


Welcome to the TeamSTEPPS for Diagnosis Improvement Course. This presentation will cover Module 7, Putting It All Together, that you will review as the course facilitator.

The purpose of this summary module is to provide participants with a review of the key concepts that were covered in modules 1-6 of TeamSTEPPS for Diagnosis Improvement.

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: **45 minutes** (19 slides)

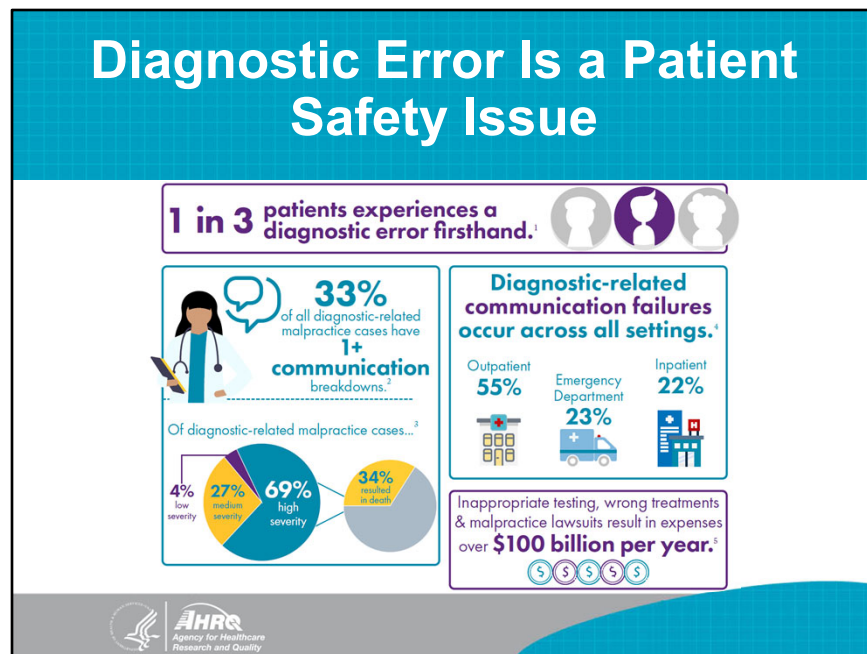
## Module 7 Objectives

- Summarize diagnostic error and its importance as a patient safety issue.
- Describe the core principles, resources, and tools of TeamSTEPPS® for Diagnosis Improvement.
- List the positive outcomes that can be realized with the successful use of the TeamSTEPPS tools and strategies.



After completing this module, participants will be able to:

- Summarize diagnostic error and its importance as a patient safety issue.
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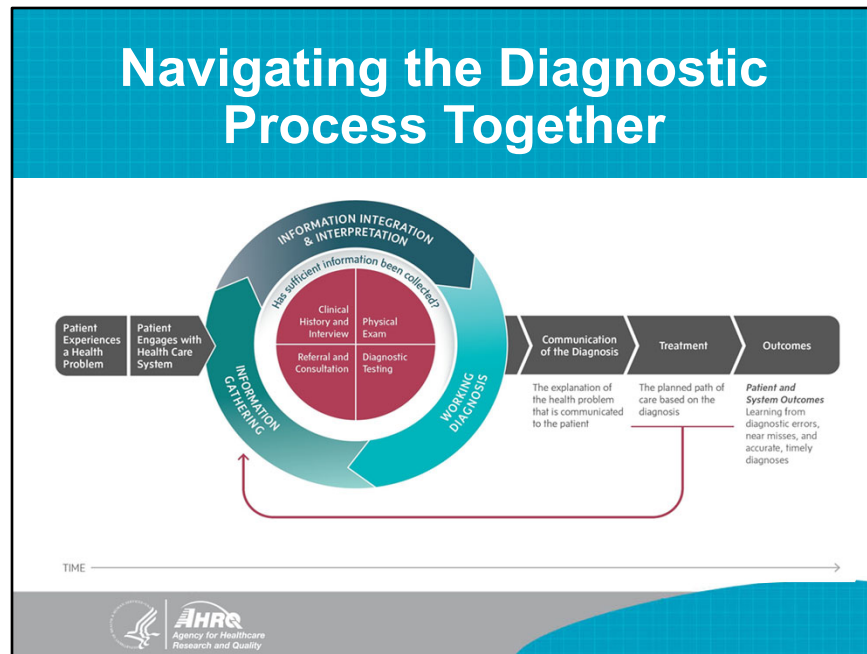


Getting the right diagnosis in a timely fashion is a crucial component of healthcare. It provides an explanation of a patient’s health problem and informs every subsequent healthcare decision. Positive patient outcomes hinge on having the right diagnosis.

