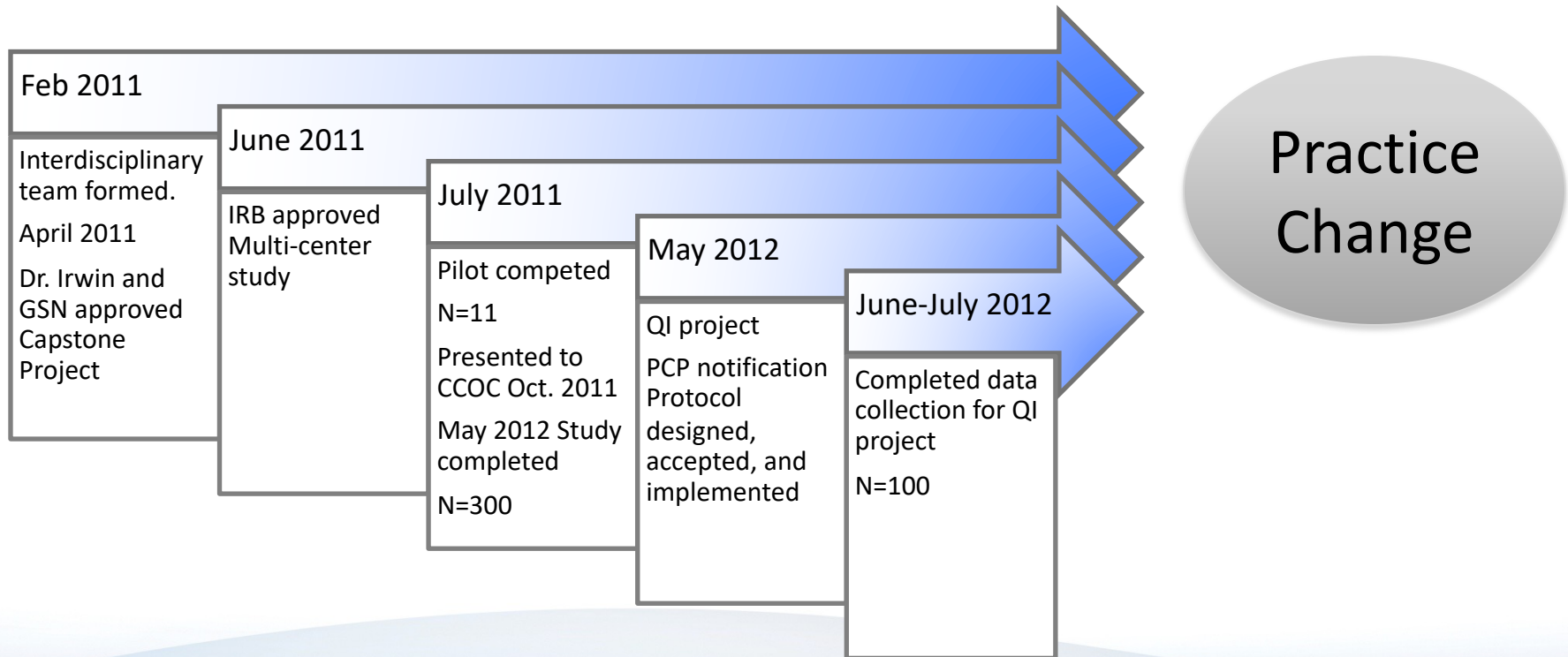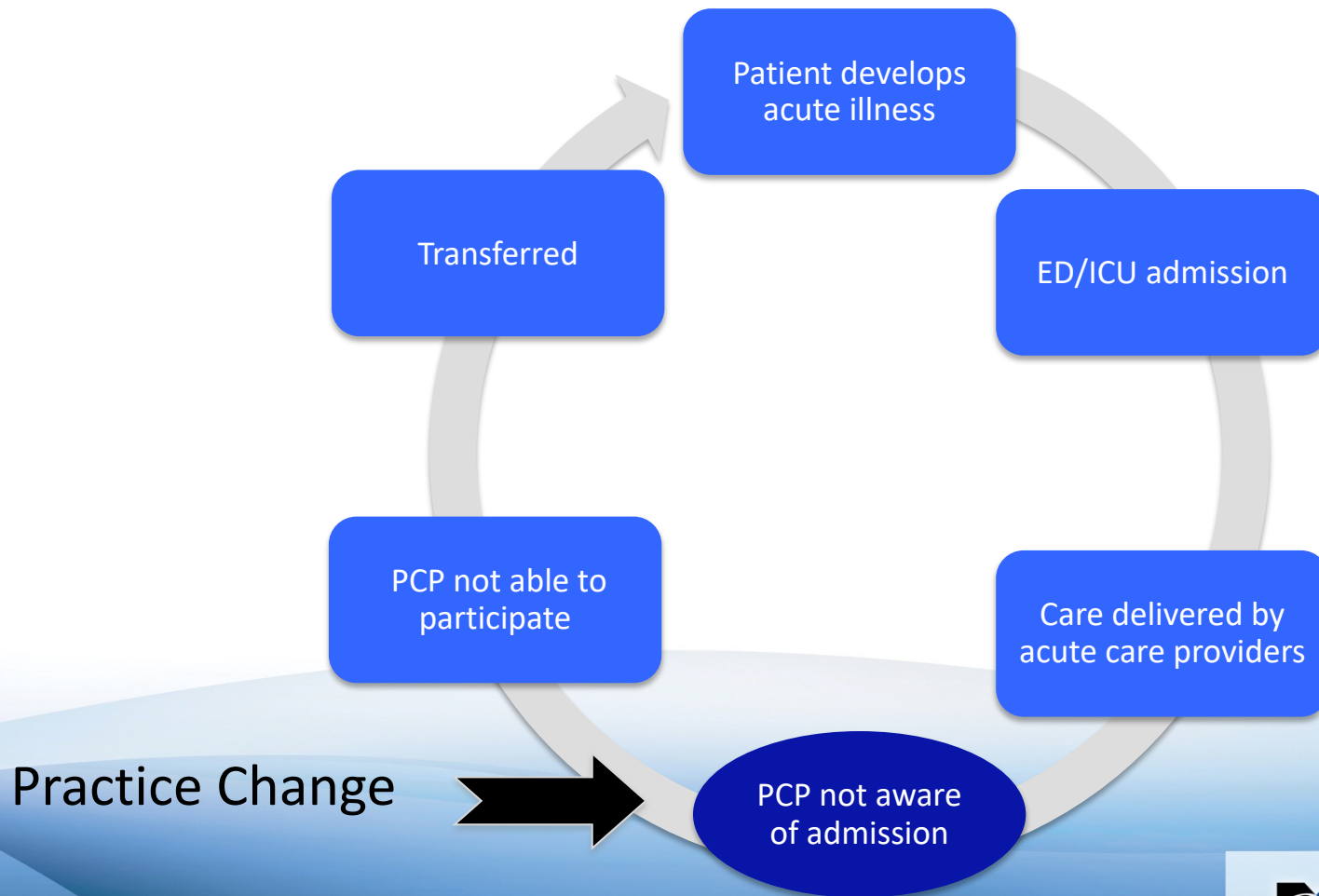# Standardizing Primary Care Provider Notification for ICU Patient Admissions: A Quality Improvement Project

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University of Massachusetts, Worcester
November 29, 2012

University of Massachusetts Medical School

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Project Progression

Feb 2011

Interdisciplinary team formed.

