A Patient-Centered Medical Home Curriculum for Third-Year Medical Students

Mariquita Belen, MD
David Sperling, MD
Hyo Young Seo

May 7, 2017

Disclosures

I, my spouse or any immediate family members do not have any relationships with any commercial interest organizations to disclose.

Outline

I.   Introduction

II.   Presentation of the curriculum

III. Presentation of student Dr. Hyo Young Seo's experience

IV.   Presentation of research showing the benefit of structured curriculum

V.   Insights of Dr. David Sperling

VI.   Future Direction

VII. Conclusion and Recommendation

Objectives

1. To describe the Patient-Centered Medical Home Curriculum (PCMH) for third-year medical students at Northeast Ohio Medical University rotating in Aultman Family Medicine.

2. To discuss the importance of integrating quality improvement as a key component of PCMH during Family Medicine rotation.

3. To assess the applicability of this PCMH curriculum in their respective institutions.

Patient-Centered Medical Home (PCMH)

Roadmap to a
Culture of
Quality Improvement
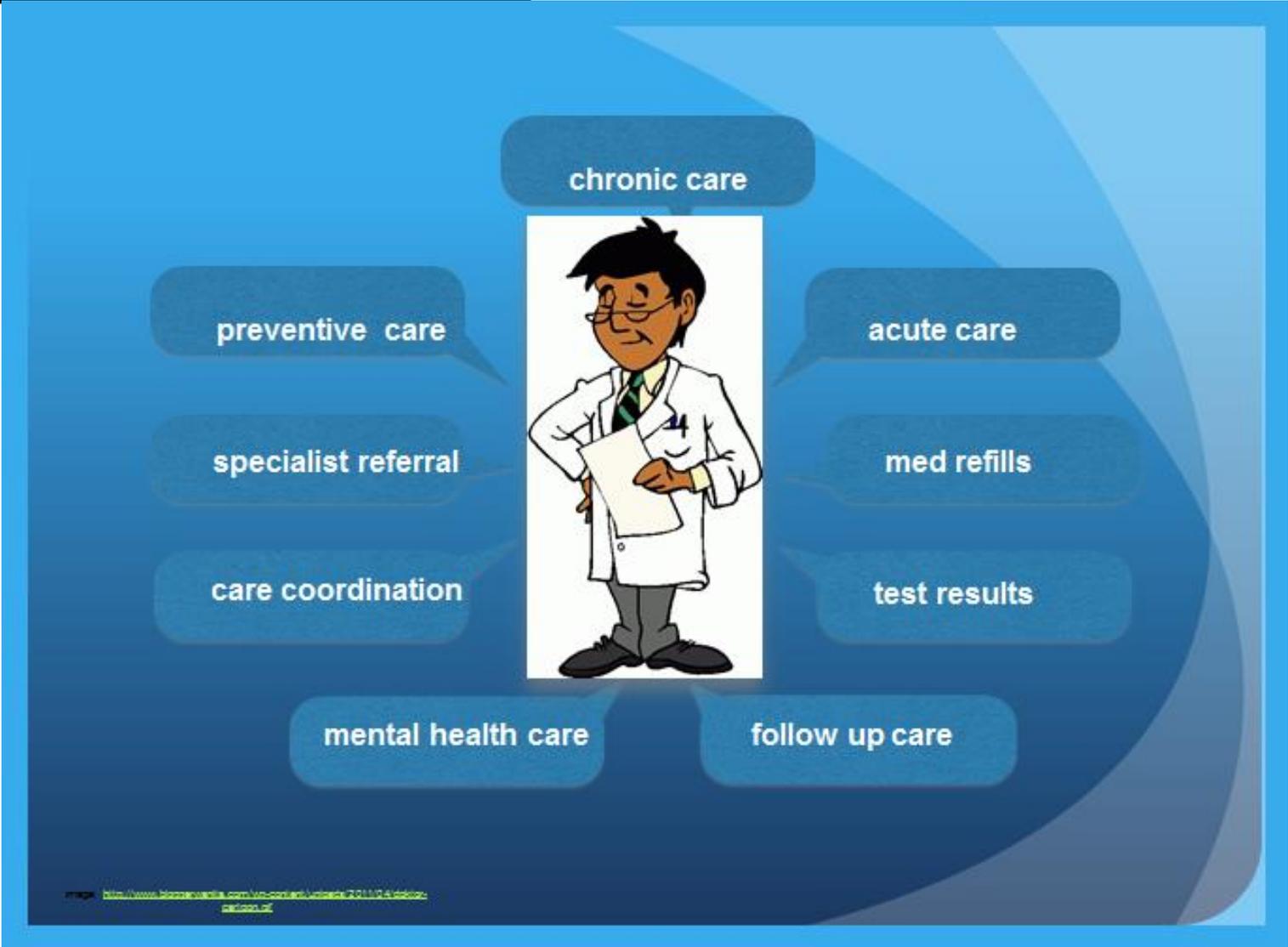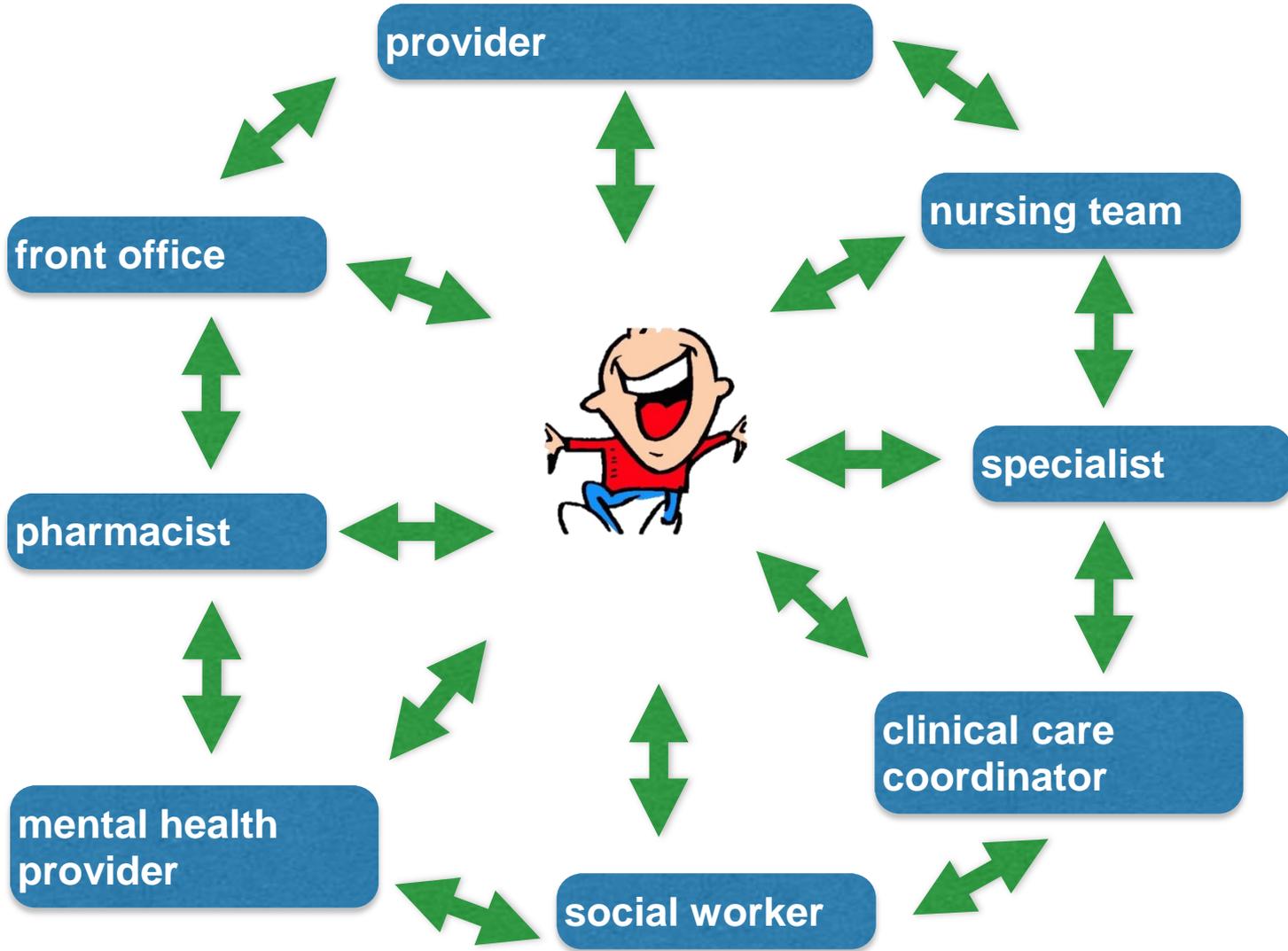
image:
http://www.bubblews.com/assets/images/news/2064976603_1377703185.gif

