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University of Alabama at Birmingham

Closing the Feedback Loop to Improve Diagnostic Quality

Eta S. Berner, EdD
Professor, Health Services Administration
University of Alabama at Birmingham

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Co-Authors

Jeffrey Burkhardt, PhD

Shannon Houser, PhD

Richard Maisiak, PhD

Christa Nevin, MS

Midge Ray, MSN,RN

Anantachai Panjamapirom, MBA

Gordon Schiff, MD

James Willig, MD

Value to the Customer

Value: Physicians can better calibrate their diagnoses

> *Example*: Feedback can prompt re-examination of initial diagnoses

Value: To detect worsening of symptoms, issues with medications and adherence and return patients to care in a timely manner

> *Example*: Patients routed back to caregivers when problems are discovered.

Case Study 1

How many of you have had a patient come in and diagnosed a URI or a "viral something" that should get better within a week?

How many of you really know whether the patient improved?
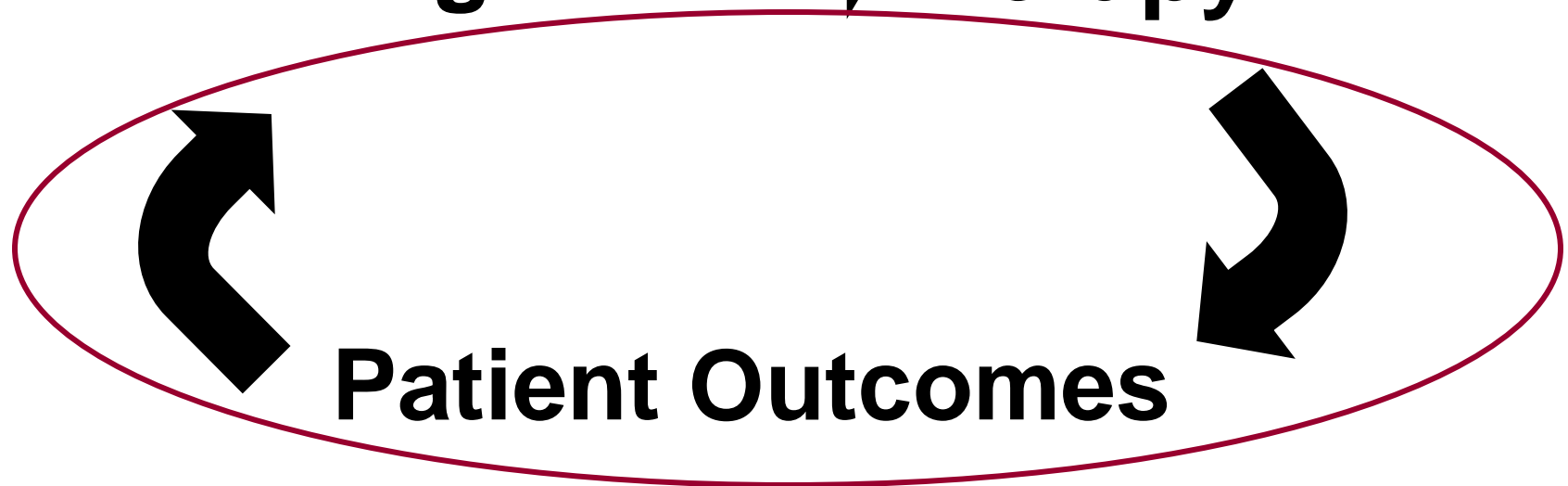
Diagnosis as a Process

Responses to the case study are typical of healthcare today

We view diagnosis as a **process**

- Physician makes his/her best judgment on the basis of the available information

- Diagnostic understanding changes over time with more information available

Study

Specific Aims

1. Develop a system for proactive patient follow-up

2. Provide feedback to healthcare providers

3. Automate the process

Focus on acute, not chronic, problems

Sites

Three ambulatory care clinics

  Family Practice Clinic

  HIV Clinic

  United Cerebral Palsy

Emergency room at University of Florida (Robert L. Wears, MD)

  Focus on feedback to ER residents of downstream diagnoses for admitted patients

Outcomes

- Cycle time to resolution of problem

- Assessment of medication adherence

- Patient satisfaction

- Resource utilization

- Physician feedback on process

Methods for Clinic Sites

Structured data collection from patients

    How are they feeling?

    Did they take their meds? (if applicable)

    Any unresolved problems?

    Who have they contacted?

