Enhancing Quality Improvement for Patients (EQuIP)
Objectives

- Define quality improvement and patient safety.
- Describe common challenges and risks to improving quality and safety.
- Discuss EQuIP’s rationale, focus and requirements.
Quality and Patient Safety

- An estimated 44,000-98,000 people die in hospitals as a result of preventable error.
- Total costs of preventable error: $17 - $29 billion.
- Professional societies and accreditation agencies working together.
- Healthcare disparities exist for minority patients.
  - US not well-ranked at preventable diseases.

Quality and Patient Safety

- Quality Improvement: process of continually evaluating clinical practices.
  - Patients’ outcomes should be the basis of evaluation.

- Patient Safety: Subset of healthcare quality.
  - Review of the clinical system to minimize the risk of errors and improve the chances of catching errors before they occur.
  - Focus on system components—not persons, devices or departments.

Sample Tools to Promote Patient Safety

Tools already widely used to promote safety:

- Informed consents
- Time outs
- Technology
  - IV Smart Pumps
  - Bar Codes
- Electronic Health Record (EHR)
  - Best Practice Alerts
Definitions

- **Adverse event**: Negative or unexpected patient outcome.
- **Adverse drug reaction**: A noxious and unintended response to a medicinal product.
- **Medication error**: A preventable event that may cause or lead to inappropriate medication use or patient harm.
Medical Error

- Errors of execution: failure of a planned action to be completed as intended.
- Errors of planning: using a flawed plan or procedure.
- 63% of medical errors occur in an inpatient hospital setting.

Medical Error

- **System error**: related to the design of systems and not directly related to the fault of a front-line provider.
- **Human error**: directly attributable to actions of a person.
  - These two types of error are not mutually exclusive and are often linked.

## Medical Error

### Complexity and Volume

<table>
<thead>
<tr>
<th>Number of steps</th>
<th>Probability of error @ 99.5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1</td>
<td>-0.5%</td>
</tr>
<tr>
<td>-5</td>
<td>-2.5%</td>
</tr>
<tr>
<td>-10</td>
<td>-4.9%</td>
</tr>
<tr>
<td>-20</td>
<td>-9.5%</td>
</tr>
<tr>
<td>-30</td>
<td>-14.0%</td>
</tr>
<tr>
<td>-50</td>
<td>-22.2%</td>
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- Typically 25 steps in getting drug to patient.
- Medication error rate of 1% per order implies each step executed at 99.96% accuracy.
Medical Error

- ALL errors are system errors. Human errors are caused by system errors.
- Multifactorial etiology
- Solutions should be multifactorial and will require widespread changes.

Goal: Patient-centered care

- Quality Departments
- Regulatory requirements
- Risk Management departments
- Surveys of patient satisfaction
- Adverse event reviews

Goal: Patient-centered care
## Simple Rules for the 21st Century

<table>
<thead>
<tr>
<th>Classic Approach</th>
<th>Evolving Approach</th>
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<tbody>
<tr>
<td>Care is based primarily on visits (fee for service).</td>
<td>Care based on continuous healing relationships.</td>
</tr>
<tr>
<td>Professional autonomy drives variability.</td>
<td>Care customized according to patient needs and values.</td>
</tr>
<tr>
<td>Professionals control care.</td>
<td>Patient is the source of control.</td>
</tr>
<tr>
<td>Information is a record.</td>
<td>Knowledge is shared and information flows freely.</td>
</tr>
<tr>
<td>Decision making based on training/experience.</td>
<td>Decision making is evidence-based.</td>
</tr>
<tr>
<td>‘Do no harm’ is an individual responsibility.</td>
<td>Safety is a system property.</td>
</tr>
<tr>
<td>Secrecy is necessary, justified as privacy.</td>
<td>Transparency is necessary. Rising tide raises all ships.</td>
</tr>
<tr>
<td>The systems react to needs.</td>
<td>Needs are anticipated.</td>
</tr>
<tr>
<td>Cost reduction is sought.</td>
<td>Waste is continuously decreased.</td>
</tr>
<tr>
<td>Preference given to professional roles over the system.</td>
<td>Cooperation among clinicians is a priority.</td>
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</table>
Patients’ outcomes should be the fundamental source of the definition of quality.