Join the conversation on Twitter: #STFM50th
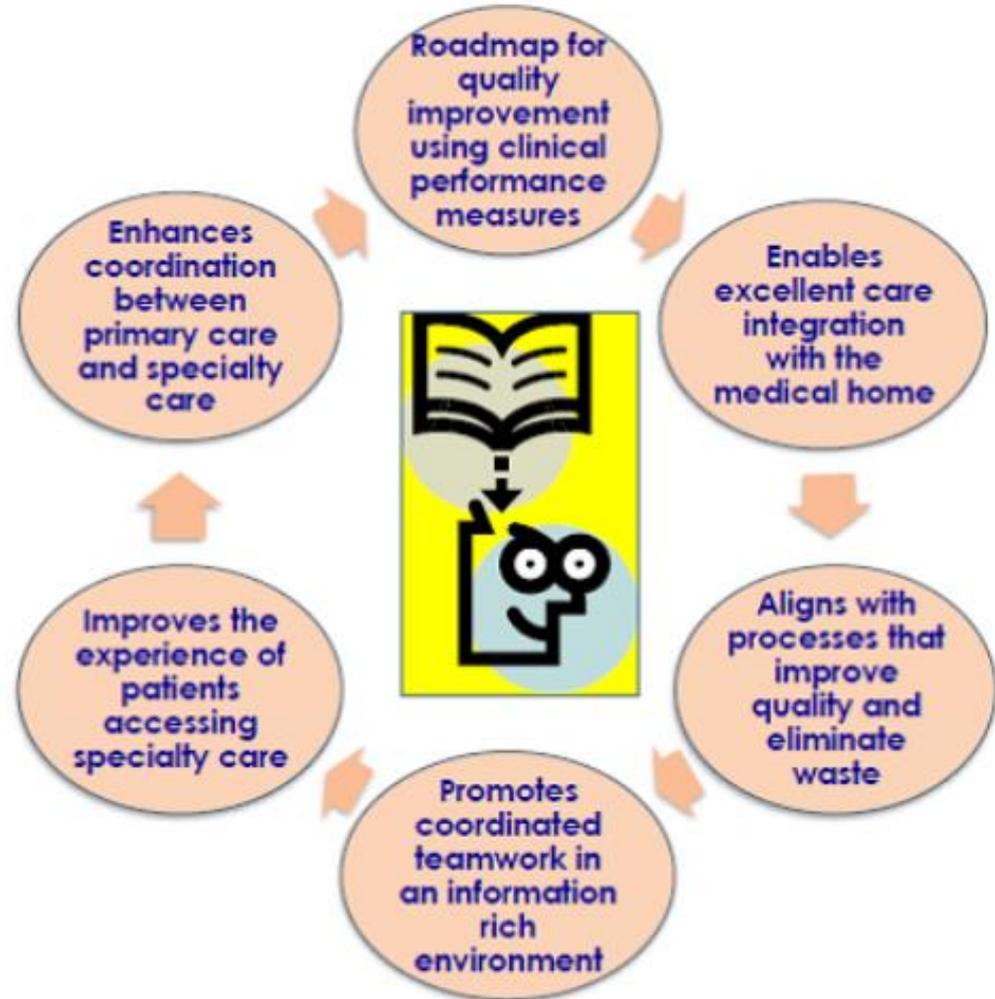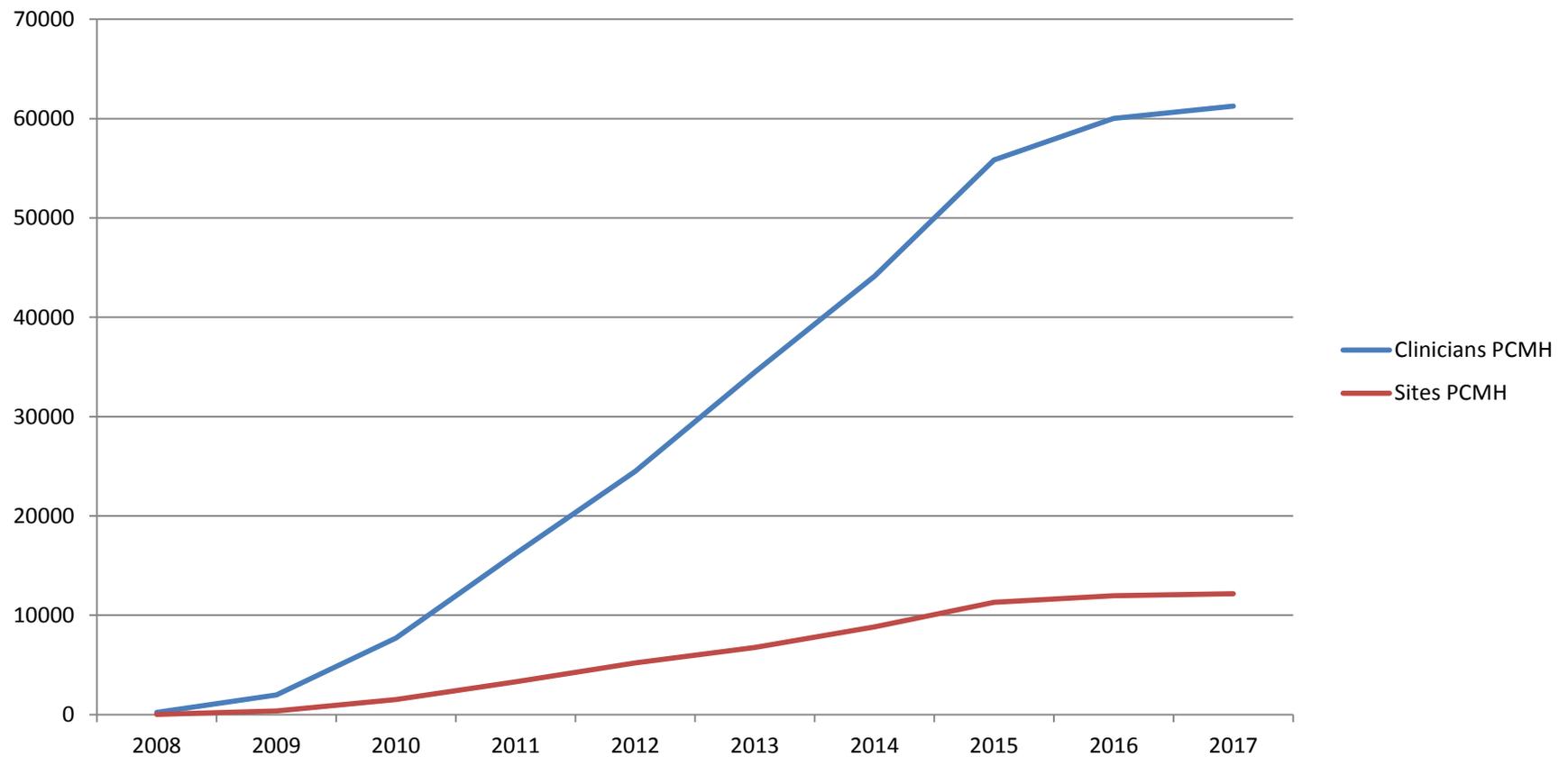
PCMH in United States