    Medication compliance (general)

Review of EMR for other outcomes

Study Phases – Three Phases

Baseline
- Interviewer calls patients 3 weeks after visit, no feedback

Partial Automation
- Interviewer calls patients, 1 week after visit, automated feedback to physician on **all** calls within a week

Full Automation
- Automated calling using Interactive Voice Response (IVR) 1 week after visit, automated feedback to physician

Safety Features

Problems identified go directly to front desk/nurse for usual care

Advantages

1. Utilizes already available procedures

2. Urgent problems addressed in timely fashion

Patient Satisfaction Methods

- 9 item scale derived from existing patient satisfaction items at sites

- Added questions related to phone calls for phase 2

- Administered for 6 weeks in phase 1 and 4 weeks in phase 2

- Respondents anonymous

Results

Phases 1 and 2 completed

Approximately 4 months of data collection for each phase

10-15% patients interested in follow-up

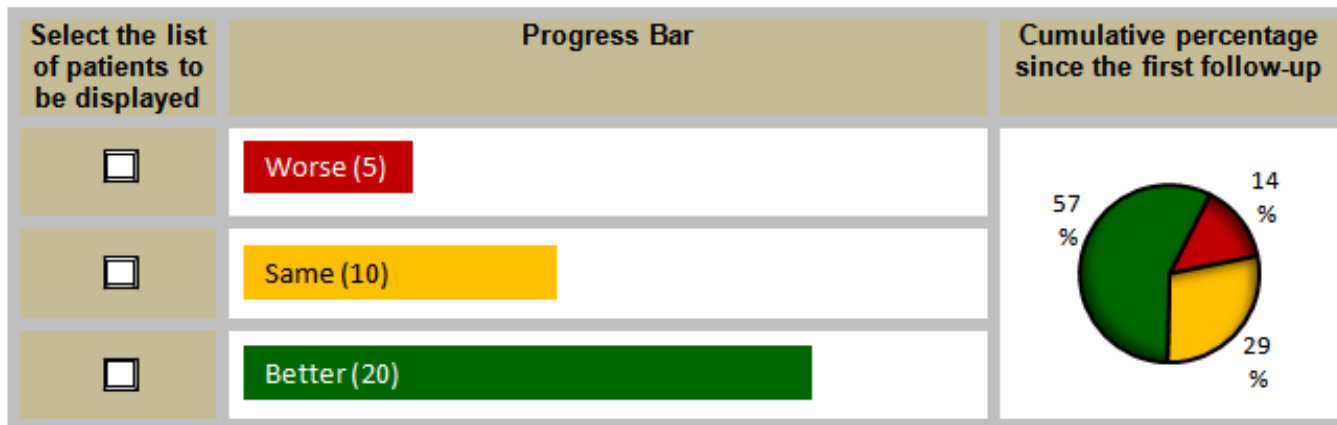|	Baseline (3 Week follow-up)	Partial automation (1 Week Follow-up)	Total
Called	142	352	494
Reached	113	203	316
Completed Interview	111	197	308

Results

Patient Satisfaction

    527 Respondents after baseline

    306 Respondents after one-week phone call

Feedback Reports

Select the list of patients to be displayed	Progress Bar	Cumulative percentage since the first follow-up
☐	Worse (5)	
☐	Same (10)	
☐	Better (20)	

Pie chart: 57%, 14%, 29%

Buttons: View | View All | << Previous | Next >>

	First Name	Last Name	Follow-up Actions
☐	John	Doe	Admitted the patient to an ER
☐	Jane	Doe	Admitted the patient to a hospital
☐	Tom	Smith	Admitted the patient to an ER
☐	Tammy	White	Prescribed new medication(s)

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Resolution of Problems

Baseline data show approximately 12% same or worse after 3 weeks, with about half of those worse

One week follow-up shows 15% same or worse, but most of those are no change

Approximately the same percentage (85-88%) are better by one week as three weeks, but there are less severe problems with early follow-up

Medication Adherence

- Most patients reported they filled and took the medicines appropriately for their acute problem

- Most did not have problems with their medications, but a few did each time

- Overall scale scores for adherence were high, showing high self-reported adherence

Patient Satisfaction

- Good internal consistency both times

- No significant difference in overall satisfaction between baseline (n=527) and one-week follow-up (n=306)

- Patients very positive to the idea of follow-up

- Those who reported being called (n=46) also positive about actual phone call

- Patients reporting receiving a follow-up call have higher overall satisfaction

Challenges

- Follow-up interval

- EMR integration and other automation issues

- Assuring safety, resolving issues

- Consent vs. cold calls

- Patient recruitment

- Maintaining confidentiality/patient identification

- Diversity of the clinics

Next Steps

- Complete IVR calling

- Collect physician satisfaction data

- Collect patient satisfaction data

- Compare baseline to full automation

Additional Project Team Members

Mark Cohen, MD

Thomas English, PhD

Marc Krawitz, MBA/Physician Innovations

Anne Schmidt, MD

Nicole Shevin, BS

And we especially appreciate…

The patients and clinic staff without whose participation we could not have done this study

Questions?

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