teamwork skills that help an organization move toward high reliability.
- Teamwork is not innate; it must be learned.

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Healthcare systems, like many high-reliability organizations, depend on the coordinated interactions of care providers working in an environment that is:

- Dynamic.
- Complex.
- High risk.

TeamSTEPPS provides resources to optimize team performance across organizations.

Even highly skilled, motivated professionals are vulnerable to error due to human limitations and other constraints. Research has shown that teams that communicate effectively and back each other up reduce the potential for error, which results in enhanced safety and improved performance. For example, the Joint Commission analyzed the sentinel events reported to them over a 10-year period and identified communication failure as the leading root cause of sentinel events (The Joint Commission, 2015).

Communication is also the leading system-related breakdown in cases of diagnostic error (Murphy, Singh, & Berlin, 2016). Examples from reported cases of diagnostic error include:

- Incidental findings noted by a radiologist are not noticed by the clinician who ordered the report. Some of these are especially important to follow up on, such as small aortic aneurysms and pulmonary nodules.
- If pathologists modify their original report, these changes are sometimes not communicated adequately to the patient or the involved clinicians. Many patients are discharged from the hospital with test results still pending. A significant fraction of these are never reviewed.
- Alerts sent by the clinical lab about an abnormal test result are not reliably reviewed by the involved clinicians.
- Key elements of the patient's history become distorted as they are passed along from the primary care physician to an inpatient clinician and then to various specialists.
- The ultimate diagnosis may not be effectively communicated back to the patient, with clear communication of what it means and what happens next.

TeamSTEPPS **improves communication** and other **teamwork skills** (e.g., backup behaviors) that help an organization move toward high reliability. This skill improvement is important because teamwork is not innate; it must be learned.

What Makes TeamSTEPPS Different?

- Evidence-based and field tested
- Comprehensive
- Customizable
- Easy to use
- Publicly available

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TeamSTEPPS is nationally acclaimed, has been widely adopted, and continues to evolve. The attributes of TeamSTEPPS make it unique among teamwork and performance improvement programs. These defining properties include:

Evidence-based and field tested by the Agency for Healthcare Research and Quality (AHRQ) and the Department of Defense TriCARE Management Activity.

- TeamSTEPPS is scientifically rooted in team performance, teamwork research, and well-tested theoretical models for system-based error prevention (for high-risk industries).
- This research yielded a solid evidence base for a set of teamwork core competencies with identified knowledge, skills, and attitudes.
- TeamSTEPPS has been implemented within AHRQ high-reliability organization hospitals and ACTION partners and disseminated to AHRQ's Patient Safety Improvement Corps and throughout the healthcare industry.

Comprehensive.

- TeamSTEPPS is unique from other products in that it describes what to do and guides users through how to do it (e.g., guidelines on establishing and implementing the program).
- It provides the needed resources (e.g., training content, exercise materials, tools).

Customizable.

- TeamSTEPPS is fully customizable to meet any organization's needs.
- It applies to all healthcare settings of any size or clinical specialty, either throughout the facility or within one work unit.
- TeamSTEPPS may be implemented in full or in part.
- Mini case studies are available to be customized to specialty areas.
- Training includes standalone modules; unique teamwork needs and resource availability can be considered when selecting what elements of the program to use.

Easy to use.

- TeamSTEPPS provides simple, ready-to-use, structured communication tools and teamwork strategies that apply to any healthcare setting.

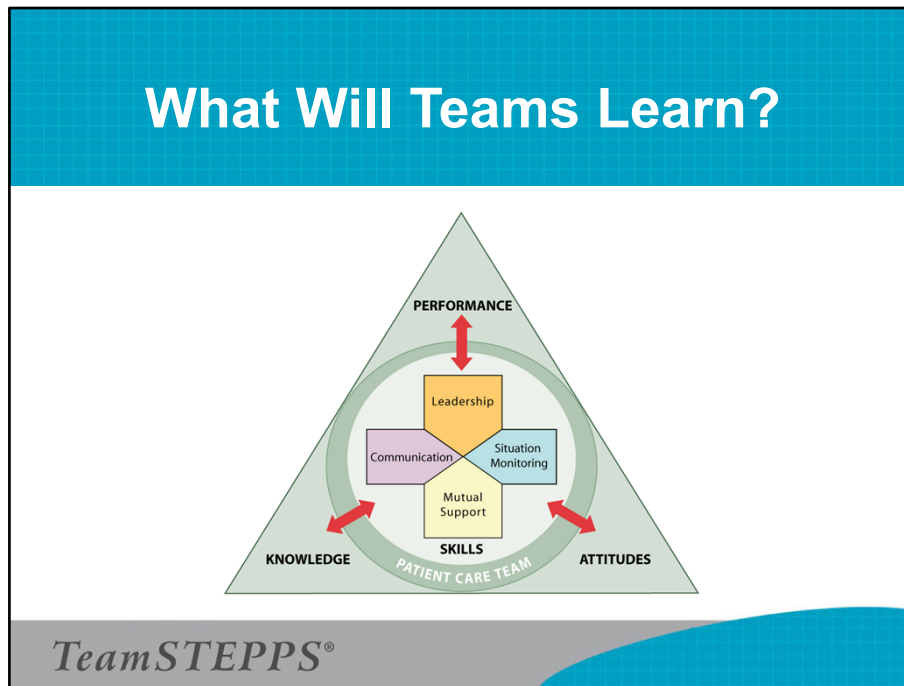
Publicly available.