April 2011

Dr. Irwin and GSN approved Capstone Project

June 2011

IRB approved Multi-center study

July 2011

Pilot competed

N=11

Presented to CCOC Oct. 2011

May 2012 Study completed

N=300

May 2012

QI project

PCP notification Protocol designed, accepted, and implemented

June-July 2012

Completed data collection for QI project

N=100

Practice Change

Purpose of Quality Improvement Intervention

Background

Patient-Provider Relationship

Team Management

Patient

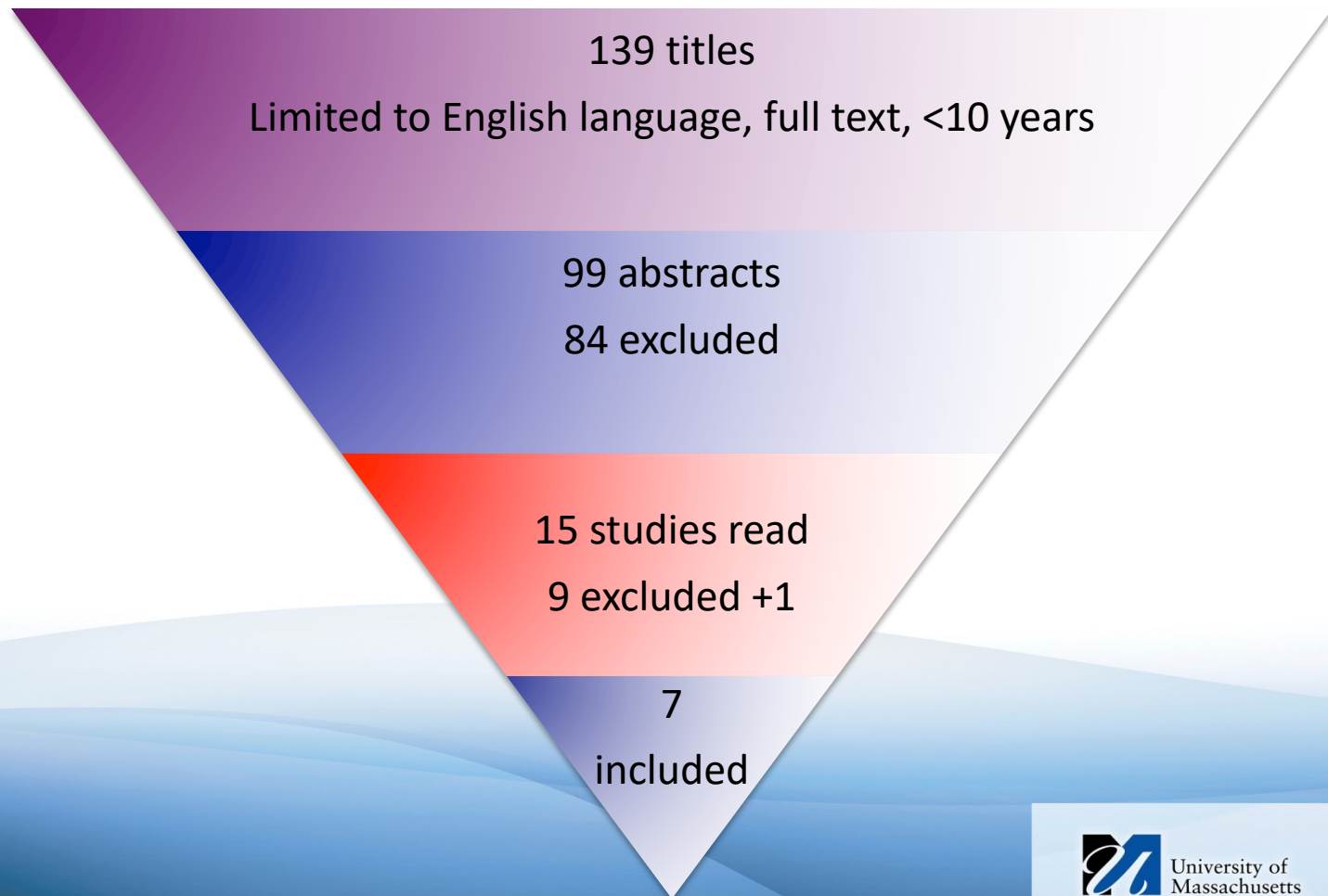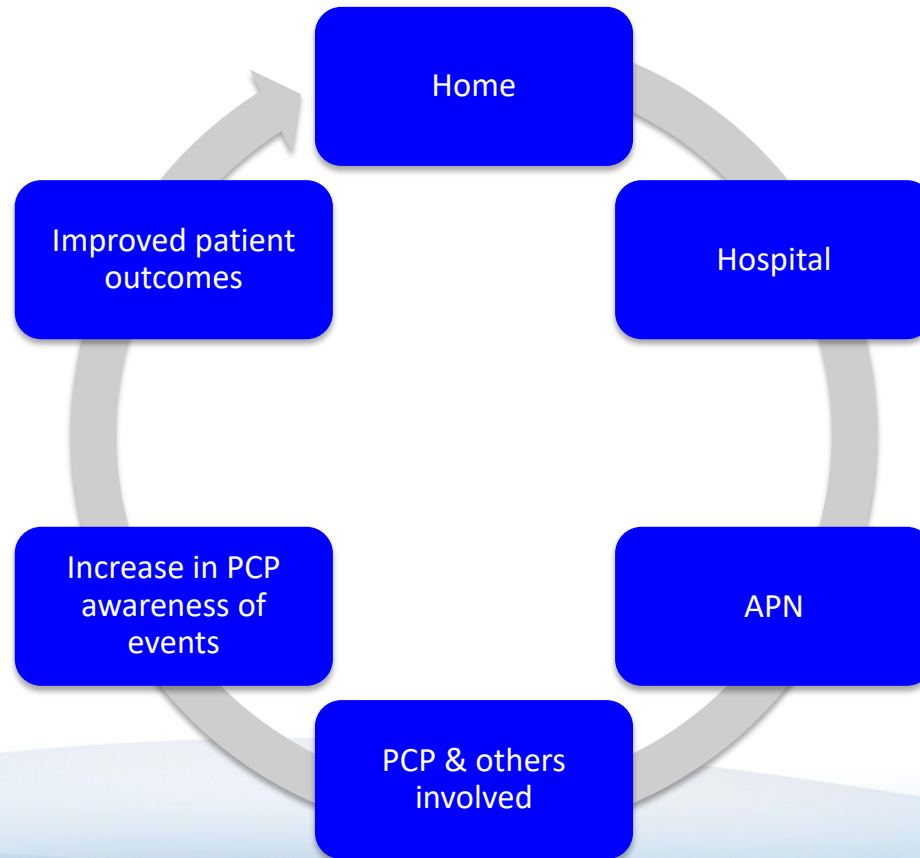Primary Care Provider ↔ Hospital Staff

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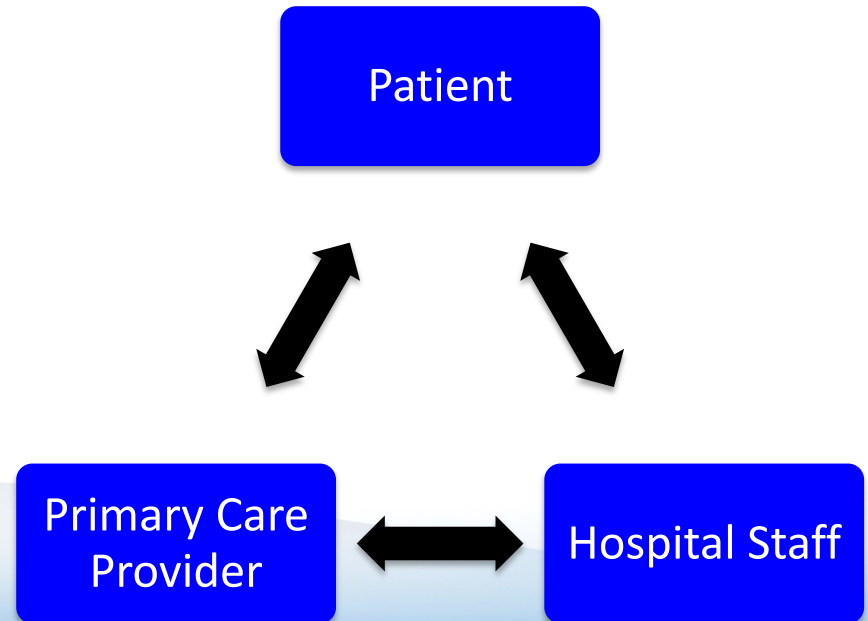
Literature Review
Keywords: acute and primary care providers, communication, collaboration, transition care models