**Diagnostic error is a patient safety issue.** The Institute for Healthcare Improvement Triple Aim framework is an approach to optimizing health system performance focusing on three dimensions, and 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. Diagnostic errors contribute to about 10 percent of patient deaths (National Academies of Sciences, Engineering, and Medicine, 2015).
- Reducing the per capita cost of healthcare. Improving diagnostics can reduce costs by \$100 billion per year (Stiefel & Nolan, 2012).

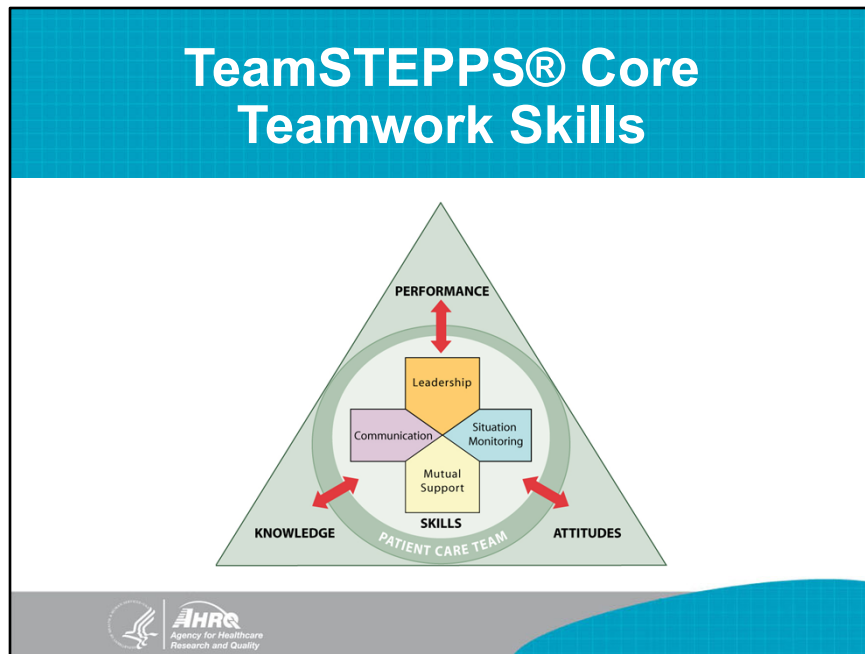
Each of us has a part to play to improve diagnosis and reduce errors in the diagnostic process.



The role of the diagnostic team is to promote collaboration among all the interrelated individuals working toward the goal of establishing and communicating an accurate and timely explanation of a patient’s health problem (Salas, Cooke, & Rosen, 2008).