- TeamSTEPPS is in the public domain. Materials can be downloaded from the AHRQ website.

This course adapts the evidence-based TeamSTEPPS approach specifically for diagnosis.

(TeamSTEPPS: Research/Evidence Base, 2015)

(Improving Care Delivery Through Lean: Implementation Case Studies, 2014)



The TeamSTEPPS framework is composed of **four teachable, learnable skills – leadership, situation monitoring, mutual support, and communication**. The red arrows on the graphic of the TeamSTEPPS framework depict a two-way dynamic interplay between the four skill areas and team-related outcomes.

When implementing TeamSTEPPS for Diagnosis Improvement, teams will learn about the four competency areas that lead to improved team performance, safer practices, and high-reliability culture:

- **Leadership:** how to direct and coordinate, assign tasks, motivate team members, and facilitate optimal performance.
- **Situation monitoring:** how to develop common understanding of a team environment, apply strategies to monitor teammate performance, and maintain a shared mental model. This skill includes having a sense of what is known and not known; what has been done or not done; and where things are in the diagnostic process.
- **Mutual support:** how to anticipate other team members' needs through accurate knowledge and shift workload to achieve balance during periods of high workload or stress.
- **Communication:** how to effectively exchange information among diverse team members (including hands-on providers, clinical support staff, healthcare technicians, consultants, and others), regardless of how it is communicated.

Teams will also learn about specific tools and strategies that can be implemented locally to support these competencies. Some of these tools and strategies include:

- SBAR.
- Two-Challenge Rule.
- Teach-Back.
- Briefs.
- Huddles.

The end result will be a higher performing team, where members:

- Share a clear vision of the plan.
- Use concise, structured communication techniques.
- Have an accurate sense of where things stand.
- Adapt readily to changing situations.
- Maximize the use of information, skills, and resources for optimal outcomes.

TeamSTEPPS for Diagnosis Improvement addresses the dynamics that can occur among, physicians, nurses, other healthcare professionals, technicians, and administrative staff and with patients and families, all of whom are part of the diagnostic process.

How Does TeamSTEPPS Work?

- I. Assessment**
 - Clearly define the need.
- II. Planning, Training, and Implementation**
 - Plan to sustain the effort.
 - Train individuals.
 - Implement and test the strategies.
- III. Sustainment**
 - Integrate into daily practice.
 - Monitor and measure programs.

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A TeamSTEPPS initiative occurs in three continuous phases.

Phase I — Assessment (Set the stage): This phase determines organizational/site readiness for the initiative.

- Create a change team (the leaders and key staff who will drive the initiative).
- Identify a specific opportunity for improvement that could be accomplished through better teamwork and clearly define the need. For example:
 - Ensure effective processes are in place to close the loop on lab orders and referrals because missed lab results and referrals are a major contributor to diagnostic delay:
 - Are all labs ordered completed and results noted in the record?
 - Are all referrals that are ordered completed and are referral notes in the patient record?
 - Who is responsible for those tasks and how do we support the workflow if they are out of the office?
 - Are patients aware of their lab and referral results? How do we know?
- Formulate a vision for the initiative.
- Use site assessment tools to determine if the necessary leadership support, information base, and resources are in place.

Phase II — Planning, Training, and Implementation (Decide what to do, and make it happen): This phase is where planning and execution take place.