139 titles

Limited to English language, full text, <10 years

99 abstracts

84 excluded

15 studies read

9 excluded +1

7

included

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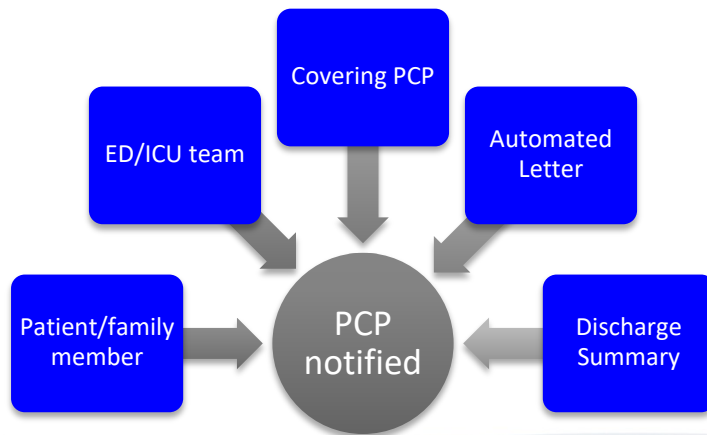# Example: Care Transition focused at time of discharge

Literature review: PCP Notification and Involvement
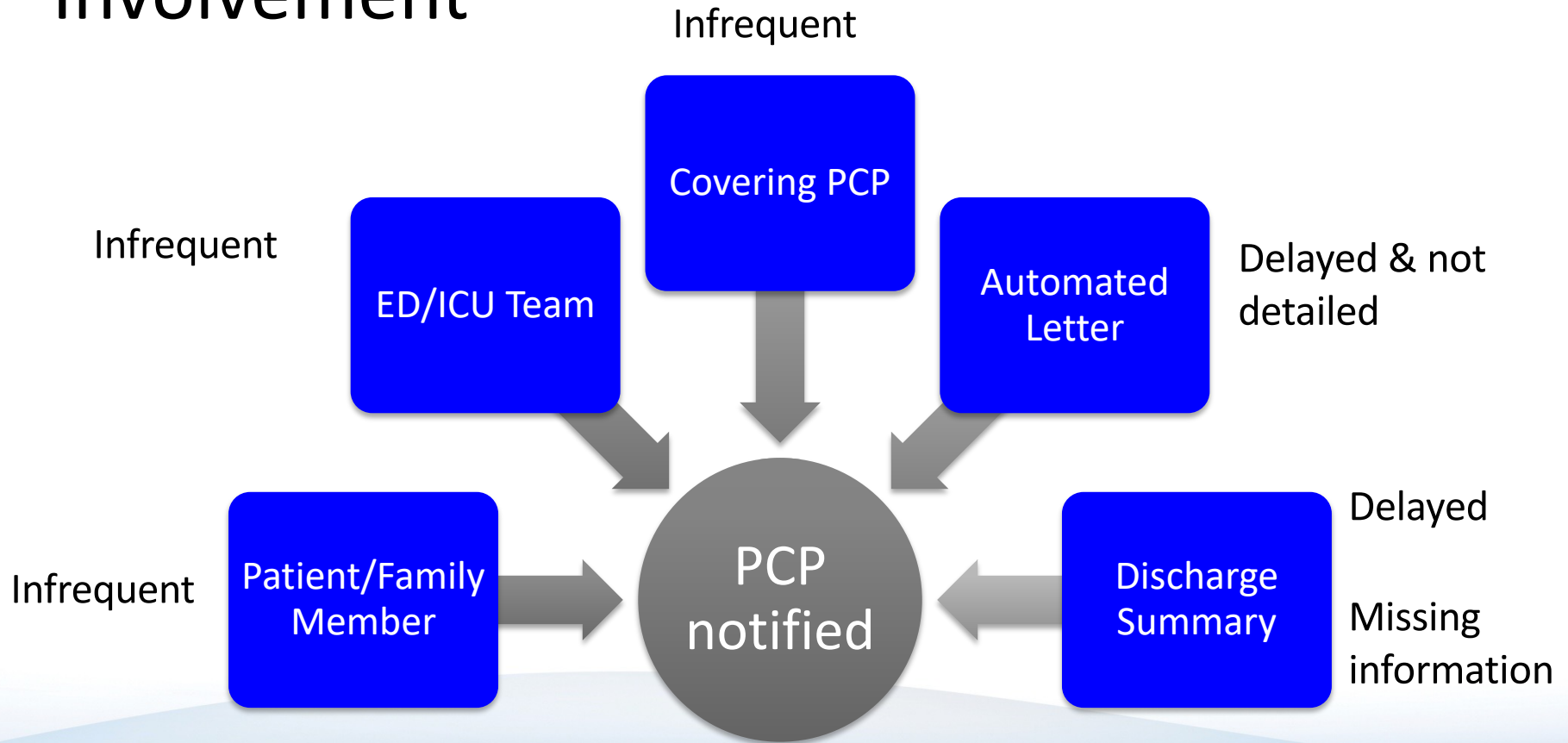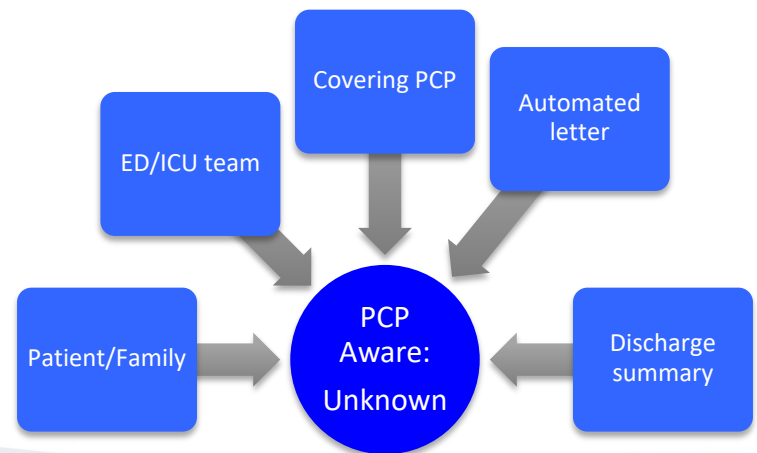
# PCP Notification

- Literature

- Local

Local Problem: UMASS Medical Center

- Lack of a standardized process delineating how and when to notify PCPs ICU patient's admission (informal focus groups)

- No process in place to capture PCP notification

- Retrospective review of PCP notification or involvement of ICU patient care documented in the patient's EMR was less than 3%