QI is a process of continually evaluating clinical practices using patient outcomes as the basis of evaluation.

Common Challenges and Risks

- Physician culture.
  - “Bad Apple” theory.
  - Solutions: change to system focus.

- Dysfunctional error management.
  - Repression – “Don’t tell anyone.”
  - Projection – “The lab did not tell me.”
  - Denial – “It was the patient’s disease.”

Common Challenges and Risks

- Access to Information.
  - Common solutions: computerized ordering systems; order sets.

- Much in medicine involves uncertainty.
  - Diagnosis is an inaccurate science.

For medication errors:

- Drug interactions.
  - Common solutions: screening programs for drug interactions.
- Illegible handwriting.
  - Common solutions: medication reconciliation.
Common Challenges and Risks

- Transitions of care, including sign-out and handoffs.
  - Haphazard manner in transferring patient information.
  - Duty hour limits increase number of transitions.
  - Nurses unclear regarding caregiver providing coverage.
    - Common solutions: computerized sign-out systems with standard information.
Equipment and Organization.

- Variation and arbitrary rules in equipment.
  - Common solutions: Standardized systems for supplies, room layout, and procedure bundles.

Limited resources and hectic environment.

- Constant pages interrupt patient care, procedures and critical decision-making.
  - Common solution: pages designated as emergent (E), urgent (U), or routine (R).
Unintended Consequences.

- Increased costs for guidelines and compliance without demonstrable improvement in outcomes.
- Complex care decisions abrogating to formulaic care.
- Undue influence of “scoring.”
  - Inappropriate use of medications.
  - Avoidance of sicker patients.
How Physicians are Affected

**Trends**
- Quality metrics are being built into motivators.
- Proliferation of guidelines.
- More centralized control of healthcare.

**Opportunities**
- Physicians in a good position to see problems and improve care.
- Providers must watch out for unintended consequences.
  - Not all change is good.
Change is not easy to accomplish

GETTING FROM POINT A TO POINT B
What is EQuIP?

- Engages all residents and fellows in QI/PS.
  - Membership in hospital committees and/or participating in QI/PS projects.
  - Projects should have:
    - Tangible objectives.
    - Measurable outcomes.
  - Should have a reporting date and a scholarly product – even an abstract counts.
EQuIP Projects

HO develops a project idea

Idea goes to EQuIP

Human subjects research?

Yes

IRB review required

IRB approves project

Non-physician comes up with an idea for a project

If review (IRB, RRC) not required

Significant institutional resources required?

Yes

RRC/hospital approves project – if approved

EQuIP office will work with hospital contact to secure approval from Quality Department
EQuIP Projects

Does your project need IRB review?

- Collecting information/biological samples through intervention or interaction with patients, families or staff?
- Examining records/biological samples with personal identifiers (e.g., medical charts or identifiable tissue samples)?
- Recording identifiable private information?

If yes to any of these, you are conducting a human subjects project.

- Conducting a systematic investigation? I.e., will project answer a question or test a hypothesis? Patients randomized into groups with different therapies?
- Will information obtained or results be generalizable? I.e., would others outside your unit or clinical site find this information useful in their practices?

If yes to any of these, then you are conducting research.

If you answer ‘yes’ to questions in both boxes above, your project will be referred to the IRB.
1. Importance
- Measured performance gap?
- Have a high-impact focus or targeting a high-risk area/process?
- Likely to improve outcomes or patient experience?

2. Scientific Acceptability
- Is there really a problem or merely perception of a problem?
- Evidence for change weighted as to quality?
- Will routinely generate data to assess impact?
- Need IRB review?
3. Feasibility (Usability)
- Is the plan actionable?
- Identifiable target population?
- Are human, technical and informational resources available?

4. Absolute Performance
- Defined goals or expectations?
  - i.e., with baseline data.
- Appropriate for all patients?
- Monitoring for unintended consequences?
  - A focus on process without assessment of outcomes can result in unexpected and unacceptable outcomes.
What You Should Do

- Examine your surroundings – how can we make the system better?
- How can we deliver more value to each patient?
- Work with your residency program and the EQuIP office to identify a project.
What You Should Not Do

- Think you won’t be part of this process.
- Assume your ideas won’t be heard.
- Embark on a QI project without consulting the EQuIP office – we’re here to help and coordinate.
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