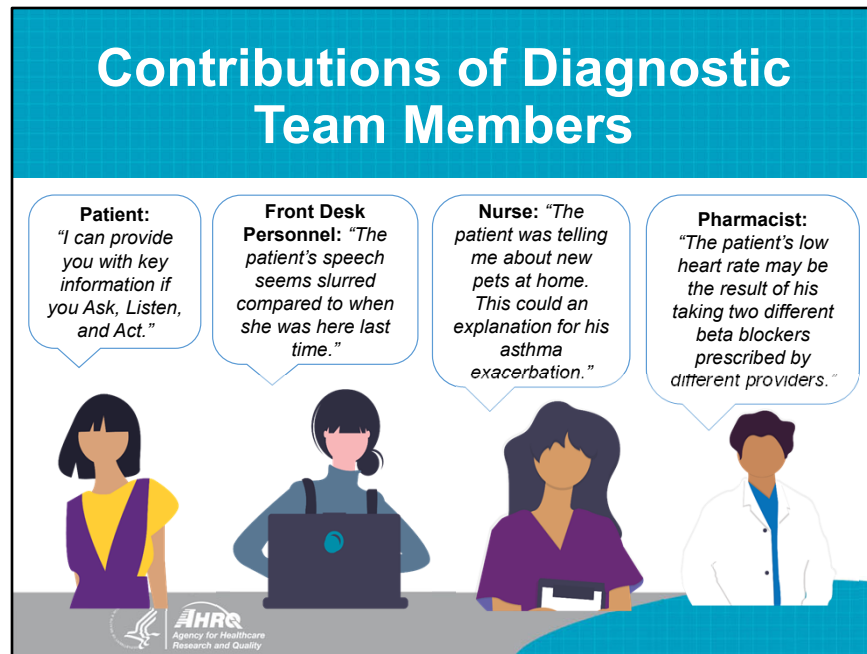
The task of integrating relevant information and communicating a diagnosis to a patient is often the responsibility of an individual clinician; however, the diagnostic process involves and benefits from **collaboration** among multiple healthcare professionals, the patient, and the patient's family members. Arriving at accurate and timely diagnoses involves **teamwork** (National Academies of Sciences, Engineering, and Medicine, 2015).

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



The TeamSTEPPS program has been built on a framework 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.

**The TeamSTEPPS for Diagnosis Improvement course applies the TeamSTEPPS framework to the specific problem of diagnostic error.** When implementing TeamSTEPPS for Diagnosis Improvement, teams will learn about the four competency areas and how improved communication among all members of the care team can lead to a safe, accurate, and timely diagnosis in all healthcare settings.



It is important for everyone within the diagnostic process to understand their responsibilities as part of the diagnostic team and contribute to improving diagnosis.

Contribution is about recognizing that we all have a role in the process and appreciating each other and ourselves. Take, for example, the patient and family members. How do they contribute to the diagnostic process? Front desk personnel? Clinic nurse? Pharmacist? Consulting providers?

Each person has a unique perspective and can bring important information to the diagnostic process. Even "small" tasks that may seem insignificant can help lead to a timely diagnosis that is accurate and able to be communicated to the patient and family. Every member of the team can help prevent a diagnostic error.

The following slides review key concepts and resources provided in the previous modules.

## Communication Tools To Improve Diagnosis

- SBAR (Situation, Background, Assessment, Recommendation)
  - For team communication
  - For patient-clinician communication
  - For diagnosis-focused referrals
  - For conveying diagnostic uncertainty
- Teach-Back
- Reflective Practice
- Additional TeamSTEPPS® tools: Call-Out, Check-Back, Handoff



Communication is the foundation of success for TeamSTEPPS. The communication tools we discussed in Module 3 include **SBAR – Situation, Background, Assessment, and Recommendations or Requests**. Examples of the SBAR approach to improving diagnostic communication include using SBAR to improve team communication, structure communication with patients, structure communication around diagnostic uncertainty, and support the importance of a diagnosis-focused referral. **Teach-back** is another diagnosis improvement communication tool that promotes patient engagement, patient safety, adherence, and quality.

Early in this course we introduced the concept of **Reflective Practice**. This approach reminds each member of the team to Ask questions, Listen actively, and Act appropriately based on communication and feedback. This new tool is used during each module to ensure that you and your team are on track for improving diagnostic safety.

Additional communication tools are available in other TeamSTEPPS courses that were not included here. These include call-out, check back, and handoffs. You may want to explore these additional tools as part of your TeamSTEPPS implementation. Links to additional tools are found in the **Facilitator's Guide**.

## Reflective Practice

**A critical tactic that can enhance communication to improve diagnosis**

**Ask**



Ask yourself, what is my role in helping achieve a safe diagnosis?

**Listen**



Listen to your team and their unique perspectives.

**Act**




Act in ways that can contribute to the diagnostic process.




The diagnostic process and reflection have similar goals as both derive from a spirit of inquiry. A three-word prompt, “**Ask, Listen, Act**” is used throughout the course to encourage reflective practice among team members. Reflection can help improve **diagnostic calibration, which describes 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, discounting contrary evidence, and other barriers to making reliable conclusions.