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Intended Improvement
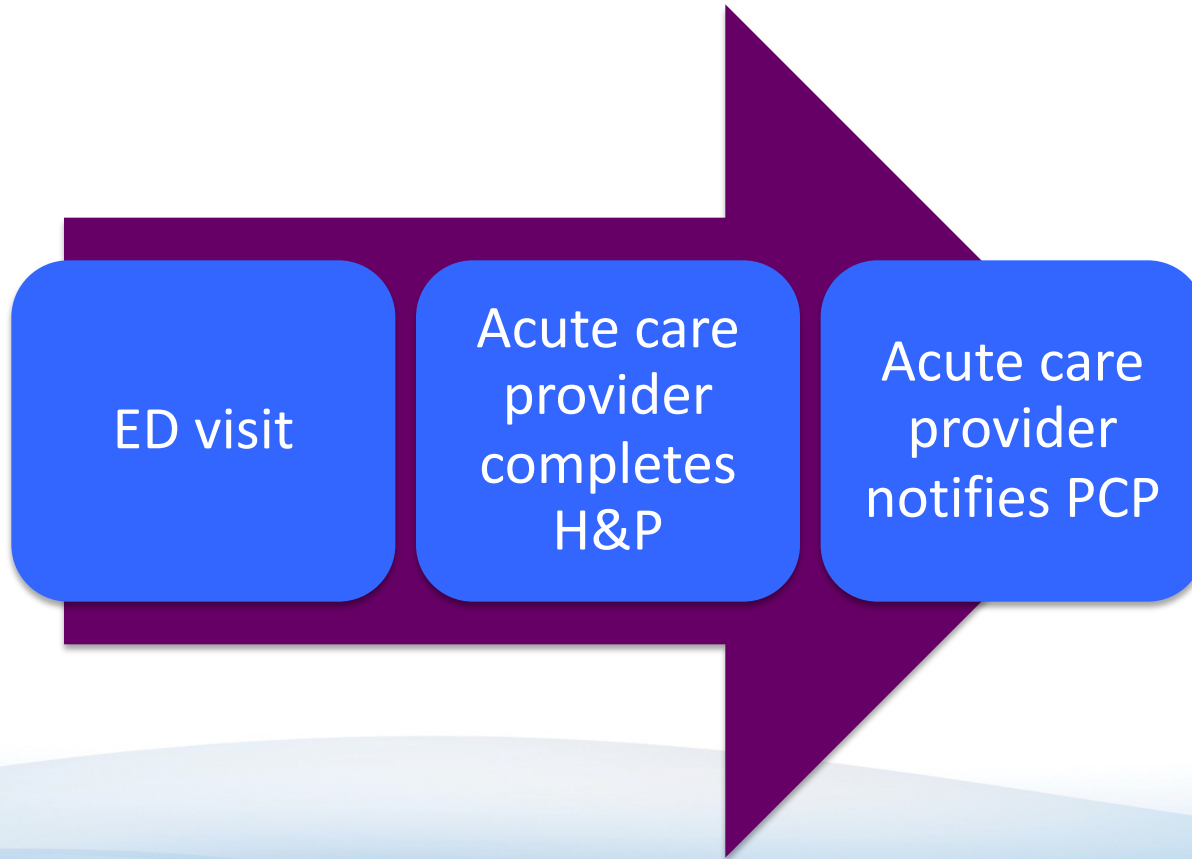
Quality Improvement Question

- Does standardizing how and when acute care providers notify patient's PCP increase the occurrences of PCP awareness of the ICU admission?

Institute for Healthcare Improvement Model

PDSA Cycle

Planning the Intervention

What is this quality improvement project trying to accomplish? Increase the PCPs' awareness of their patients' ICU admission.
How will we know that a change is an improvement? An increase in PCPs awareness of their patients' admission.
What changes can the ICU setting make that will result in an improvement? Standardize the PCP notification process by acute care providers.

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Timeline: QI project 3rd PDSA cycle

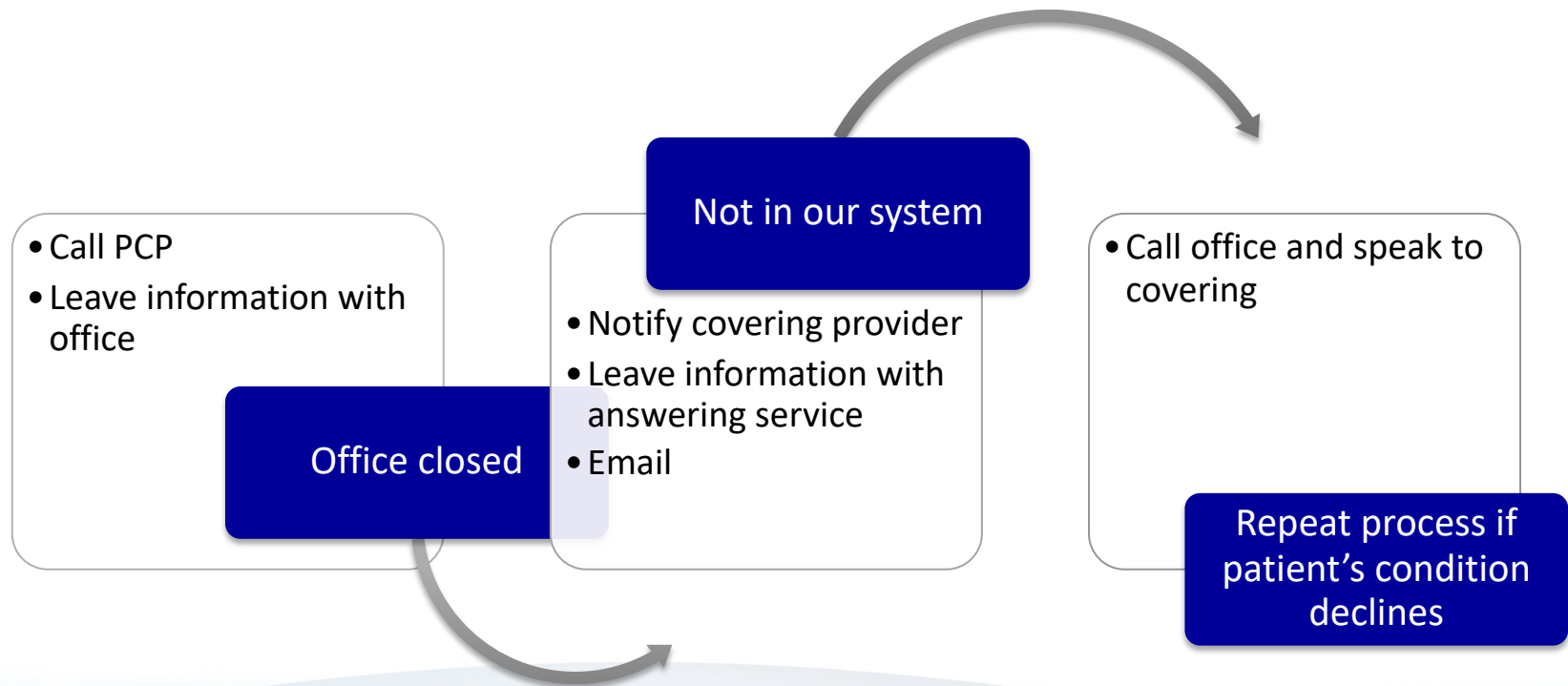| Number	Task	Start	Mar	Apr	May 2011	June	July	Aug-Mar	April	May 2012	June-July 2012	Aug-Nov 2012
9	Completed analysis of Multi-centered project	Apr 2012								X		
10	**Review Literature for QI project Cycle 3**	Apr 2012								X		
11	Design Protocol	May 2012								X		
12	CCOC and IRB approval	May 2012								X		
13	Roll out and complete education of PCP notification Protocol	May 2012								X	X	
14	PCP interviews	June-July 2012									X	
15	Analysis of data	July									X	X
16	Final Presentation And manuscript submission											X

PLAN

- Literature review
- Develop Practice Change
- Education on practice change
- Add PCP notification process in ICU admission documentation
- Obtain approval from Critical Care Operations Committee and IRB.

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Ethical Issues

- IRB approved
- Questionnaires maintained in locked office
- Encrypted and password protected files
- Verbal consent obtained by PCPs prior to implementation of survey

Practice Change: PCP Notification Protocol

- Call PCP
- Leave information with office

Office closed

Not in our system

- Notify covering provider
- Leave information with answering service
- Email

- Call office and speak to covering

Repeat process if patient's condition declines

Documentation Changes

Before

After Practice Change

Do

Act · Plan · Study · Do

- Implemented Practice Change in 3 medical ICUs
- Completed 100 PCP questionnaires evaluating the occurrences of awareness June 2012-July 2012.
- Reviewed 100 patient electronic medical records for acute care provider documentation.