- Develop an action plan specifying what will be done during the initiative (based on guidance from the TeamSTEPPS Implementation Guide).
- Conduct training, implement the tools and strategies selected, assess impact of the intervention, and refine as needed. This task may be completed via informal and formal participant feedback (discussion during staff meetings or anonymous participant surveys).

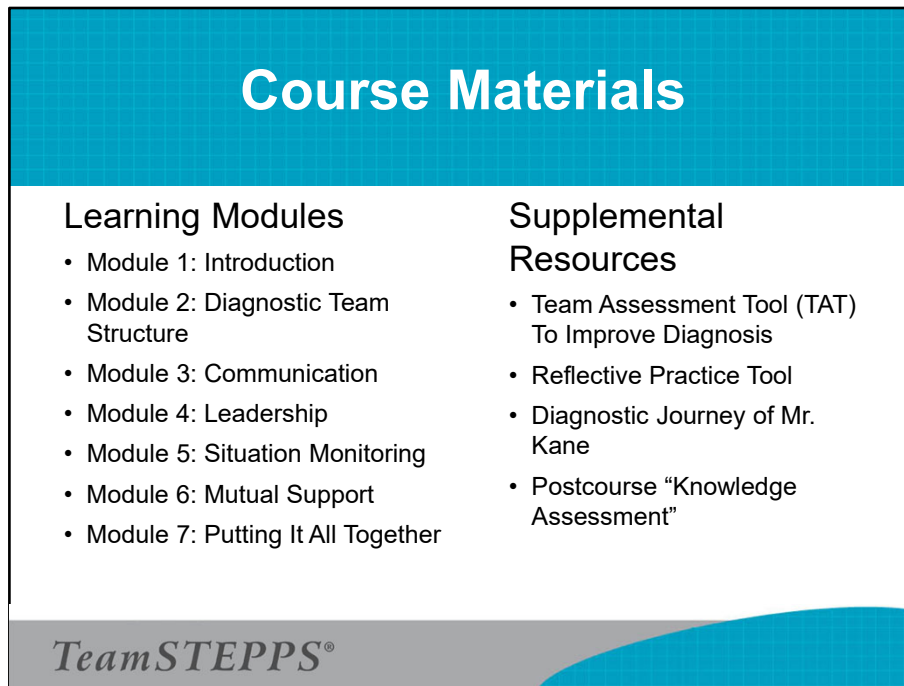
Phase III — Sustainment (Make it stick): This phase is designed to sustain and spread the improvements in diagnosis-related teamwork performance, clinical processes, and outcomes.

- Help users integrate teamwork skills and tools into their daily practice.
- Monitor and measure the program's ongoing effectiveness.
- Using quality improvement principles, monitor processes that were the focus of intervention activities.
- Annually reassess using the Team Assessment Tool.
- Develop an approach for continuous improvement and spread TeamSTEPPS for Diagnosis Improvement throughout the clinic or larger organization.

TeamSTEPPS is designed to fundamentally improve how teams work together, which requires more than training. Evidence shows that success is more likely when time is provided to continue to practice and discuss the effectiveness of teamwork tools and strategies in daily work. For example, it is important to have a change agent who leads regular meetings after the training to discuss progress and implement rapid tests of change informed by staff feedback.

[Facilitator's Tip: In this course, our focus is on the diagnostic process, but it is important to note that TeamSTEPPS techniques can be applied to any problem that needs to be fixed or improved.]

(TeamSTEPPS: Research/Evidence Base, 2015)
(About TeamSTEPPS, 2019)



Course Materials

<h3>Learning Modules</h3> <ul style="list-style-type: none">• Module 1: Introduction• Module 2: Diagnostic Team Structure• Module 3: Communication• Module 4: Leadership• Module 5: Situation Monitoring• Module 6: Mutual Support• Module 7: Putting It All Together	<h3>Supplemental Resources</h3> <ul style="list-style-type: none">• Team Assessment Tool (TAT) To Improve Diagnosis• Reflective Practice Tool• Diagnostic Journey of Mr. Kane• Postcourse “Knowledge Assessment”
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TeamSTEPPS®

Course materials include seven learning modules that each contain focused content:

- Module 1: Introduction
- Module 2: Diagnostic Team Structure
- Module 3: Communication
- Module 4: Leadership
- Module 5: Situation Monitoring
- Module 6: Mutual Support
- Module 7: Putting It All Together

Supplemental resources include relevant content referenced throughout the seven focused modules. These resources are:

- Team Assessment Tool (TAT) To Improve Diagnosis.
- Reflective Practice Tool.
- Diagnostic Journey of Mr. Kane.
- Post-Course Completion Knowledge Assessment.