PCMH in Ohio
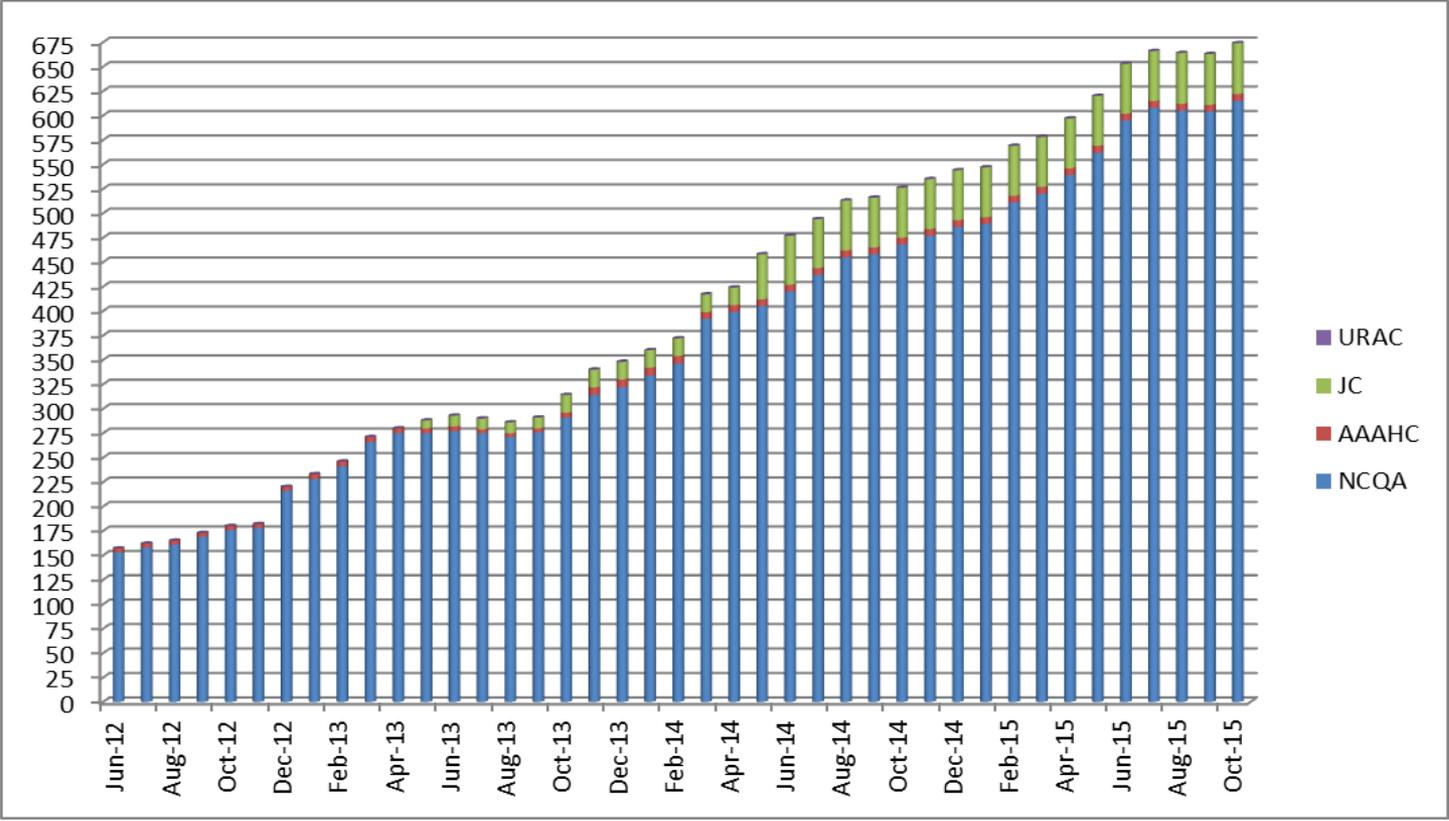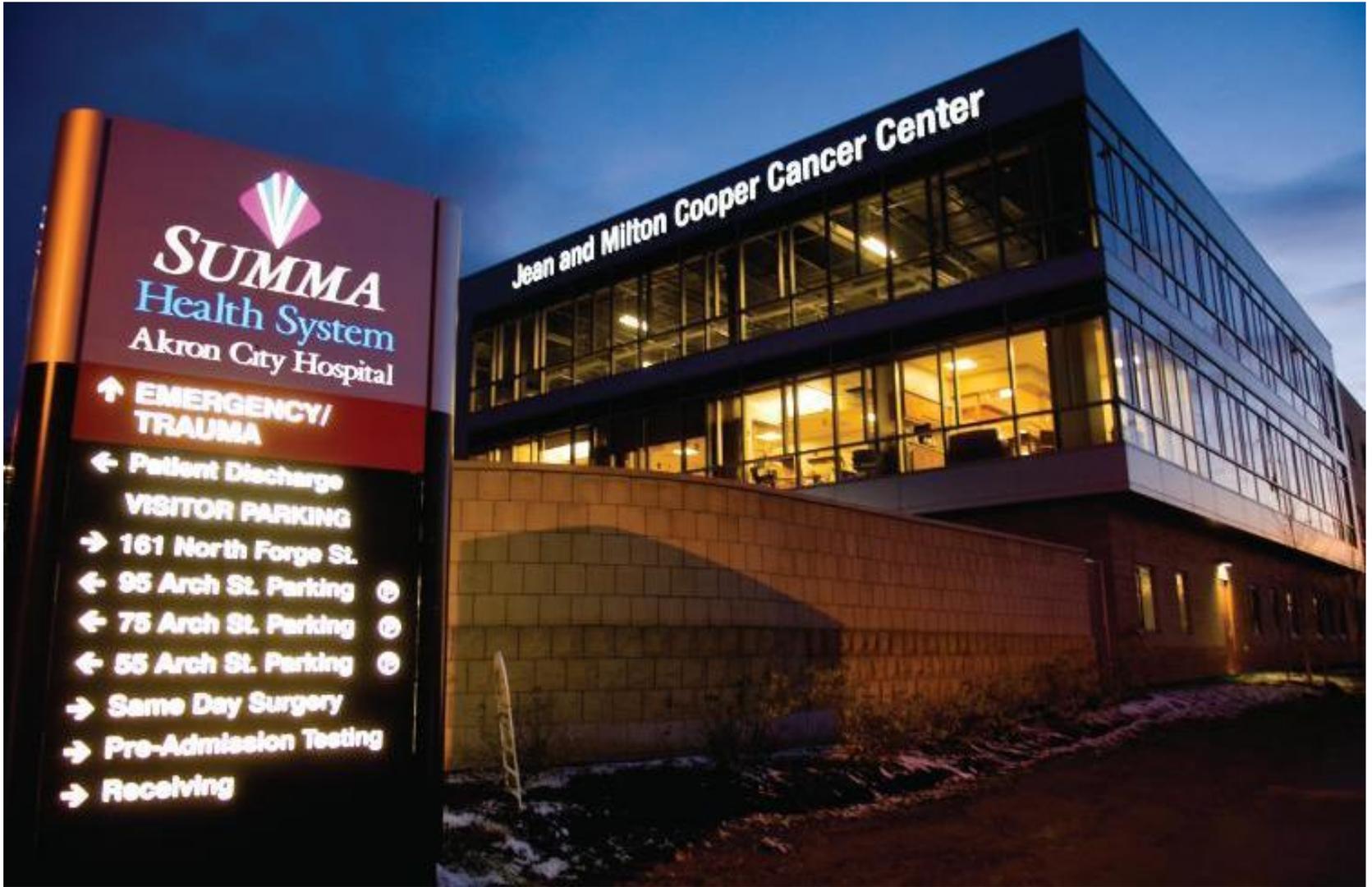
Join the conversation on Twitter: #STFM50th

AULTMAN

PCMH Curriculum Overview

After completing the course, M3 students will be able to:

- Understand Patient-Centered Medical Home (PCMH)
- Recognize importance of team-based care
- Value continuous improvement

Curricular Goals

- Medical students will understand the concept and framework of PCMH

- Recognize the importance of team-based care

- Aim for excellence and continuous quality and practice improvement

Objectives

- define PCMH in accordance with the AAFP definition

- describe the PCMH components: Practice Organization, Quality Measures, Patient Experience, and Health Information Technology