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Enrollment of primary care providers
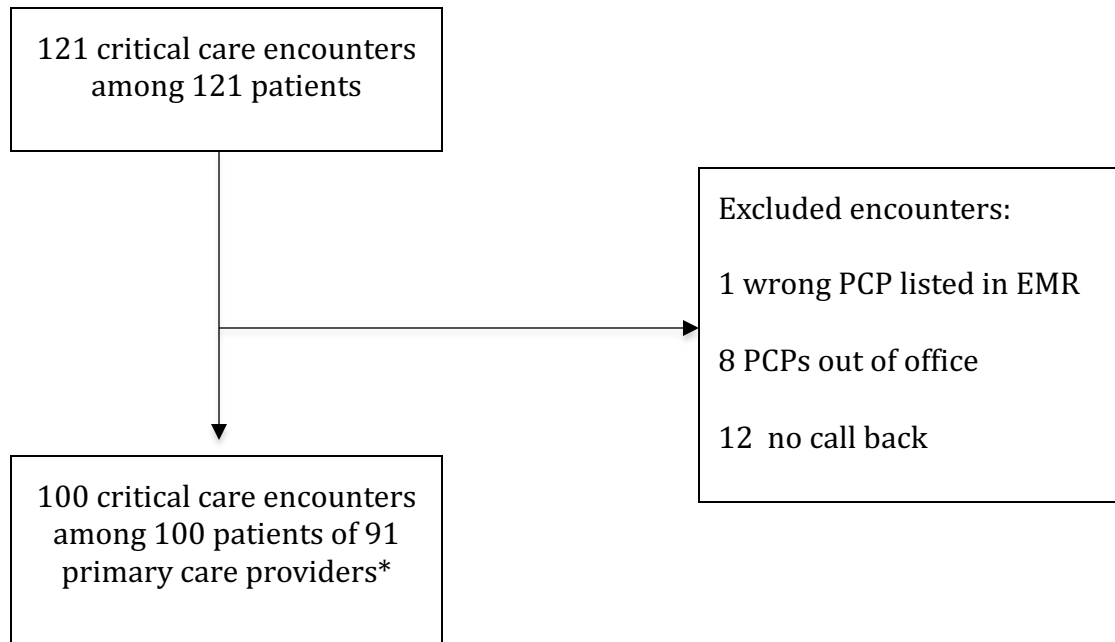
- Review the data collected

Study

Act

Plan

Do

Study

Results

PCPs aware of patient's ICU admission

28%

72%

■ PCP aware

■ PCP not aware

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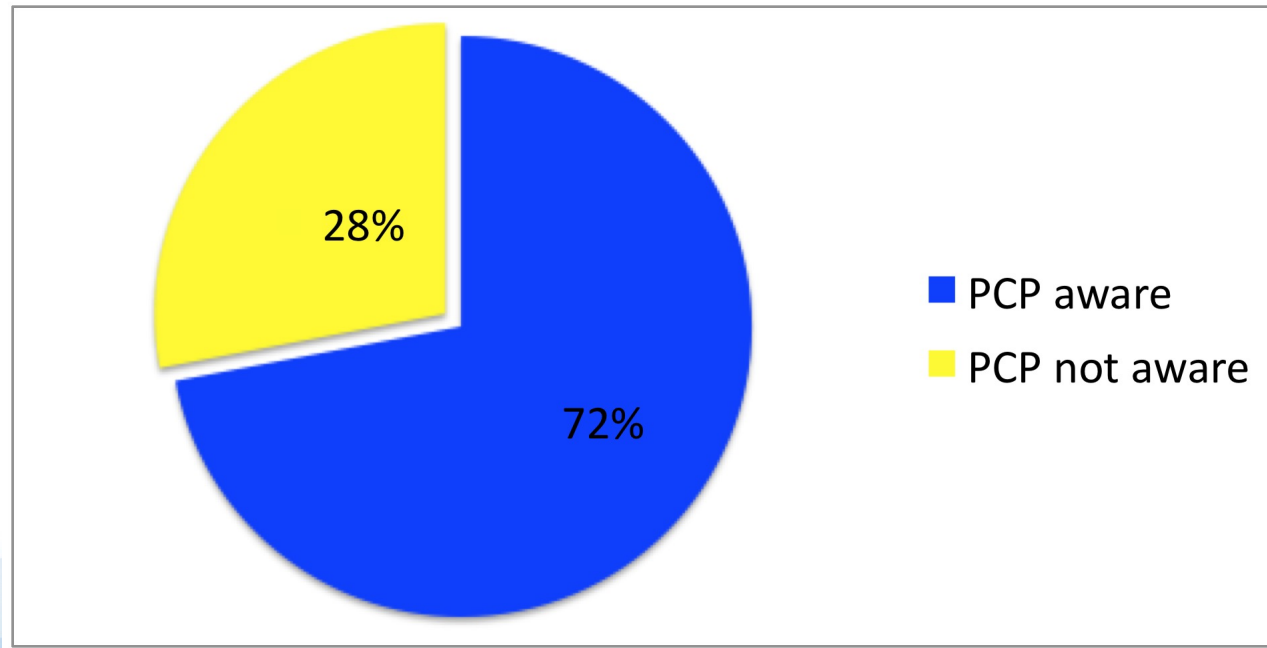
Who notified the PCP of hospital admission?

Pie chart legend:
- **Patient** (green)
- **Acute care staff** (blue)
- **Electronic (email/diagnostic)** (purple)
- **Other** (red)
- **No one** (yellow)