Facilitator's Guide

- The Facilitator's Guide is designed to help the course facilitator develop and deploy a customized plan to train staff in teamwork and communication skills to improve their diagnostic processes.
- The guide contains a roadmap of the steps for implementing the TeamSTEPPS for Diagnosis Improvement Course and the training materials to use at each step.

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The Facilitator's Guide is the primary reference tool for the course facilitator.

- The guide is designed to help the course facilitator develop and deploy a customized plan to train staff in teamwork and communication skills to improve their diagnostic processes.
- The guide contains a roadmap of the steps for implementing the TeamSTEPPS for Diagnosis Improvement Course and the training materials to use at each step.



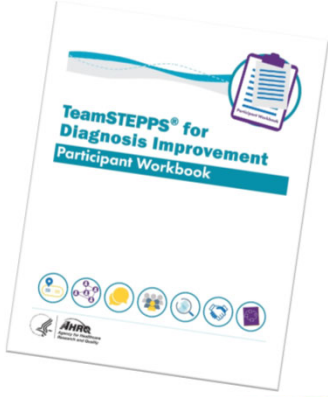
[Self-Paced Learner Tip: Although you are reviewing materials as an individual, it will be useful for you to review the Facilitator's Guide and to think about content within the context of teams with whom you work.]

Participant Workbook

Participant Workbook

- Improving Diagnosis: Team Assessment Tool
- Defining the Need: Why Is Diagnosis Important?
- Diagnostic Error Is Common and Harmful and Affects Many
- Reflective Practice Tool
- Reflective Practice: Developing a Spirit of Inquiry for Improvement

The Diagnostic Journey of Mr. Kane



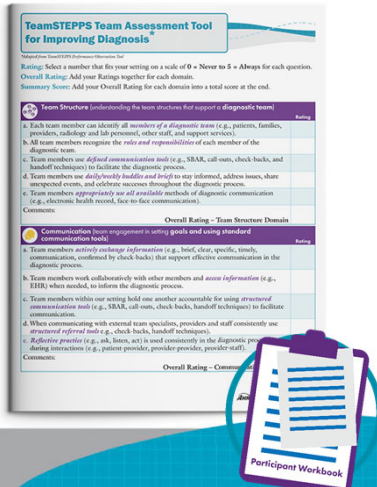
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During this course, the **Participant Workbook** is the primary tool for trainees to complete the course activities, such as exercises, case-based scenarios, and reflective practices. In addition to engaging with the content, tools, discussion questions, and other activities, participants can use results from these activities to help shape local improvement implementation plans.

Additional resources that will be used throughout the entire course are the Team Assessment Tool To Improve Diagnosis, The Diagnostic Journey of Mr. Kane, and the Reflective Practice Tool. These are introduced on the following slides. Instructions on reviewing the case and using the Assessment Tool are included in the **Facilitator's Guide**.

Team Assessment Tool for Improving Diagnosis

- The *Team Assessment Tool for Improving Diagnosis* is provided in the Participant Workbook.
- The Team Assessment Tool provides instructions to:
 - Complete self-assessment ratings.
 - Identify strengths and weaknesses.
 - Set priorities and develop action plans.
 - Assess improvement over time.



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Assessment is a core component of TeamSTEPPS and is designed to help clearly define needs and guide improvement efforts. The **Team Assessment Tool for Improving Diagnosis** is provided in both the **Participant Workbook** and the **Facilitator's Guide**.

This assessment should be completed individually by all members of your setting after completing this module. Instructions for completing the questionnaire and calculating the average summary score can be found in the Facilitator's Guide.

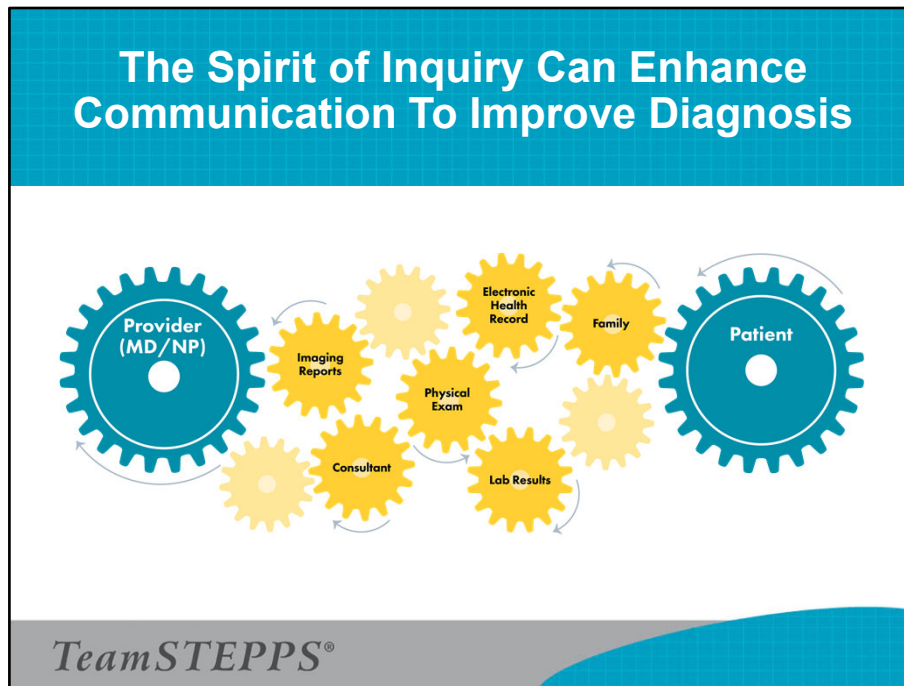
After they complete Module 1 and the Team Assessment Tool, invite participants to share and discuss their assessment results. Together you will determine where the site has the strongest diagnosis-related teamwork, where there is the most room to improve, and what improvement activities are initially most feasible.

The Team Assessment Tool provides detailed step-by-step instructions to:

- Complete the self-assessment ratings.
- Identify strengths and weaknesses.
- Set priorities and develop action plans.
- Assess improvement over time.



[Self-Paced Learner Tip: As an individual, complete the *Team Assessment Tool for Improving Diagnosis* as you will see the questions referenced in Modules 2-6.]



A core theme that will be present throughout the TeamSTEPPS for Diagnosis Improvement course is **reflection**.

Both the **diagnostic process** and **reflection** derive from a spirit of inquiry. Both go beneath the surface of what is presented to ask questions about what and why to give a new viewpoint or clarify what is happening. Both ask questions for the purpose of improving.

Integrating a reflective process into diagnostic reasoning provides a pause to ask a series of questions to clarify thinking. We cannot always rely on pattern recognition from the subjective history to make a diagnosis. Clinical inquiry and reflective thinking push us to look beyond the first impression and question whether the pieces fit together (Dinkins & Cangelosi, 2019). **Ask, Listen, and Act** is a three-word prompt that can serve as a reminder of the reflective process.

Reflection can occur in short spurts or in longer thought, depending on the situation. Reflection is a systematic examination of why I think what I think to consider other points of view and other alternatives. Reflection questions assumptions and biases. Would I think the same way if the patient were from a different background, if the patient spoke my language, or if the patient were my family member?

Biases and assumptions creep into our decisions, often without our realizing it and can cloud alternatives. The diagnostic decision rests with the clinician in charge, but input from every team member is imperative to consider alternatives and consequences before establishing a plan of action (Mamede & Schmidt, 2017).

Reflection is the basis of mindful attention, being present in the moment to hear and observe without premature closure. Reflection guides the thoughtful review of actions through thoughtful deliberation to consider choices. By asking a series of four mindful reflective questions, we can ascertain the information we have, identify information that would clarify uncertainties, and open communication across the team and with the patient and family.


Reflection can help improve **diagnostic calibration, the degree of agreement between diagnostic accuracy and confidence in having the right diagnosis**. It is an effective antidote to many of the problems that lead to diagnostic error: overconfidence, premature closure, confirmation bias, rejection of contrary evidence, and other barriers to drawing reliable conclusions.

Consider:


- Have we asked the right questions? What don't we know?
- Have we leveraged information from all team members?
- Have we considered perspectives from the patient and family?
- What do I see that I did not see before?

This thoughtful deliberation can help make sense of the disparate pieces of information that make up the diagnostic puzzle and help us identify new information or consider alternative explanations and diagnoses that were not evident before (McHugh, Lawton, O'Hara, et al., 2020).


Reflective Practice



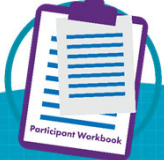
Ask **ASK:** How do I ask the right questions of the right people at the right time to achieve a safe diagnosis?



Listen **LISTEN:** What can I learn from actively listening? How do I integrate what I hear with what I already know to ask what else it can be?



Act **ACT:** What actions will help contribute to a safe diagnostic process to plan actions that can lead to better health?



Participant Workbook

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Throughout the course, the “Ask, Listen, Act: Reflective Practice Handout” in the **Participant Workbook** will be useful. Slides that require a reflective listening debrief will be noted with the “**Ask, Listen, Act**” icon.

The spirit of inquiry means:

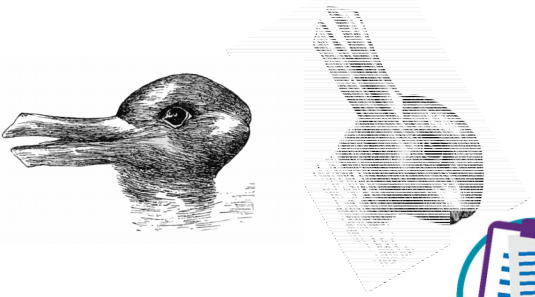
- **ASK:** Questions are the path to discovery. Questions convey value, so how do I ask the right questions of the right people at the right time to achieve a safe diagnosis?
- **LISTEN:** Questions are only meaningful if I listen actively through mindful engagement with the responses. What can I learn from actively listening? How do I integrate what I hear with what I already know to ask what else it can be?
- **ACT:** Asking and listening are followed by thoughtful action and a plan that includes patient perspectives. What actions will help contribute to a safe diagnostic process to plan actions that can lead to better health?

 **[Self-Paced Learner Tip:** You will see Ask, Listen, and Act exercises throughout the course. Listen is designed to encourage active listening in teams. Anytime you see **Listen**, take it as an opportunity for self-reflection and think about how the prompts relate to you and your role on the team.]

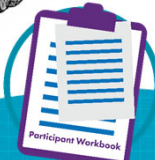
Reflective Practice: Developing a Spirit of Inquiry for Improvement

Reflect on the two images. They are exactly the same, just a different view.

Reflection is seeing what we did not see before, looking at the same thing but seeing it differently.



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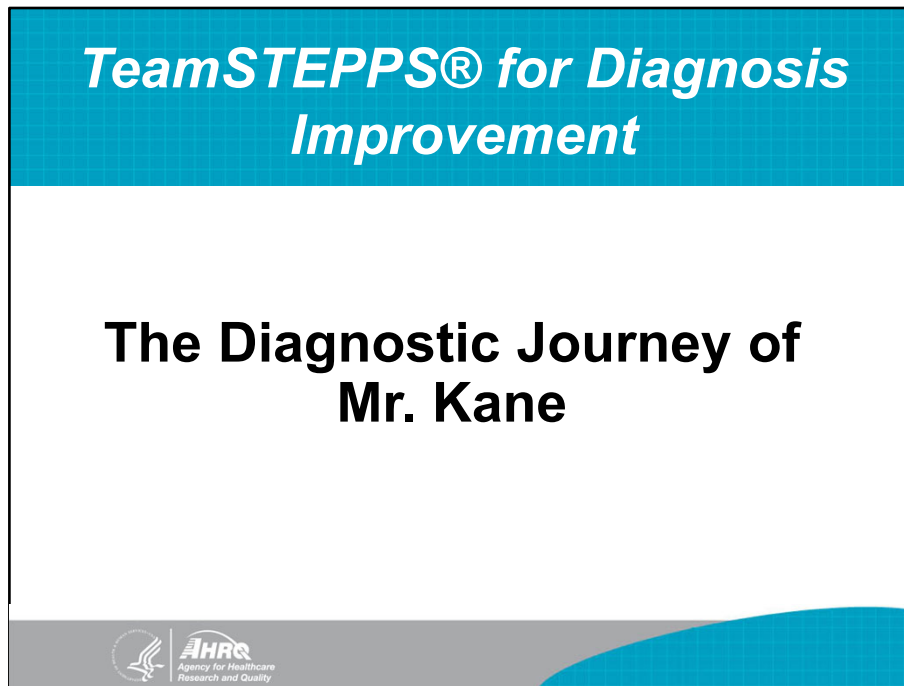


The most useful reflection involves the **conscious consideration and analysis of beliefs and actions for the purpose of learning**. Reflection is seeing what we did not see before, looking at the same thing but seeing it differently.