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 to 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 with patient perspectives and a plan for assessment. 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.]



## Leadership Tools To Improve Diagnosis

- Briefs
  - Short session prior to start
  - Meeting to assign roles, establish expectations, anticipate outcomes
- Huddles
  - Ad hoc planning to reestablish/reinforce and assess or adjust plans
- Debriefs
  - Information exchange after the action



Leadership is a key TeamSTEPPS principle and is defined as the ability to maximize team members' activities by ensuring team actions are understood, changes in information are shared, and team members have needed resources. In this course, three TeamSTEPPS tools for leaders have been presented (Module 4). The tools and how they may be useful in efforts to improve provider communication related to diagnosis are:

- **Briefs:**
  - Short session prior to start.
  - Meeting to assign roles, establish expectations, anticipate outcomes.
- **Huddles:**
  - Ad hoc planning to reestablish/reinforce and assess or adjust plans.
- **Debriefs:**
  - Information exchange after an action.

## Situation Monitoring Tools To Improve Diagnosis

- Situation Monitoring = Scanning and assessing what is going on around you and with you
- Cross-Monitoring
  - Watching each other's backs
  - Ensuring mistakes/oversights are caught
- STEP checklist
  - Status of the patient
  - Team members
  - Environment
  - Progress toward the goal



**Situation monitoring** is the process of continually scanning and assessing a situation to gain and maintain an understanding of what is going on around you. Situation monitoring tools discussed in this course (Module 5) include:

- **Cross-Monitoring** is a harm reduction strategy that provides a safety net within the team. It involves watching each other's backs and ensuring mistakes/oversights are caught.
- **STEP** is a tool for monitoring situations in the delivery of care and includes four components: **S**tatus of the patient, **T**eam members, **E**nvironment, **P**rogress toward the goal.

Additional TeamSTEPPS tools for situation monitoring, including “I’m Safe,” can be found in the **Facilitator’s Guide**.

## Mutual Support Tools To Improve Diagnosis

- Task Assistance
- Feedback
- Advocacy and Assertion
- Two-Challenge Rule
- DESC Script
- CUS



Mutual support is the ability to anticipate and support team members' needs through accurate knowledge about their responsibilities and workload.

Mutual support tools that we review in this course (Module 6) include:


- **Task Assistance:** Help others with tasks to build a strong team.
- **Feedback:** Provide information to team members for the purpose of improving team performance.
- **Advocacy and Assertion:** Advocate for the patient and assert a corrective action in a firm and respectful manner.
- **Two-Challenge Rule:** For all team members, “stop the line” if you sense or discover an essential safety breach.
- **DESC Script:** Constructively approach managing and resolving conflict:
  - D = Describe the specific situation or behavior; provide concrete data.
  - E = Express how the situation makes you feel/what your concerns are.
  - S = Suggest other alternatives and seek agreement.
  - C = State consequences in terms of impact on established team goals; strive for consensus.
- **CUS:** Use signal words as a framework for conflict resolution:
  - I'm Concerned.
  - I'm Uncomfortable.
  - This is a Safety issue.

Barriers to Team Effectiveness and Solutions		
Barriers	Tools and Strategies	Outcomes
<ul style="list-style-type: none"> <li>▪ Hierarchical culture</li> <li>▪ Lack of resources or information</li> <li>▪ Ineffective communication</li> <li>▪ Conflict</li> <li>▪ Time</li> <li>▪ Distractions</li> <li>▪ Workload</li> <li>▪ Fatigue</li> <li>▪ Misinterpretation of data</li> <li>▪ Failure to share information</li> <li>▪ Defensiveness</li> <li>▪ Conventional thinking</li> </ul>	<ul style="list-style-type: none"> <li>▪ SBAR</li> <li>▪ Teach-back</li> <li>▪ Brief</li> <li>▪ Huddle</li> <li>▪ Debrief</li> <li>▪ Cross-monitoring</li> <li>▪ STEP</li> <li>▪ Task assistance</li> <li>▪ Feedback</li> <li>▪ Advocacy and assertion</li> <li>▪ Two-challenge rule</li> <li>▪ CUS</li> <li>▪ DESC script</li> <li>▪ Reflective practice</li> </ul>	<ul style="list-style-type: none"> <li>▪ Shared mental model</li> <li>▪ Adaptability</li> <li>▪ Team orientation</li> <li>▪ Mutual trust</li> <li>▪ Team performance</li> <li>▪ Patient safety!</li> </ul>

This slide presents a list of barriers to team effectiveness and the tools and strategies that can be used to overcome those barriers. The final column lists the positive outcomes that can be realized with the successful use of the tools and strategies.