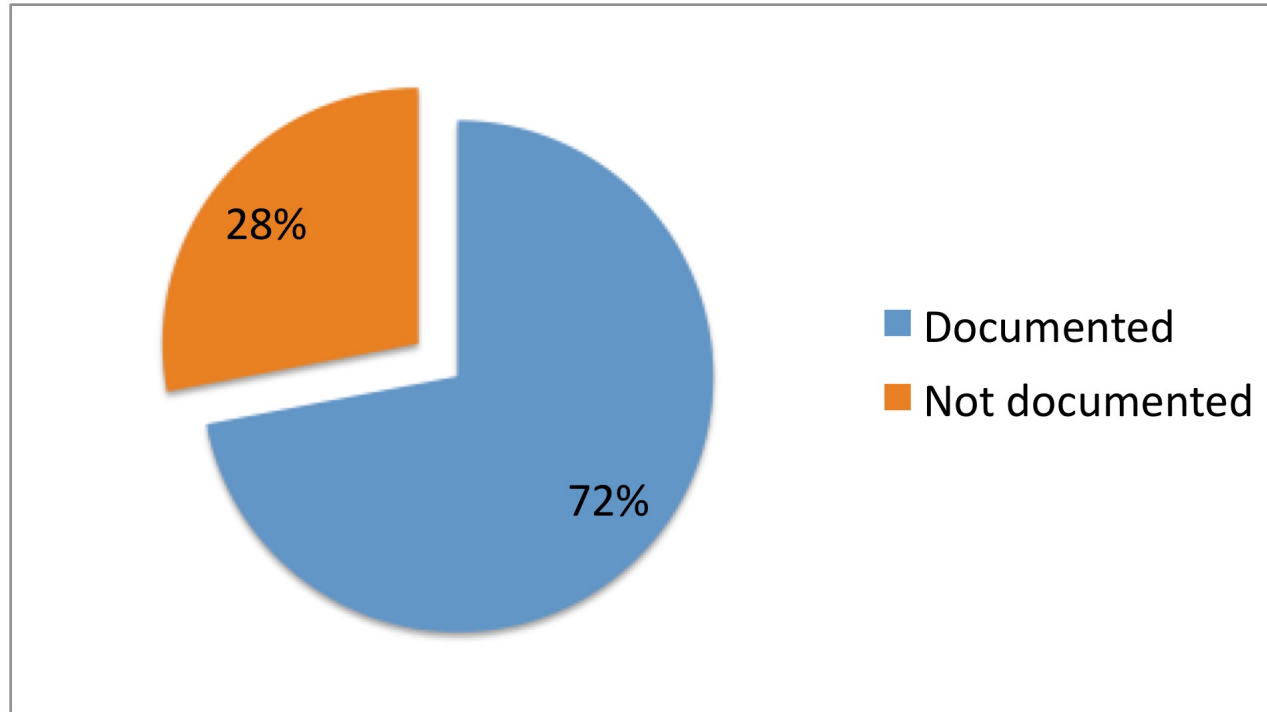Chart values: 3% (Patient), 37% (Acute care staff), 29% (Electronic), 3% (Other), 28% (No one)
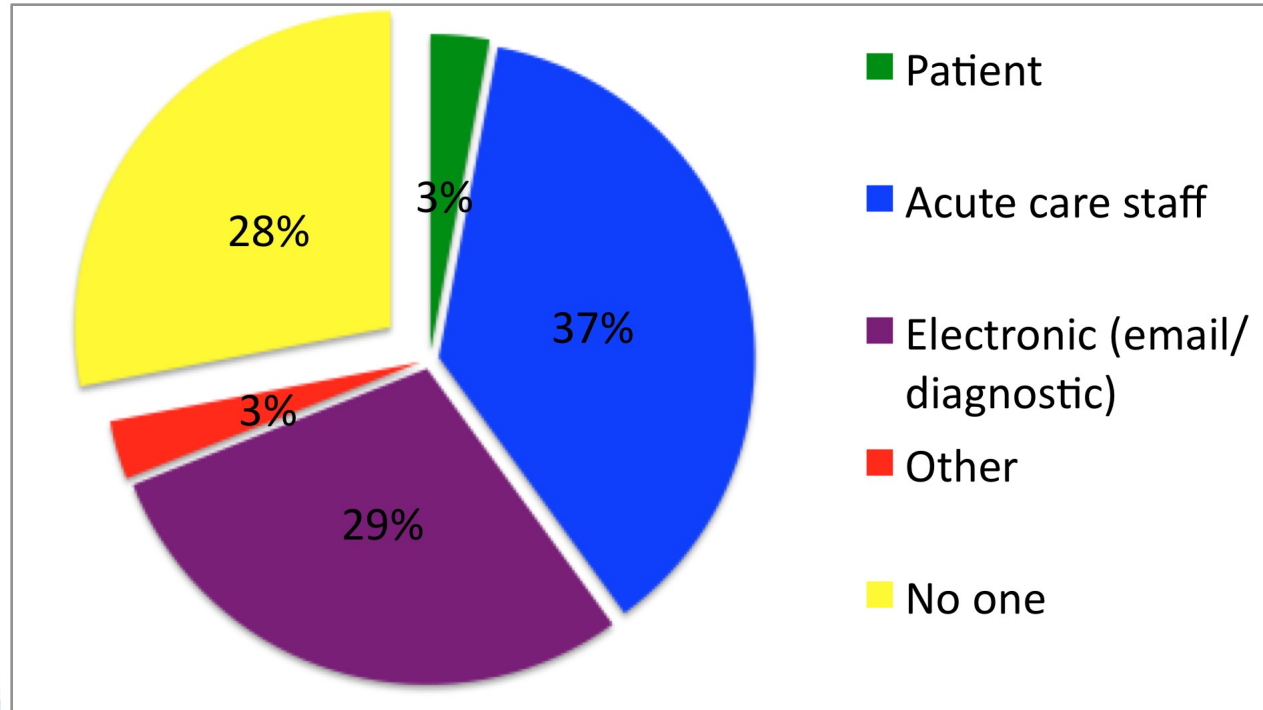
Factors contributing to 28% of PCPs not notified
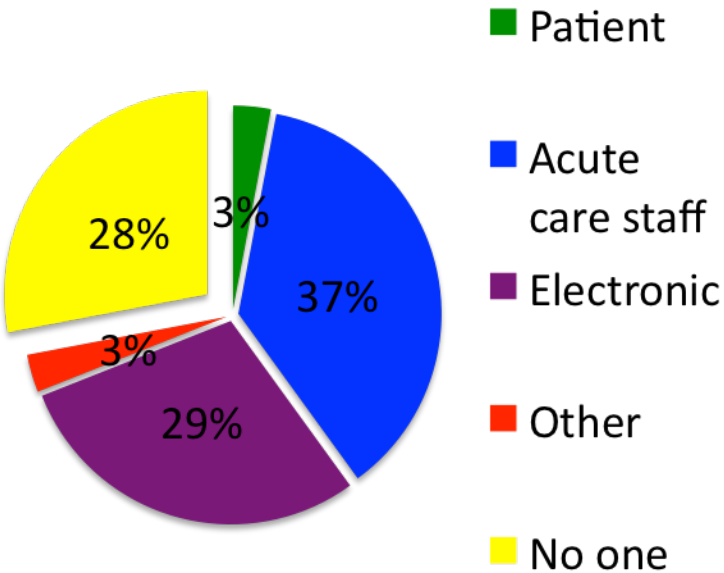
- Wrong PCP
- System Failures
  - Email, answering service

Legend:
- Patient
- Acute care staff
- Electronic
- Other
- No one

Pie chart values: 3%, 37%, 29%, 3%, 28%

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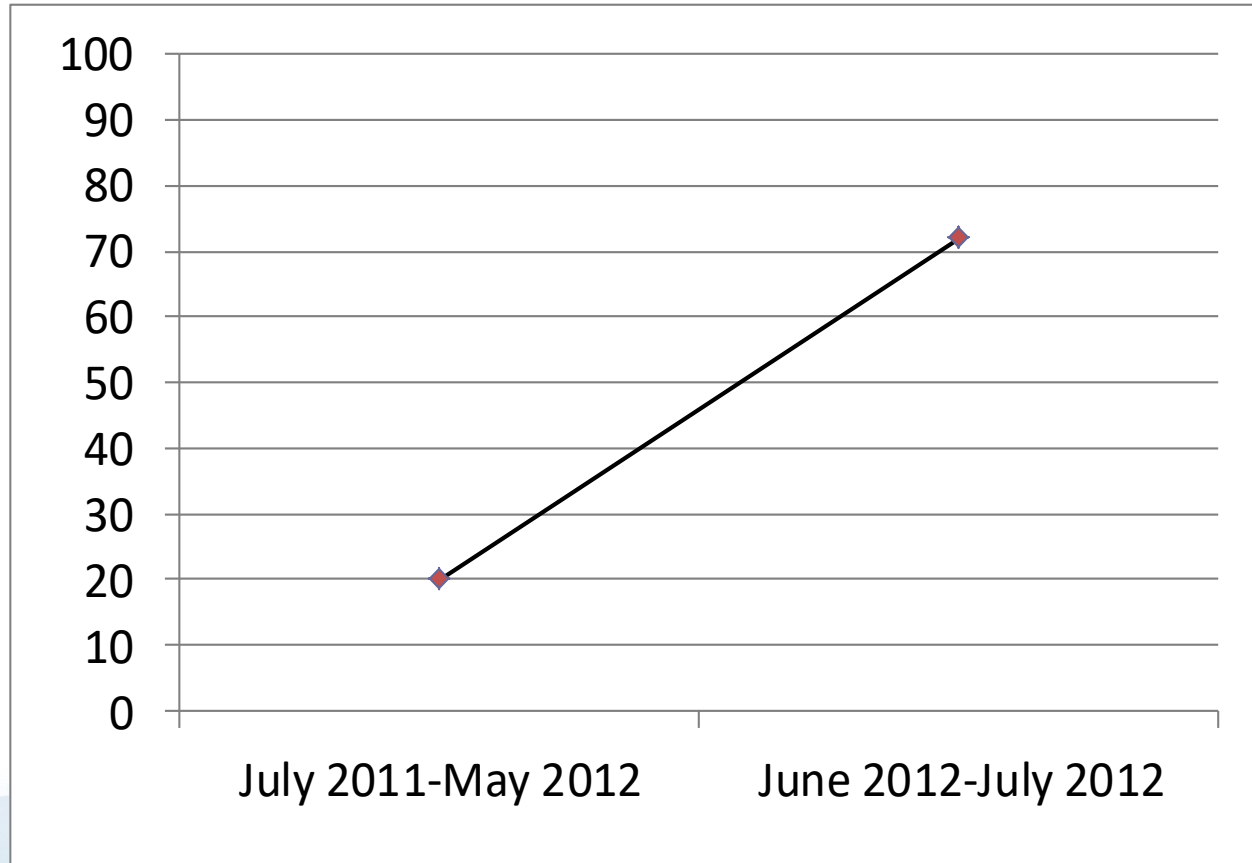umassmed.edu

PCP notification process documented by acute care providers in the patient's EMR
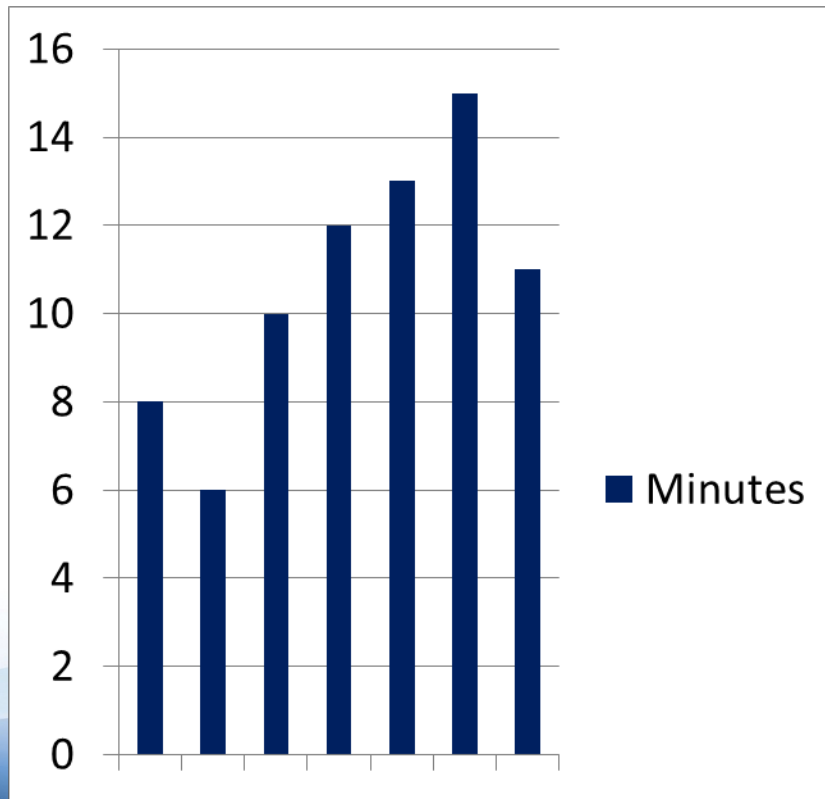
Acute care providers' documentation of PCP notification
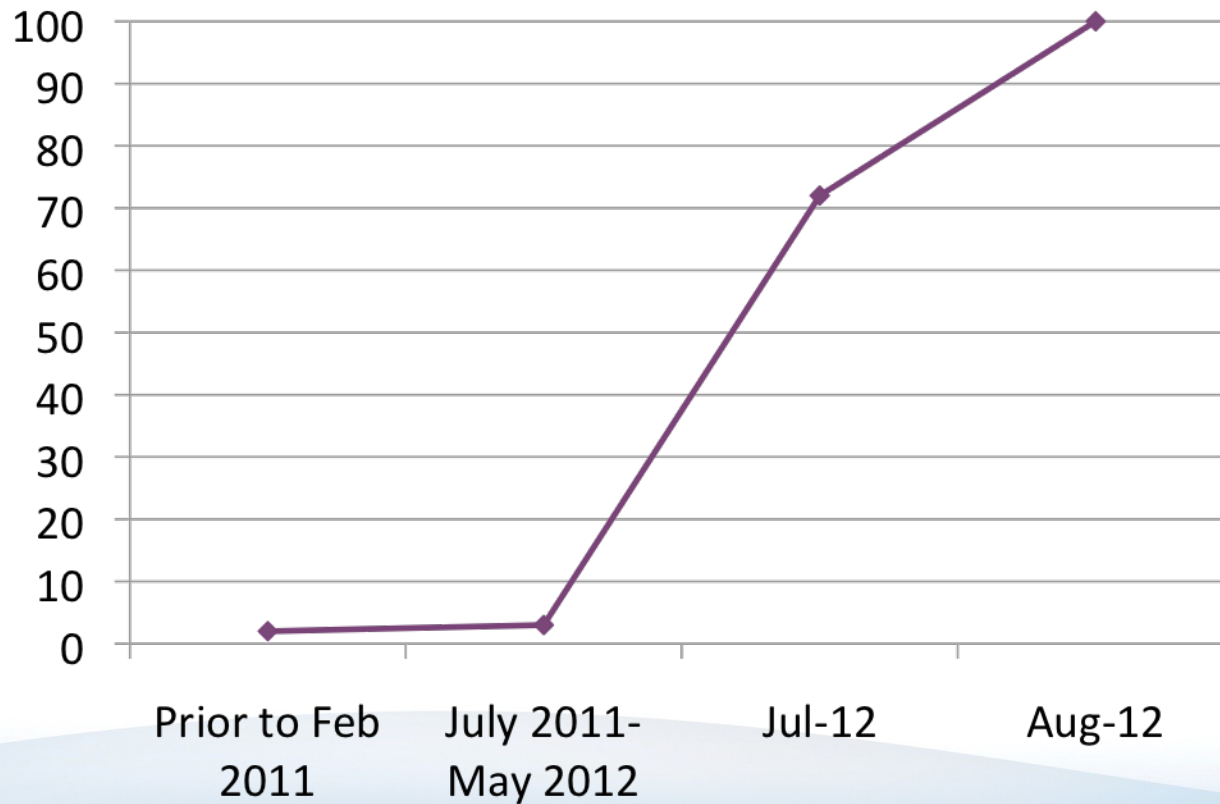
PCP awareness

Time to notify PCP

Less Time if:

- PCP aware of project
- Aware of admission

Themes

-PCPs perceived the intervention to be useful 100% of the time.

-Direct communication allows for real time participation and clarification of questions.

-The intervention will assist the PCP with follow up care.

-Acute care providers identified the intervention as a needed process change.