This reflective practice exercise is also included in the **Participant Workbook**. Look at the two images:


1. What do you see most clearly?
2. Do you see a duck and a rabbit?
3. Did your perspective change once you read that the two images are the same, just presented in a different view?
4. Can you see two ducks? Two rabbits?
5. What does this exercise suggest in terms of our ability to see things differently after reflection?

Reflection gives the brain an opportunity to pause amid the uncertainty, untangle and sort through observations and experiences, consider multiple possible interpretations, and create meaning. Think of reflective practices as mental bridges you build to help observe, make sense of, and traverse challenging situations.



This is a story of the Diagnostic Journey of Mr. Kane. This reality-based case follows the path of a patient whose diagnostic journey included a delayed diagnosis and ended in death.

We will meet Mr. Kane now, and then the case should be reviewed by individual learners before proceeding to other modules in the TeamSTEPPS for Diagnosis Improvement course. Throughout the course, Mr. Kane's diagnostic journey will be used to discuss how TeamSTEPPS structured tools can improve communication and teamwork breakdowns related to diagnostic processes. In Module 7, "Putting It All Together," Mr. Kane's diagnostic journey is reimagined.

 **[Self-Paced Learner Tip:** Take some time to familiarize yourself with the Diagnostic Journey of Mr. Kane as you will see the case appear in later modules. Reflect on the questions that you will find in the Facilitator's Guide and Module presenter notes.]

Case Study: Joe Kane




- The case study is based on a real delayed-diagnosis experience.
- The story is told through the many voices of Joe Kane's diagnostic team.
- The case shows how gaps in communication and care coordination can occur, despite providers' dedication to care for their patients.
- These gaps can delay diagnostic processes and in some cases result in serious harm or even death.

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The Diagnostic Journey of Mr. Kane is based on an actual delayed-diagnosis experience. Mr. Kane's story shows how gaps in communication and care coordination can occur, despite providers' dedication to care for their patients. These gaps create significant information voids across a care team that delay diagnostic processes and in some cases result in serious harm or even death.

The case is told through the many voices of Mr. Kane's diagnostic team, including his older son, Ben; his primary care physician and office staff; his nephrologist, pulmonologist, and oncologist; and others. The events in the story show how harmful communication failures can be.

Meet Joe Kane and His Family







- Joe is a 49-year-old single father of three with end stage renal disease. He is an avid reader and loves music and the outdoors (especially fishing). He adores his kids and grandkids. Joe has long-term hopes for a kidney transplant.
- Joe is a hero to his three children – Ben, Ryan, and Sara. Joe Kane's diagnostic journey is told through the perspective of his older son, Ben.

Ryan and Sara Kane Ben Kane

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When we first meet Joe Kane, he is 49 years old and has been a single father to three (Ben, Ryan, and Sara) since the death of his wife from breast cancer. Mr. Kane has had a long struggle with end stage renal disease and is on dialysis a few times a week. He is a hero to his kids because he has continued to work as a bus driver despite health obstacles. Mr. Kane has been waiting for a kidney transplant and is excited about his future and spending time with his kids and grandkids, whom he adores.

Mr. Kane's Diagnostic Journey: Provider Reflections

	Dr. Hassan, Primary Care Provider	"He missed several dialysis sessions, and I assumed his shortness of breath was due to that. I sent him to our pulmonary clinic to drain the chest fluid and told him to follow up with his nephrologist to update his dialysis plan."
	Dr. Elliott, Pulmonologist	"I did the thoracentesis and sent fluid to the lab, but he had missed dialysis, so I was not overly concerned. I reinforced the need for dialysis per the nephrologists' orders. I understood he was being managed closely by primary care and nephrology and had followup appointments with both."
	Dr. Marshall, Nephrologist	"I saw him as followup after fluid was drained from his chest. He had been stable on the 3x week dialysis I had prescribed, so I encouraged him to keep those appointments. I saw no reason to change the plan. We agreed he would see me again in 3 months."
	Wendy, Primary Care Receptionist	"Mr. Kane came in for his 3-month followup with Dr. Hassan. He looked so much better than the last time he was in. He did mention that some tests were done in pulmonary clinic that he never heard back about, which I thought was unusual. I asked if he had talked to Dr. Hassan about the test and he said no, it was in the past and he felt good."

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In the case, we meet different members of Mr. Kane's diagnostic team. Each member shares their personal reflections on Mr. Kane's care, treatment, and diagnoses.