Achieving desired outcomes does not happen overnight. Implementing and sustaining diagnostic improvement efforts take time and dedication. By committing to use and practice the TeamSTEPPS tools and strategies, teams can achieve the goal of a culture of teamwork, effectiveness, and communication that **can lead to a safe, accurate, and timely diagnosis in all healthcare settings.**

## Joe Kane and His Family



- Joe is a 49-year-old single father of three with end stage renal disease (ESRD). He is an avid reader who 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 oldest son, Ben.










Ryan and Sara Kane      Ben Kane




The story of Joe Kane and his diagnostic journey is woven throughout the course, with particular emphasis in modules 1, 2, 4, and 5. The issues and opportunities that contribute to his trajectory may have been altered in a positive way if tools and strategies introduced in each of the modules had been fully integrated into the workflow and culture at the various settings where Mr. Kane received his care.

You will recall that we first met Joe Kane in Module 1. His son Ben introduced us. Joe was 49 years old and had been a single father to three (Ben, Ryan, and Sara) since the death of his wife from breast cancer. Mr. Kane had a long struggle with end stage renal disease and was receiving dialysis 3 times a week. He was a hero to his kids because he continued to work as a bus driver despite health obstacles. Before his untimely death, Mr. Kane had been waiting for a kidney transplant and was excited about his future and spending time with his kids and grandkids, whom he adored.

## Reimagining Mr. Kane's Diagnostic Team

Patient and Family Members:	Primary Care Team:	Specialty Care Team:	Consultants:
 <p><b>Joe Kane, Patient</b></p>	 <p><b>Dr. Hassan, Primary Care Doctor</b> Role: Manage routine care, coordinate referrals.</p>	 <p><b>Dr. Elliott, Pulmonologist</b> Role: Manage recurrent pleural effusions.</p>	 <p><b>Radiologist</b></p>
 <p><b>Ben Kane, Patient's Son</b> Role: Journey narrator and patient advocate.</p>	 <p><b>Wendy, Primary Care Receptionist</b> Role: Patient relationship.</p>	 <p><b>Dr. Marshall, Nephrologist</b> Role: Manage end-stage renal disease/dialysis.</p>	 <p><b>Pathologist</b></p>
		 <p><b>Dr. Chen, Oncologist</b> Role: Manage stage IV lung cancer.</p>	

 Agency for Healthcare Research and Quality

There are several places where we can “reimagine” Mr. Kane’s story to reinforce specific communication and teamwork opportunities that might have altered his diagnostic journey in a more positive way.

To begin, the diagnostic team as initially described did not include the radiologist or pathologist, which is a common oversight on many diagnostic teams. Yet these specialists often have important insights and suggestions for diagnostic tests and diagnostic considerations in clinically challenging cases. Moreover, it was not clear that the providers or staff within or across practices saw themselves as a “cohesive diagnostic team for Mr. Kane.”

Similarly, support staff, referring and consulting providers, and patients and families all benefit when there is a clear understanding that together they are “the diagnostic team” for a given individual. The Module 2 exercise “Who is on our diagnostic team” emphasizes the power of a broad team and challenges participants to consider options beyond their current perspective.

In this and other case-related exercises and discussions throughout the course materials, facilitators and participants explore tools and strategies to learn from Mr. Kane’s experience.

Mr. Kane's Diagnostic Journey: Provider Reflections		
<b>Dr. Hassan, Primary Care Provider</b>	"[Mr. Kane] missed several dialysis sessions, and I assumed his shortness of breath was due to that."	<b>What if I used <u>reflective practice</u>? I might have ordered other tests or reached out directly to his pulmonologist or nephrologist.</b>
<b>Dr. Elliott, Pulmonologist</b>	"I did the thoracentesis and sent fluid to the lab, but [Mr. Kane] had missed dialysis, so I was not overly concerned."	<b>What if I had reached out directly to his Primary Care Provider or to his Nephrologist? What if I called for us to <u>huddle</u> for 10 minutes to discuss his case?</b>
<b>Dr. Marshall, Nephrologist</b>	"I saw [Mr. Kane] as followup after fluid was drained from his chest. He had been stable on dialysis 3 times a week, so I encouraged him to keep those appointments."	<b>What if my staff or I accepted that we are all members of Mr. Kane's diagnostic team and followed up on the lab results or asked for a <u>debrief</u> with Dr Hassan, his Primary Care Provider?</b>
<b>Wendy, Primary Care Receptionist</b>	"Mr. Kane came in for his 3-month followup with Dr. Hassan. He did mention that some tests were done in pulmonary clinic that he never heard back about."	<b>What if I had seen myself and Mr. Kane as members of the <u>diagnostic team</u> and I independently checked on the missing labs? What if <u>Mr. Kane asked</u> me to follow up on the labs?</b>

We met several members of Mr. Kane's care team. Initially, each member shared personal reflections on Mr. Kane's care, treatment, and diagnoses. They "did the best they could" within the context of their routine practices.

During case discussions, facilitators work with participants to explore how use of TeamSTEPPS for Diagnosis Improvement tools and resources may have altered clinical and personal decision making or interactions with Mr. Kane and, ultimately, his outcome.

In this brief synopsis, we capture some of the diagnostic improvement possibilities that you and your course participants likely considered for Mr. Kane's diagnostic journey. The earlier reflections of the diagnostic team members are reimaged, as "what if?"



A look at the timeline through “photos” shows the 19-month trajectory where many diagnostic team members interacted on multiple occasions with Mr. Kane and his family but interacted very little with each other. This visual timeline demonstrates how critical teamwork and communication are to the diagnostic process.

Considering when, where, and how use of the TeamSTEPPS tools and lessons from this course may have resulted in a different outcome is a key teaching strategy that is expanded upon in the facilitator guide and participant workbook. Although the options and opportunities are too numerous to review comprehensively, and the impact on outcomes is hypothetical, it is easy to imagine how things might have gone differently.

For example:

1. In April, Mr. Kane or his son Ben could have used **“Be The Expert On You”** to inform Drs. Hassan and Elliott of concerns and ask clarifying questions about his clinical status and future care plans.
2. In May, had Dr Elliott used **reflective practice**, she may have thought about the pathologist as a **member of the diagnostic team** and consulted with her directly. If her staff had used **teach-back** with Mr. Kane, perhaps he would have immediately followed up with his nephrologist instead of waiting a month.
3. In June, if after his visit with Mr. Kane, Dr. Marshall had **debriefed** with Drs. Hassan and Elliott, perhaps they would have acted sooner to get a radiology consult.



4. In July, if the receptionist had asked for a **huddle** with Dr. Hassan when she realized lab results were missing, additional lab tests in preparation for transplant may have come sooner, and the cancer may have been discovered earlier.
5. In August, Dr. Hassan could have used **SBAR** with Dr. Elliott to express concerns and expedite additional consults. It is likely that structured communication could have conveyed the urgency of the situation.
6. In the weeks from September to November, the expanded diagnostic team (multiple staff and providers in multiple practices) could have used the **STEP checklist** and **cross-monitoring** to better understand Mr. Kane's status and coordinate his multiple appointments and care plan. Perhaps his transplant workup would have started sooner and his cancer would have been discovered earlier.
7. In late November, when the radiologist completing the pretransplant CT scan discovered the mass in Mr. Kane's chest, if he considered himself a key member of the **diagnostic team**, he may have asked for a **briefing** with Dr. Hassan and Dr. Marshall to discuss next steps versus sending a written report.
8. In December, when the pathologist confirmed that the lung biopsy was positive for cancer, Dr. Elliott (the pulmonologist) may have used **reflective practice** to consider the most thoughtful method of informing Mr. Kane and his family in a timely manner. Understanding that this news would be life changing, she may have opted for an in-person meeting to demonstrate her respect and concern. She might also have considered a **briefing** with Dr. Hassan (Mr. Kane's primary care provider) to see if he preferred to deliver the cancer diagnosis.
9. Had all the potential opportunities to improve teamwork and communication in the diagnostic process worked, perhaps Mr. Kane would have been receiving an optimistic report of localized, early-stage non-small-cell lung cancer from the oncologist who consulted and developed his cancer treatment plan.
10. Six months later, perhaps he would have completed successful treatment for his cancer and gone into remission.
11. After completing his cancer treatment, perhaps Mr. Kane would be looking forward to years of cancer-free health and one day maybe even that kidney transplant.