Contributing Factors Promoting the Practice Change

PCPs Feedback

DNP Capstone Project

Performance Improvement

Standardize PCP Notification Process
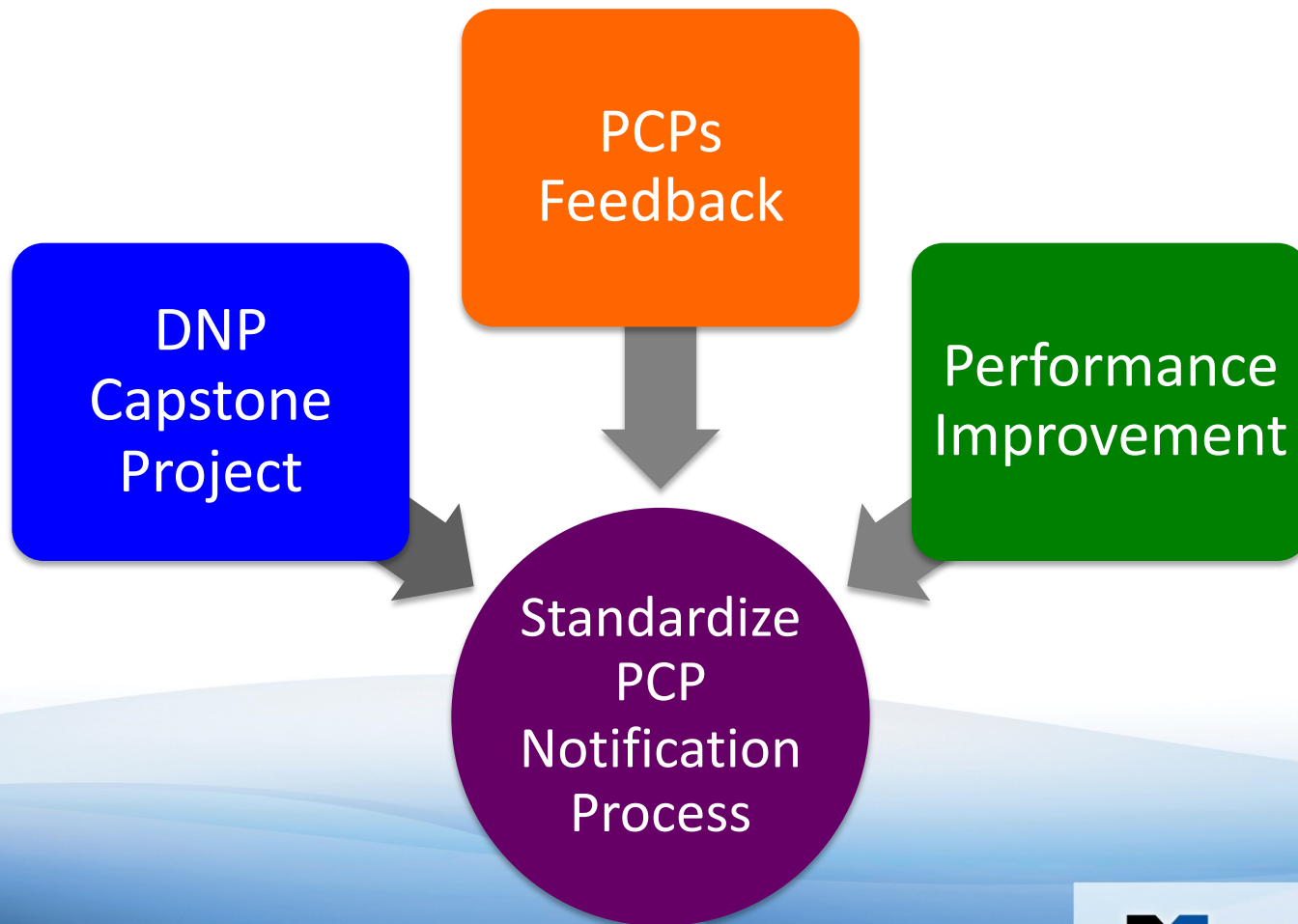
Act
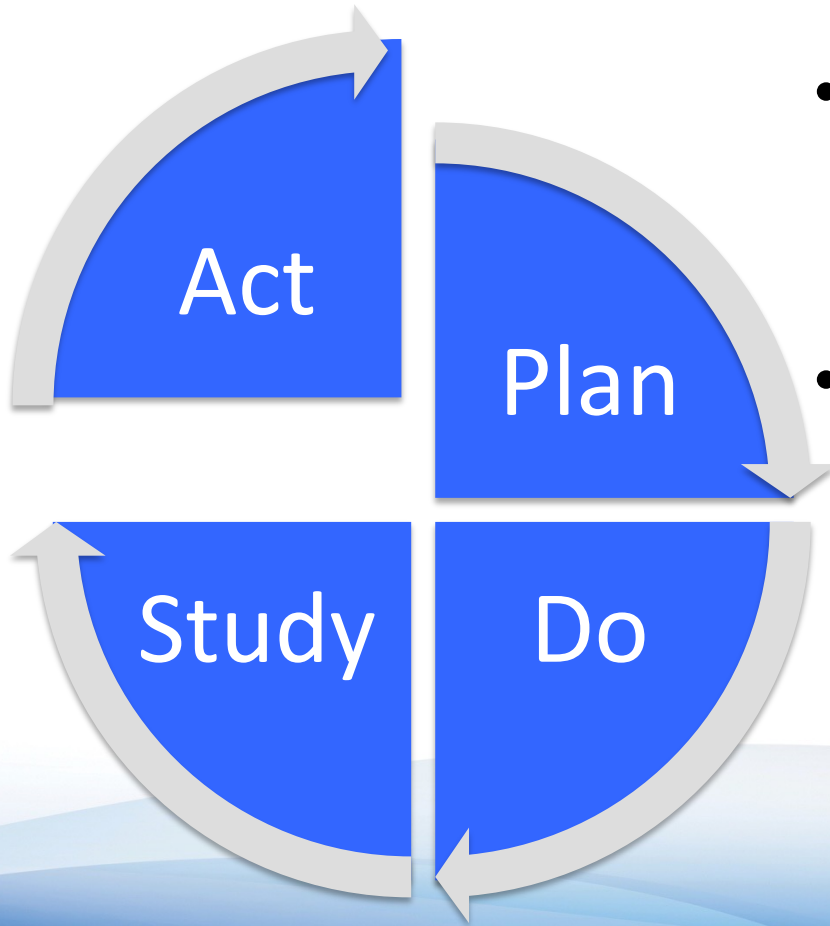
- Continue with Practice Change in all adult surgical & medical ICUs.

- Future Plans:
  - Refine intervention and repeat PDSA cycle.
  - Add additional measures evaluating patient rehospitalization rates and patient outcomes.

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Questions

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Ken Peterson, PhD, FNP-BC

References

Arora, V., Prochaska, M., Farnan, J., D'Arcy, M., Schwanz, K., Vinci, L., … Johnson, J. (2010). Problems after discharge and understanding communication with their primary care physicians among hospitalized seniors: A mixed methods study. *Society of Hospital Medicine, 5,* 383–91.

Bell, C., Schnipper, J., Auerbach, A., Kaboli, P., Wetternck, T., Gonzales, D… Meltzer,

   D. (2008). Association of communication between hospital-based physicians and primary care providers with patient outcomes. *Journal of General Intern Medicine, 24,* 381-6.

Coleman, E. A., Parry, C., Chalmers, S., Min, S. (2006). The care transition

   intervention; Results of a randomized controlled trial. Archives of Internal Medicine, 166, 1822-1828.

Davidoff, F., Batalden,P., Stevens, D., Ogrinc, G., Mooney, S. (2008). Publication guidelines for quality improvement in healthcare: evolution of the SQUIRE protocol. *Quality and Safety in Health Care, 17,* i3-9.

Ellis, K.A., Hosseinnezhad, A., Ullah, A., Vinagre, Y., Baker, S.P., Lilly, C. (2012). Involving primary care providers in the management of adult patients with evolving critical illness. *Not in literature yet*.

Etesse, B., Jaber, S., Mura, T., Leone, M., Constantin, J., Michelet, P…Lefrant, J. (2010). How the relationships between general practitioners and intensivists can be improved: The general practitioners' point of view. *Critical Care, 14, 1–9.*

Harolds, J. (2010). Will accountable care organizations deliver greater quality and lower cost health care? *Clinical Nuclear Medicine, 35(12),* 935–936.

Institute for Healthcare Improvement (IHI). (2011). *How to improve.* Retrieved from
   http://www.ihi.org/IHI/TOPICS/Improvement/ImprovementMethods/Howtoimprove/.

Institute of Medicine. (2001). *Crossing the quality chasm: A new health care system for the 21st century.* Retrieved from www.nap.edu/html/quality_chasm/reportbrief.pdf.

References

Jencks, S.F., Williams, M.V., & Coleman, E. A. (2009). Rehospitalizations among patients in the medicare fee-for-service program. *New England Journal of Medicine, 360,* 1418-1428.

Kind, A.J.H. & Smith, M.A. (2007). *Documentation of mandated discharge summary components in transitions from acute to subacute care.* Retrieved from www.ahrq.gov/downloads/pub/advances2/vol2/Advances-Kind_31.pdf.

Kripalani, S., LeFevre, F., Phillips, C.O., Williams, M.V., Basaviah, P., & Baker, D.W. (2007). Deficits in communication and information transfer between hospital-based and primary care physicians. *JAMA 297*, 831-841.

Leape, L. & Berwick, D. (2005). Five years after to err is human, what have we learned? *JAMA, 293,* 2384-2390.

Lilly, C. (2011). *Interview: Present involvement of primary care providers in intensive care admissions.* Retrieved on June 9, 2011.

Lilly, C.M., Zuckerman, I.H., Badawi, O., & Riker, R. (2011). Benchmark data frommore than 240,000 adults that reflect the current praactice of critical care in the United States. *CHEST, 140,* 1232-1242.

Melnyk, B.M. & Fineout-Overholt, E. (2011) (2nd ed.). Evidence-based practice in nursing & healthcare. Lippincott Williams & Wilkins. New York.

Micek, S.T., Roubinian, N., Heuring, T., Bode, M., Williams, J., Harrison, C., Murphy, …Kollef, M. (2006). Before-after study of a standardized hospital order set for the management of septic shock. *Critical Care Medicine, 34,* 2707-2713.

Naylor, M. & Keating, S. (2008). Transitional care. *Journal of Social Work Education, 44,* 65-73.

References

Noy, D. (2009). Setting up targeted research interviews: A primer for students and new interviewers. *The Qualitative Report ,14,* 454-65.

Pitts, S., Carrier, E., Rich, E., & Kellermann, A. (2010). Where Americans get acutecare: Increasingly, it's not at their doctor's office. *Health Affairs, 29,* 1620- 1629.

SPSS 19.0. (2010). Command Syntax Reference 2010, SPSS Inc., Chicago, Ill.

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