- design and implement a practice improvement or quality improvement project

Instructional Strategies/Implementation Plan

Time	Activity	Resource	Staff/Resident/Faculty Involvement
Week 1, Day 1 AM	Asynchronous learning	"Introduction to PCMH" video	
Week 1 Day 2 1 hour	Small group discussion	PCMH at Aultman Family Medicine presentation	Faculty-PCMH Champion
Weeks 1-2	Self-directed Learning	Fundamentals of Improvement Modules from IHI	

https://mediaweb.neomed.edu/Mediasite/Play/57cd0a269a5a4dad8d11ed7d4e81bdce1d

Instructional Strategies/Implementation Plan

Time	Activity	Resource	Staff/Resident/ Faculty Involvement
Weeks 1-2 1-2 hours, 2 sessions	Shadow resident or nurse or front office staff or medical biller	Experiential learning; identify one area for improvement	Resident or nurse or front office staff
Last day of Week 2 1 hour	Needs Assessment; Designing a plan	IHI Handbook-Charter Form; PDSA Form	Faculty Advisor

Instructional Strategies/Implementation Plan

Time	Activity	Resource	Staff/Resident/Faculty Involvement
Week 3, Day 1 30 minutes	Discuss implementation and data collection plan	IHI Handbook- PDSA Form Application of "Plan" in the PDSA cycle	Faculty Advisor
Week 3, Day 2 huddle	Orientation of staff, residents, faculty re: Implementation /data collection	Application of "Do" in the PDSA cycle	Staff Residents faculty

Instructional Strategies/Implementation Plan

Time	Activity	Resource	Staff/Resident/Faculty Involvement
Weeks 3-4	Implementation/ Data Collection	IHI Handbook-PDSA Form; Application of "Do" in the PDSA cycle	Staff Residents Faculty
Week 5 30 minutes	Analysis of Data	IHI Handbook-PDSA Form; Application of "Study" in the PDSA cycle	Faculty Advisor

Join the

Instructional Strategies/Implementation Plan

Time	Activity	Resource	Staff/Resident/ Faculty Involvement
Week 6, Day 1 30 minutes	Discuss results; Preparation for Presentation of the project	IHI Handbook-Practicum Summary Report	Faculty Advisor
Week 6 Noon Conference	Presentation of the Project max of 10 minutes	IHI Handbook-Practicum Summary Report	Staff Residents Faculty

Resources

Resources	Initial Cost	Succeeding Cost
Powerpoint slides	$ 720	0
Video Lecture	810	0
Faculty	280	$ 280
Conference Room	250	250
Web Hosting	3	3
Total	$2,063	$ 533

Learner Assessment

- Quiz
- Conference Evaluation form
- Personal reflection on "How quality improvement or practice improvement project will affect patients, staff, providers and healthcare system?"

Evaluation

- Students will evaluate the PCMH curriculum by completing an evaluation form.

- Residents, faculty and staff will complete a post evaluation of satisfaction of the curriculum.

- A cost/benefit analysis will be tracked and reported by the Clerkship Coordinator.

Perspective of Student Dr. Hyo Young Seo

Week1

- Getting used to the flow of the office
  - Electronic medical record
  - Meeting the staff members
    - Learning his or her role
  - Identifying areas medical students can help
    - HPI, ROS
    - Nursing needs
    - Chart review
- Knowing that a QI project will be done made us pay attention to what's working, what could be improved
- Motivated me to get to know all the office staff, not just the residents and attending physicians

Weeks 2-5

- Planning the QI Project
  - PDSA Cycle
  - Topic of interest
  - Feasible
- Weekly meetings with Dr. Belen
  - Receive feedback on plan – She suggested we add a role for the front office staff
    - how to maximize the role of each staff member?
- Daily huddles in the office
  - Every team member provides questions, concerns, what we're doing well
  - Present the QI project and ask for continued participation, reminders daily

Our QI Project

- Project Title: Living Will Questionnaire
- Aim of project: To increase by 10% the percentage of family medicine patients with living will by educating patients about the importance of living will.

Dear All,

We are Sejul Chaudhary and Hyo Young Seo, the third year medical students from NEOMED currently in our family medicine clerkship. We are conducting a quality improvement project with Dr. Belen on increasing patient awareness about Living Wills from 7/5/2016-7/15/2016. Below are all the roles for the different members of the team.

Front desk:

For every patient **greater than 18 years old** who are here for a **wellness visit**, please hand them the *Living Will questionnaire* and ask them to fill it out.

Nurses:

When rooming the patients, if the patient has **answered No to Question #1** please hand them the "Choices, Living Well at the End of Life" packet that's in the drawers in each exam room.

Please **document in Allscripts** in the Health maintenance section → Living Will section whether the patient has a living will, refused, or were handed the packet.

Providers:

During the well visit, **discuss with the patients the results of the questionnaire** and emphasize the importance of having a Living Will completed.

If the patient agrees to complete a Living Will, please hand them the State of Ohio Living Will Declaration that's located in the drawer in the exam room. Try to set a goal date for the completion of the Living Will. If the patient takes the Living Will form, please document in Allscripts so we can follow up in future appointments.

If different from nurses' documentation, please chart in Allscripts the patients' response.

Give the survey back to the patient along with the green check out sheet

Check out:

Please **collect the completed questionnaire** from the patients at the time of check out.

There should be a marked folder to place the forms. We will pick them up at the end of each week.

Please let Sejul, Hyo, or Dr. Belen know if you have any questions. We appreciate your cooperation in this project.

Thank you,

Name:

Date of Birth:

Living Will Questionnaire

Circle Yes or No

1. Do you have a living will?

    Yes   No

2. If No, Do you understand what a living will is?

    Yes   No

3. Would you like more information about your living will?

    Yes   No

4. Would you like a living will form to complete at this time?

    Yes   No

Please turn in this form at the front desk upon checking out. Thank you.

Choices

Living Well at the End of Life

Advance Directive Information

Sixth Edition

State of Ohio
# Living Will Declaration
Notice to Declarant

The purpose of this Living Will Declaration is to document your wish that life-sustaining treatment, including artificially or technologically supplied nutrition and hydration, be withheld or withdrawn if you are unable to make informed medical decisions and are in a terminal condition or in a permanently unconscious state. This Living Will Declaration does not affect the responsibility of health care personnel to provide comfort care to you. Comfort care means any measure taken to diminish pain or discomfort, but not to postpone death.

If you would not choose to limit any or all forms of life-sustaining treatment, including CPR, you have the legal right to so choose and may wish to state your medical treatment preferences in writing in a different document.

Under Ohio law, a Living Will Declaration is applicable **only to individuals in a terminal condition or a permanently unconscious state**. If you wish to direct medical treatment in other circumstances, you should prepare a Health Care Power of Attorney. If you are in a terminal condition or a permanently unconscious state, this Living Will Declaration takes precedence over a Health Care Power of Attorney.

[You should consider completing a new Living Will Declaration if your medical condition changes or if you later decide to complete a Health Care Power of Attorney. If you have both a Living Will Declaration and a Health Care Power of Attorney, you should keep copies of these documents together. Bring your document(s) with you whenever you are a patient in a health care facility or when you update your medical records with your physician.]

Midwest Care Alliance · Ohio State Medical Association · Ohio Hospital Association · Ohio Osteopathic Association · Ohio State Bar Association

Do you have a living will?

Yes → 5 (13%)

No → 34 (87%)

Would you like more information about your living will?

Yes → 12 (35%)

No → 22 (65%)

Would you like a living will form to complete at this time?

Yes → 7 (58%)

No → 5 (42%)
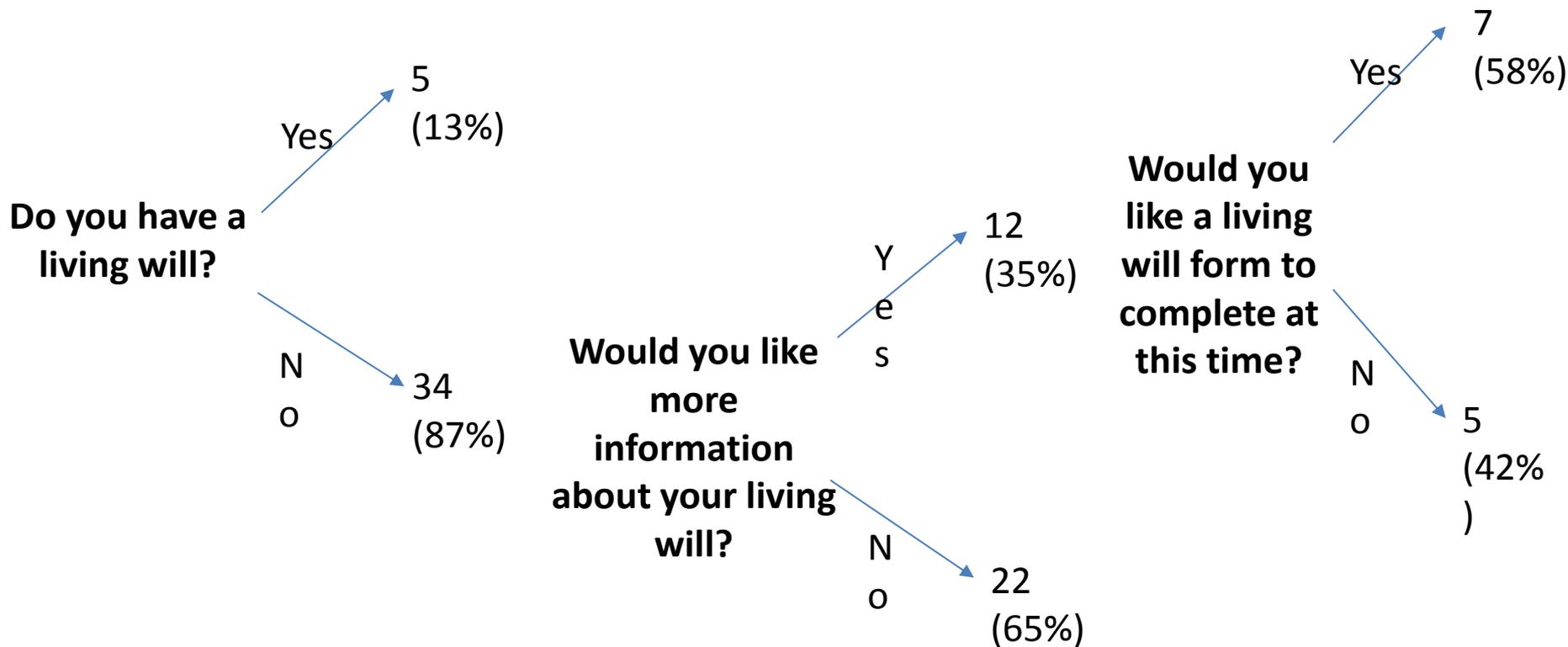
Living Will Questionnaire Results

- 39 total responses
- 87% did not have a living will
  - Patients who wanted more info: more likely to want the form to fill out
- Important to follow up with these patients
- Update EMR regularly

Conclusion

- Planning a QI project and carrying out the PDSA Cycle
    1. Made us pay attention to the IHI Modules
    2. Raised awareness of every day issues in the office
    3. Fostered closer relationship with all office staff
    4. Increased knowledge about advanced care planning process in Ohio
    5. Taught us the value of PCMH for both providers and patients

Going Forward

- ACGME requires a QI project from each resident
  - Already aware of PDSA Cycle and the process
  - Possibility of continuing or developing this project further
- PCMH Knowledge
  - Use knowledge to develop and grow residency clinic as a PCMH
  - Possibility of service on a PCMH committee
  - Starting or developing my future practice as a PCMH
  - Help educate medical students
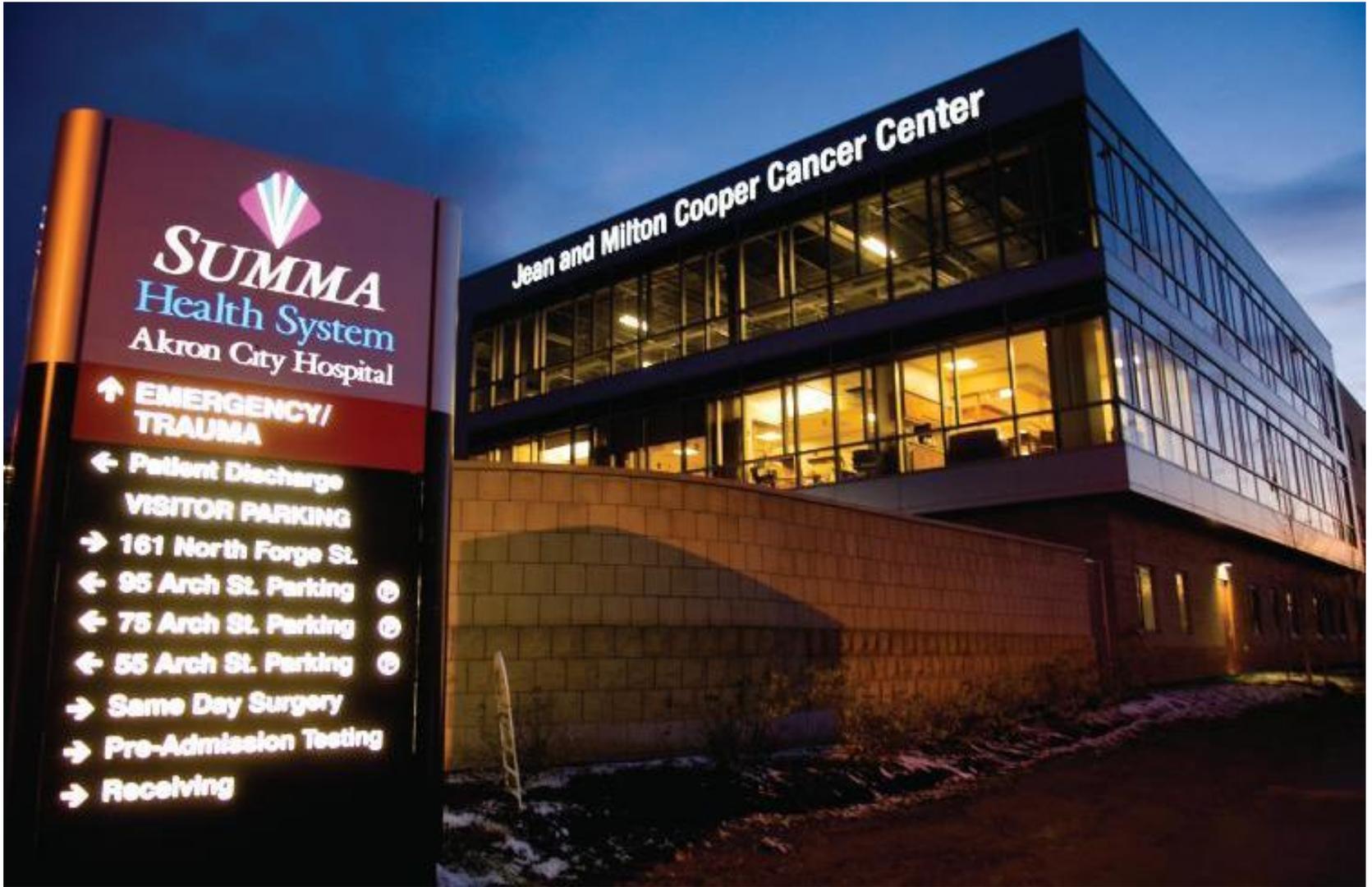
Purpose of the Study

- To demonstrate that third-year medical students will have increase in knowledge about PCMH and QI after implementation of the PCMH curriculum.

Practice Organization

Health Information Technology

Quality Care

Patient-Centered Care

Family Medicine

Purpose of the Study

- To demonstrate that third-year medical students will increase their competence to develop and implement a quality improvement project using Plan-Do-Study-Act (PDSA) cycle.

Purpose of the Study

- To evaluate the effect of formal PCMH curriculum on the change in the personal perception of medical students' knowledge, skills, attitude and experience related to PCMH and QI.

Methodology

- Quasi-experimental study
- Aultman Family Medicine (Intervention) and Summa Family Medicine (Control) from May 2015 to April 2016
- All third-year medical students rotating in Family Medicine
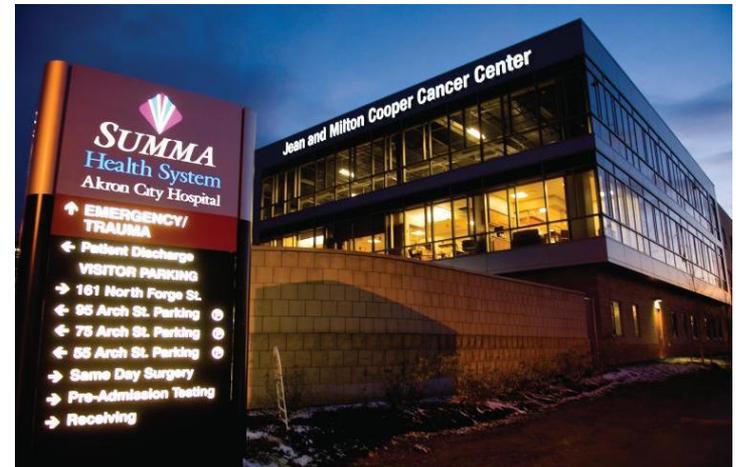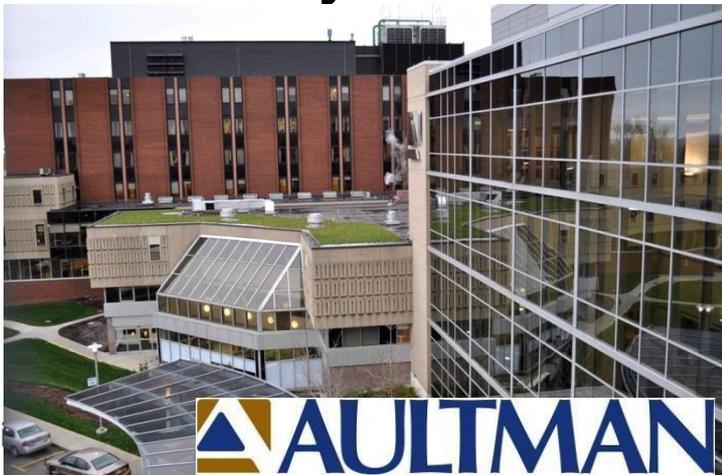
Methodology

- Number coded pre-test and post-test

- Results of the pre-test and post-test were collected and compared

- Intra-group change scores and mean change difference between groups were analyzed with associated confidence intervals.

Pre-/Post-test QI

- How much do you know about quality improvement (QI)?

- What kind of participation have you had with QI?

- I believe I am able to develop and implement a QI project.

- I would like to participate in a project if it helped improve patient care.

- I would like to participate in a project if it helped improve residency program.
  - Adapted from: CQI Curriculum/Indiana University School of Medicine//Djurucuch/MedEdPortal 2006

Pre-/Post-test QI

- List elements of PDSA cycle and briefly describe each in one sentence.

- In Quality Improvement, most problems are in people not working hard enough.

- We define quality by how well we meet the needs of those we serve.

- We need to specify what are we trying to accomplish and how will we know a change is an improvement.

- We must collect meaningful data and use the data for learning and further improvement.

- Adapted from: CQI Curriculum/Indiana University School of Medicine//Djurucuch/MedEdPortal 2006

Pre-/Post-test PCMH

- How much do you know about Patient-Centered Medical Home (PCMH)?

- What kind of participation have you had with PCMH?

- The basic premise of the PCMH is that it facilitates partnerships between individual patients and their personal physicians, and when appropriate, the patient's family.

Pre-/Post-test PCMH

- Identify which of the following scenarios fit the PCMH model.

- Please check the <u>four</u> components of PCMH.

- What is the hallmark of Patient-Centered Medical Home?

- One of the key benefits of the PCMH among others is that coordinated care means fewer duplicate or unnecessary tests.

Mean Change in Knowledge Score for QI and PCMH

	Intervention Group	Control Group	P value	Confidence Interval
PDSA	2.91	0	0.0002	1.594 - 4.224
PCMH Component	0.7	-0.55	0.005	0.430 - 2.081