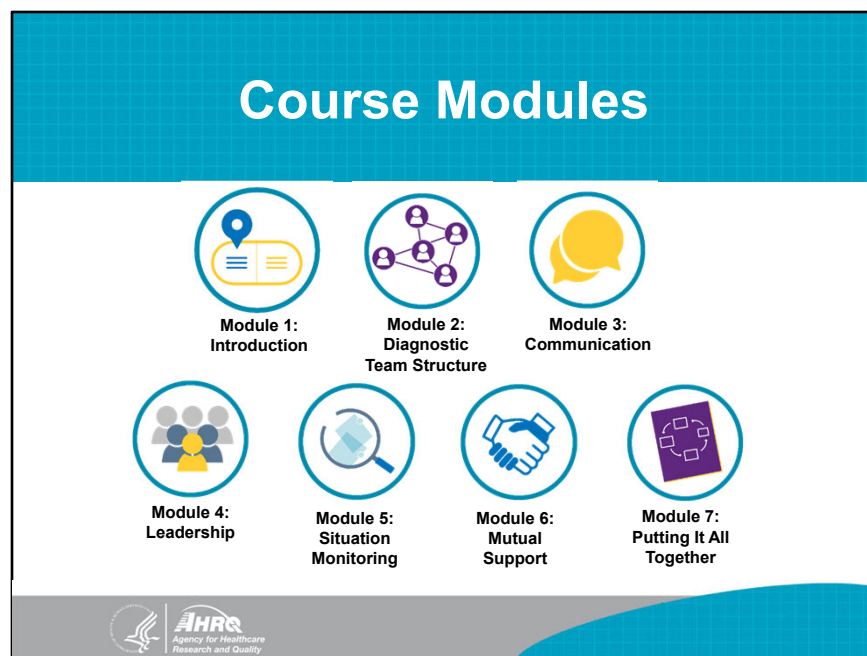
## Module 7 Summary

- Diagnostic error is a patient safety issue and applications from the TeamSTEPPS model can be used to improve the diagnostic process.
- Tools in communication, leadership, situation monitoring, and mutual support can be used to improve diagnosis.
- These tools can mitigate barriers to team effectiveness and achieve an outcome of improved patient safety and teamwork.



In this module, participants learned that:

- Diagnostic error is a patient safety issue and applications from the TeamSTEPPS model can be used to improve the diagnostic process.
- Tools in communication, leadership, situation monitoring, and mutual support can be used to improve diagnosis.
- These tools can mitigate barriers to team effectiveness and achieve an outcome of improved patient safety and teamwork.



**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.**

## Module 7 References

- National Academies of Sciences, Engineering, and Medicine. Improving Diagnosis in Health Care. Balogh EP, Miller BT, & Ball JR, eds. Washington, DC: National Academies Press: 2015.
- Salas E, Cooke NJ, Rosen MA. On teams, teamwork, and team performance: discoveries and developments. Hum Factors. 2008 Jun;50(3):540-7. doi: 10.1518/001872008X288457. PMID: 18689065.
- Stiefel M, Nolan K. A Guide to Measuring the Triple Aim: Population Health, Experience of Care, and Per Capita Cost. IHI Innovation Series white paper. Cambridge, MA: Institute for Healthcare Improvement; 2012.

*TeamSTEPPS*<sup>®</sup>

The following are the list of references from this module.