As part of the TeamSTEPPS for Diagnosis Improvement course, Mr. Kane's case will be used to discuss and reinforce TeamSTEPPS principles, lessons, and tools and how their use may have altered the impact and timeline of Mr. Kane's diagnosis. In Module 7, "Putting It All Together," Mr. Kane's diagnostic journey and the reflections of the diagnostic team members are reimaged.

Module 1 Summary

- Diagnostic error is common and often harmful, but appropriate communication can mitigate diagnostic errors.
- TeamSTEPPS can improve teamwork and communication, and effective communication supports the diagnostic process.
- Three overarching tactics to improve communication include reflective practice, routine assessment, and action planning.

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In this module, participants learned that:

- Diagnostic error is common and often harmful, but appropriate communication can mitigate or prevent diagnostic errors.
- TeamSTEPPS can improve teamwork and communication, and both effective communication and strong teamwork support the diagnostic process.
- Three overarching tactics to improve communication include reflective practice, routine assessment, and action planning.

Next Steps

1. Facilitator deploys Team Assessment Tool for Improving Diagnosis (TAT) to all course participants.
2. Facilitator summarizes anonymous TAT results and reviews them with participants.
3. Group discusses where the greatest and most feasible opportunities to improve exist.
4. Facilitator develops and implements a training plan informed by TAT summary scores and the unique insights of participants.

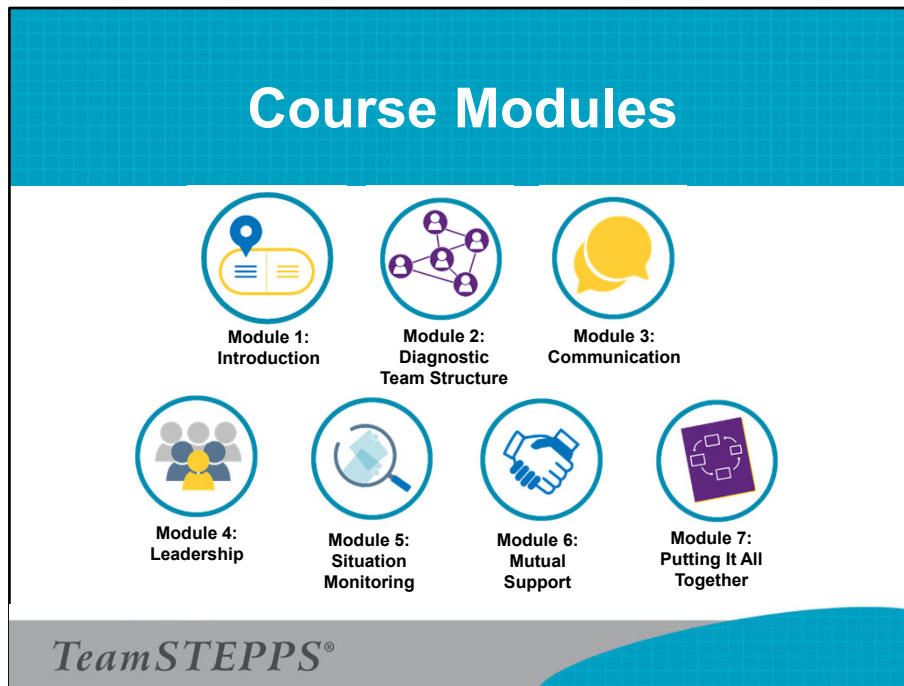
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After reviewing all course materials and completing Module 1 with course participants:

1. The Facilitator should deploy the Team Assessment Tool (TAT) for Improving Diagnosis to all course participants with clear instructions on how to anonymously submit their completed tool and a timeline for doing so.
2. The Facilitator summarizes submitted TAT scores and gathers participants to review summary results.
3. The team discusses the results, including where the most important and most feasible opportunities to improve exist and how the team would like to proceed.
4. The Facilitator then develops and implements a training plan informed by TAT summary scores and the unique perspectives of participants.



[Self-Paced Learner Tip: We recommend individual learners proceed through the modules in order. You will retake the assessment at course completion and discover if your perceptions and knowledge have changed.]



TeamSTEPPS for Diagnosis Improvement has seven modules dedicated to improving diagnostic communication and teamwork. Communication strategies and tools to overcome some of the breakdowns in teamwork and team communication are available in each module and the accompanying **Participant Workbook**.

The TeamSTEPPS for Diagnosis Improvement modules are:

- **Introduction.**
- Diagnostic Team Structure.
- Communication.
- Leadership.
- Situation Monitoring.
- Mutual Support.
- Putting It All Together.

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