Mean change in knowledge score for QI and PCMH
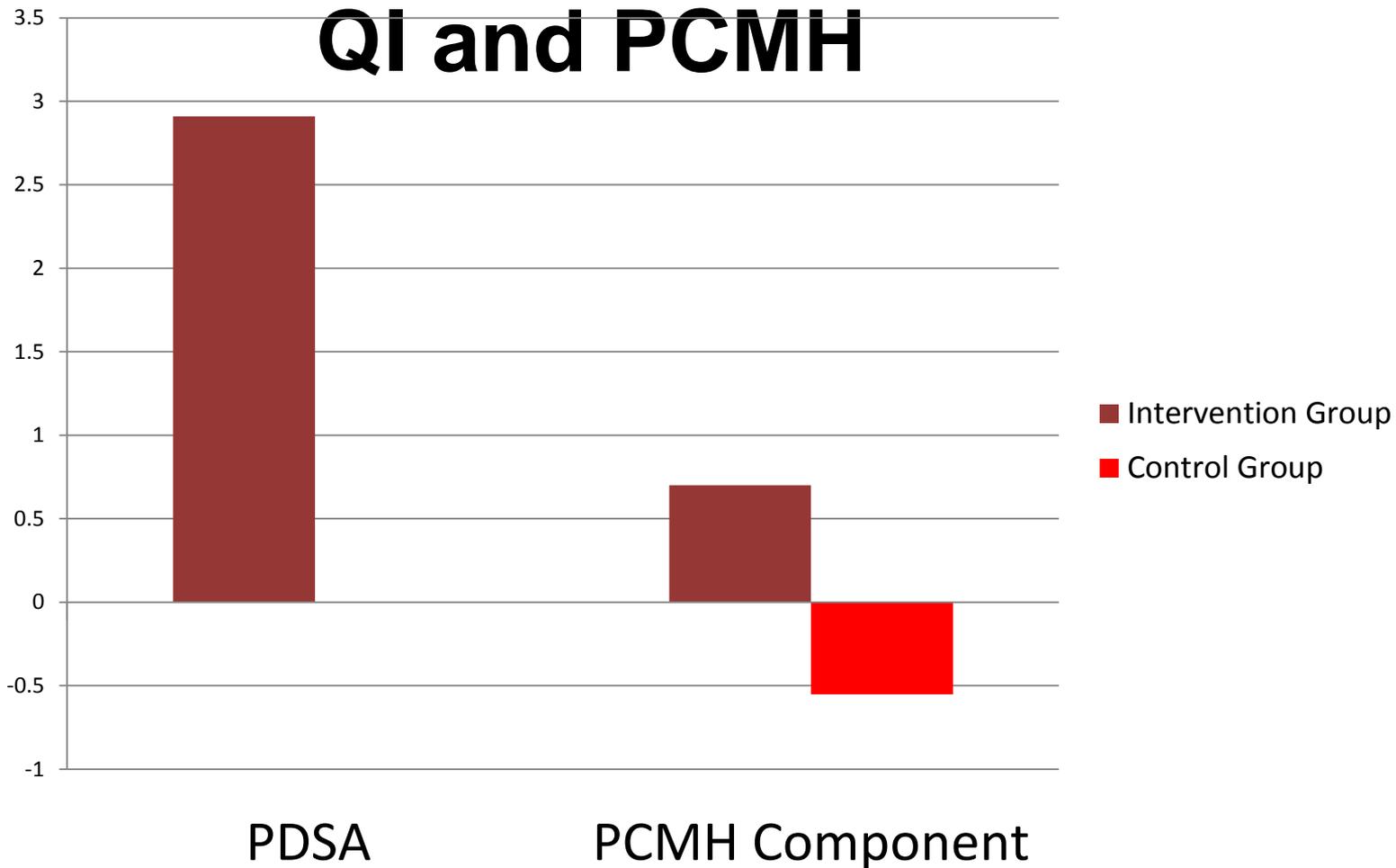
# QI self-assessment change in knowledge, skills and attitude
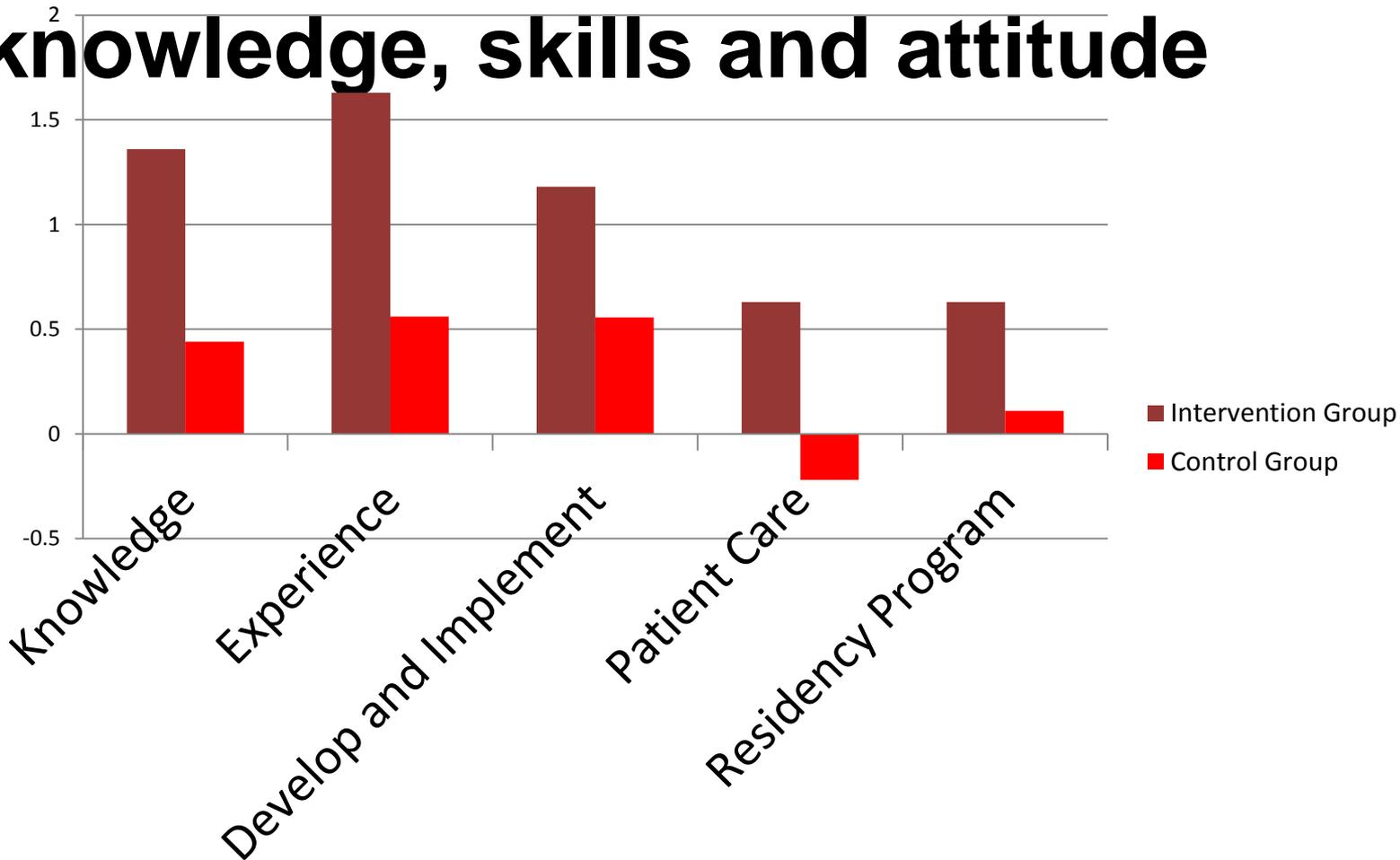
Mean Change in QI Self-assessment Score in Knowledge, Skills and Attitude

	Intervention Group	Control Group	P value	Confidence Interval
Knowledge	1.36	0.44	0.0089	0.260 - 1.578
Experience	1.63	0.56	0.0029	0.422 - 1.739
Develop and Implement	1.18	0.556	0.076	-0.073 - 1.325
Patient Care	0.63	-0.22	0.0008	0.408 - 1.309
Residency Program	0.63	0.11	0.223	-0.349 - 1.399

PCMH Self-assessment Change in Knowledge and Participation
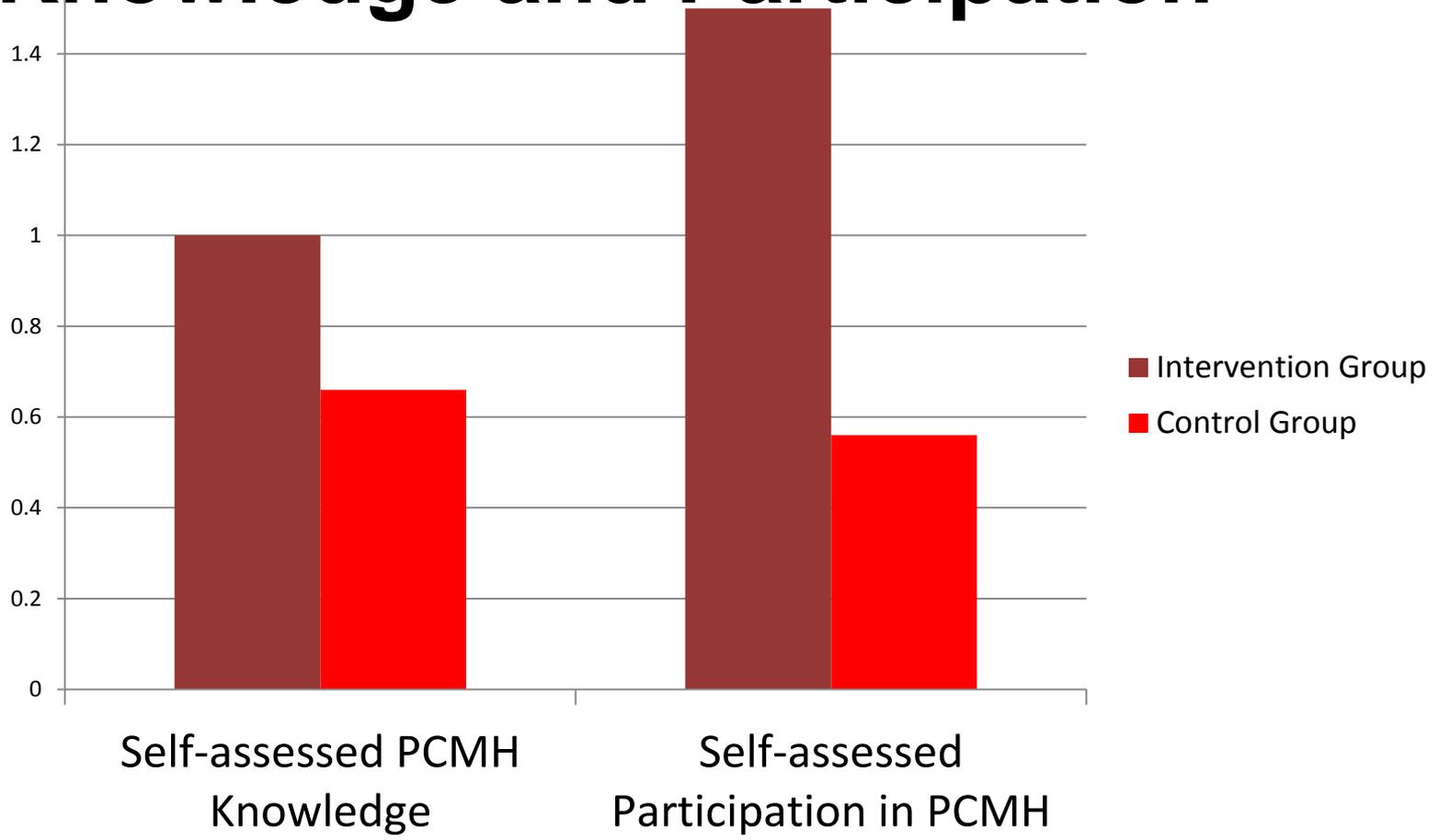
Mean Change in PCMH Self-assessment Score in Knowledge and Participation

	Intervention Group	Control Group	P value	Confidence Interval
Self-assessed PCMH Knowledge	1	0.66	0.46	-0.607 - 1.27
Self-assessed Participation in PCMH	1.5	0.56	0.011	0.250 - 1.639

STFM 50 annual spring conference — ANNIVERSARY

# What was the most relevant activity for me as medical student and future physician?
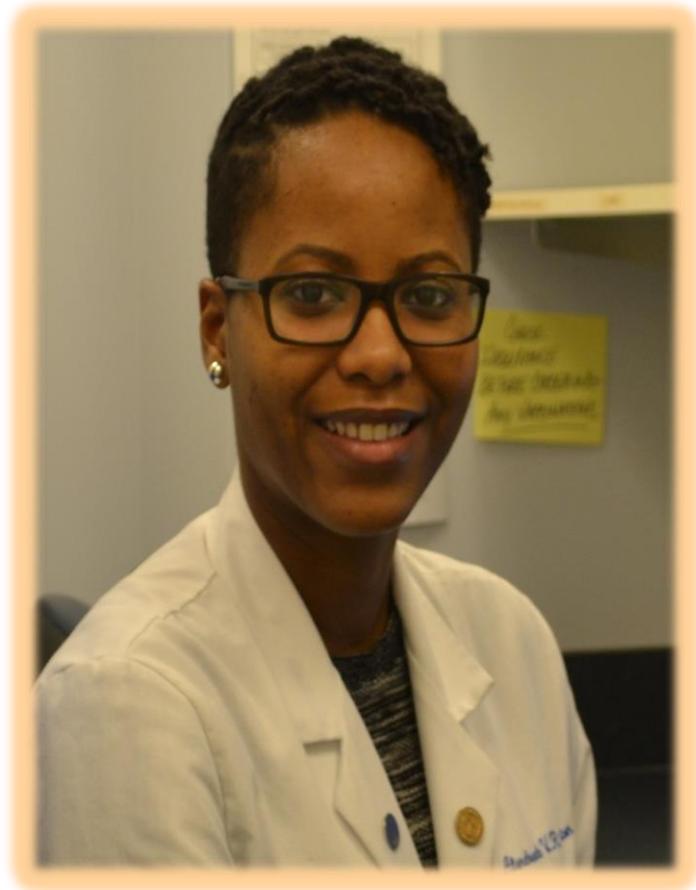
"The QI project was an excellent way to get hands-on experience on how to improve the way we practice medicine."

"Developing and implementing a plan for better health from start to finish."

"Helping to discuss the pros and cons of our vaccination project"

"Identifying an area for improvement"
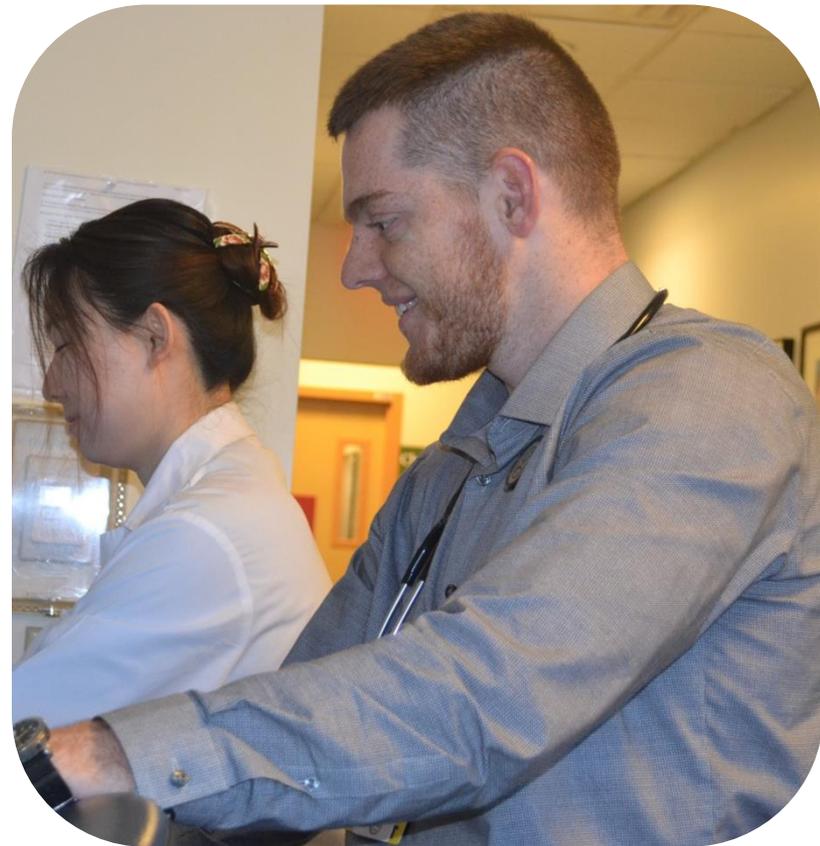
My understanding of PCMH was enhanced in the following ways

"Learning about and actually doing it"

"Seeing and not just reading about how the interaction between health care workers improves the care of the patient"

"Working with the team to come up with the best possible ideas…"

"Knowing that I can enact change even through small steps."

"I learned so much about PCMH during this rotation. I will be able to inform colleagues about the benefit of PCMH and how to use this philosophy to improve patient care."

What did our residents, staff and faculty say ?

"It is a good idea to have medical students get exposure to the concept of PCMH and QI initiatives."

"Great project, hope to use this next year."

"Very dedicated to medicine in PCMH."

Perspective of Dr. David Sperling on PCMH Curriculum

- This information is important
- Trainee facility with QI is a fundamental SBP competency
- Even in a level 3 PCMH, passive exposure to these concepts relying on serendipitous encounters is not adequate for students to gain competency

- In the absence of faculty (or resident) champion, this curriculum is unlikely to be successfully implemented

Future Directions at NEOMED

- Introduction of a formal QI curriculum as part of M4 "required" online elective
- Consideration of dissemination of this curriculum to other M3 clerkship sites supported centrally (perhaps via grant funding).

Future Directions at NEOMED

- Consideration of earlier introduction of this curriculum-limited by student's perception of the relevance of this information at that point in their training.

Conclusion

- A structured PCMH curriculum integrated in the Family Medicine clerkship rotation improves:
  - the knowledge;
  - student-perceived skills; and
  - attitude especially in QI.

Conclusion

- Empowering the students to recognize an area of need and having them apply the PDSA cycle made them more comfortable and willing to participate in QI projects.

- This also improved their knowledge of and experience with PCMH.

Conclusion

Successful implementation of innovative PCMH curricula is a key to preparing a workforce ready to practice in a new model of healthcare delivery.   PCMH curriculum can enhance third-year medical student self-assessed knowledge of and attitudes toward PCMH.

-Collins L, et al, 2014

Conclusion

- The Future of Family Medicine report also recognized that the crucial characteristic of new model of care should be disseminated through curricula in family medicine residencies and clerkships.

- Jortberg BT, et al, 2014

Recommendations

- Looking at the effect of PCMH Curriculum on other educational goals can be evaluated in the future.

- Continuing the study to gather more data will be helpful and increase the power of the study.

Recommendations

- Recruiting medical students in other clerkship sites to test the validity and reliability.

- Administering the post-test to the medical students two months after they are done with the family medicine rotation to measure knowledge retention.

Acknowledgement

David Sperling, MD
Janice Spalding, MD
Hyo Young Seo
Deb Stinnett
Pat Franzen
Bill Exposito
Karl Nelson, PhD
Mike Hewitt
Claire Bourguet, PhD
Elliot Davidson, MD
Katherine Sheridan, MD
John Sutton, MD
David Wakulchik, MD
Roger Musa, MD

Susan Labuda Schrop, Ph D
Julie Stier
Rienne Johnson, MLIS
Elaine Ott
Diana R. