Improving the Diagnostic Process

The Diagnostic Team
What is Diagnostic Error?

• One of the leading causes of patient harm and a main factor in patient safety events
  • Affects 12 million patients annually

• Most common allegation in physician malpractice claims
  • CRICO Closed Claim Studies:
    • Ischemic Stroke – DE 50% of closed claims & significant harm
    • Infections – DE common with 5 types of infections accounting for 60% of harms
    • Cancer – DE common with 5 cancers accounting for nearly 60% of misdiagnosis harms
    • Cost for these three DE is estimated as $138 Billion
What is Diagnostic Error?

- **Defined as the failure to:**
  - Establish an accurate and timely explanation of the patient’s health problem(s) or
  - Communicate that explanation to the patient

- **In other words:**
  - Accurate
  - Timely
  - Communicated
Factors Influencing Diagnosis

- **External Factors**
  - Payment systems
  - Malpractice
  - Reporting requirements

- **Internal Factors**
  - Clinical reasoning and cognitive bias
  - Individual responsibility
  - Reliance on patient to follow up

- **System Factors**
  - Culture
  - Lack of supportive systems
  - Failure to understand
Diagnosis as a Process

- Patient Experiences a Health Problem
- Patient Engages with Health Care System

Information Gathering
- Information Integration & Interpretation
- Has sufficient information been collected?
  - Clinical History and Interview
  - Physical Exam
  - Referral and Consultation
  - Diagnostic Testing

Working Diagnosis

Communication of the Diagnosis
- The explanation of the health problem that is communicated to the patient

Treatment
- The planned path of care based on the diagnosis

Outcomes
- Patient and System Outcomes
  - Learning from diagnostic errors, near misses, and accurate, timely diagnoses
Errors in the Diagnostic Process

• **Engagement**
  • Failure to engage with patient

• **Information Gathering**
  • Insufficient or incomplete information gathered
    • Provider and patient
  • Failure to communicate
    • Poor handoffs
    • Lack of documentation
Errors in the Diagnostic Process

- **Integration and Interpretation**
  - Cognitive Bias
  - Culture

- **Working Diagnosis**
  - Wrong or delayed

- **Patient Communication**
  - Failure to communicate or ensure patient understanding of diagnosis or treatment
The Diagnostic Team

- Patient and family members
- Primary care
  - Physicians
  - Advanced practice nurses
  - Physician assistants
  - Nurses
  - Medical assistants
  - Trainees
- Radiology
  - Radiologists
  - Radiology technologists
  - Trainees
- Pathology
  - Pathologists
  - Laboratory scientists
  - Trainees
- Specialist (e.g., oncology)
  - Medical oncologists
  - Radiation oncologists
  - Surgical oncologists
  - Nurses
  - Trainees
- Other health care professionals
  - Long term care providers
  - Visiting nurses
  - Therapists (PT, occupational, Respiratory)
  - Social workers
  - Psychologists
  - Pharmacists
  - And more

Patient-primary care partnership
Diagnosis as a Team Sport: Team Members

- **The Core Team**
- **Front Line Providers**
  - Physician, physician assistant, or advance practice registered nurse
- **The Patient**
  - Patient and family
- **The Nurse**
Diagnosis as a Team Sport: Team Members

- Allied health professionals
- Radiologists, pathologists, and the diagnostic management team
- The electronic health record
How Do We Improve Diagnosis and Prevent Patient Harm?

• Improve Culture
• Effective Teamwork
• Engage Patients
• Improve Cognitive Performance
• Develop Learning Systems
Improve Culture

• Just culture
• Safe environment
  • PSO
• Disclosure of adverse events and early resolution
Effective Teamwork

• Teach stakeholders about the diagnostic process and the effect of teamwork on diagnosis
• Educate team members about their roles in the diagnostic process
• Enhance information exchange for handoffs for all levels of healthcare providers
• Identify opportunities for patient family engagement, e.g. bedside huddles
Effective Teamwork

- Adopt/engage shared decision making
- Encourage use of diagnostic timeouts
- Conduct multidisciplinary team training
- Create structures to improve communication between team members
Engage Patient and Family

• Provide patients with access to education and or materials on the diagnostic process and the role they play on the team
• Ensure culture and processes allow patients and family to become engaged
• Create environments where patients are invited and comfortable to speak up
Engage Patient and Family

• Clarify health literacy and language preferences; use translator
• Consider including patients and families on quality improvement teams
New AHRQ Question Builder App Helps Patients Maximize Time with Clinicians
Improve Cognitive Performance and Clinical Decision Support

- Require documentation of differential diagnosis
  - EHR forced functions
- Provide education to all team members (physicians and nurses) on the diagnostic process and common barriers
  - Diagnostic process
  - Common biases and causes of diagnostic error
  - Potential methods in reducing bias
- Review/discuss current clinical decision support and work towards improving it
- Implement tools that improve reflective thinking and monitor its use
Take 2 minutes to deliberate the diagnosis

While deliberating the diagnosis:
- Document the differential diagnoses
- Detect any ‘red flag’ symptoms
- Acknowledge uncertainty in diagnostic dilemmas
- Rule out the worst case scenario
- Identify when something isn’t quite right

Think about situations when it may be necessary to take a closer look or re-evaluate the diagnosis

Take a closer look when:
- There are risk factors impacting diagnostic decision making:
  - HA (Hungry, Angry, Late, Tired)
  - Cognitive biases (e.g., context, framing bias)
  - Patient engagement difficulties
  - Knowledge deficit or workload pressures
- Facility or specialty specific high risk presentations - Take 2 for you

Take time to review at specific patient journey checkpoints:
- Things aren’t going as planned
- The patient is deteriorating
- The expected response to treatment is not achieved
- At handover between teams and discharge from care
- The patient or carer is expressing concern over the diagnosis

Do something to take a closer look and review the diagnosis

Strategies to review and challenge the diagnosis:
- Individual strategies e.g., Diagnostic Time-out
- Team-based strategies e.g., Red Team Blue Team Challenge
- Seek a second opinion
- Refer to specialist services
- Escalate care for senior medical officer evaluation and input

Outcomes
- The worst case scenario is ruled out
- Atypical or rare presentations are identified
- There is a high suspicion for repeat presentations
- Diagnosis is re-evaluated when things aren’t quite right
- The patient and carers’ concerns are heard and acknowledged
- Locally identified high-risk patient groups are recognised
- There is an environment that enables discussion around diagnosis
- There is appropriate referral and escalation for diagnostic dilemmas
- There is effective communication when transferring care
Develop Learning Systems

• Provide feedback through:
  • Aggregating and sharing existing sources for diagnostic information
  • A process for reviewing patient experience to assist in assessing diagnostic performance

• Improve physician reporting through the hospital’s incident reporting system on potential cases of diagnostic error

• Perform root cause analysis using diagnostic error fishbone diagram
### Appendix I: Diagnostic Error Top Ten Checklist

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<td><strong>1.</strong></td>
<td>Provide and promote patient access to electronic health records (EHRs), optimally including real-time clinical notes and diagnostic testing results.</td>
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<td><strong>2.</strong></td>
<td>Evaluate patient and family engagement practices, organizational structure, clinical operations, and access to care, including patient access to EHRs, to support the diagnostic environment and diagnostic process.</td>
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<td><strong>3.</strong></td>
<td>Implement clinical decision support tools that improve cognitive performance and reflective self-practice.</td>
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<td><strong>4.</strong></td>
<td>Provide regular education and training on clinical reasoning and decision pitfalls.</td>
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<td><strong>5.</strong></td>
<td>Establish a learning environment, inclusive of patients and family members, with an infrastructure based on safety culture, transparency, quality improvement, and education.</td>
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<td><strong>6.</strong></td>
<td>Measure and report diagnostic errors regularly for greater transparency and visibility.</td>
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<td><strong>7.</strong></td>
<td>Provide orientation and training on diagnostic safety and quality to support patient and family participation in governance, including on patient and family advisory councils, practice improvement teams, and boards.</td>
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<td><strong>8.</strong></td>
<td>Provide tools and credible resources for patients and family members and use engagement methods to optimize participation in the diagnostic process. Tools and methods include Society to Improve Diagnosis in Medicine tools, shared decision making, teach-back, patient activation strategies (PAM), and discharge checklists.</td>
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<td><strong>9.</strong></td>
<td>Adapt the Partnership for Patients preadmission checklist to orient patients to the diagnostic process, which effectively invites them to participate in the process.</td>
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<td><strong>10.</strong></td>
<td>Develop systems for seeking out and studying diagnostic errors, including using the diagnostic error fishbone diagram for root cause analyses.</td>
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Improving the Diagnostic Process
It’s the Right Thing!

• Teamwork is key
• Start conversations tomorrow
• Identify champions and leaders
• Develop plans
• REAP Criteria 2019 - Bonus 2%
Improving the Diagnostic Process: Resources

- [https://www.improvediagnosis.org/](https://www.improvediagnosis.org/)
- [https://www.improvediagnosis.org/act-for-better-diagnosis/](https://www.improvediagnosis.org/act-for-better-diagnosis/)
- [https://www.improvediagnosis.org/patients-toolkit/](https://www.improvediagnosis.org/patients-toolkit/)
- [https://www.improvediagnosis.org/clinicalreasoning/](https://www.improvediagnosis.org/clinicalreasoning/)
Questions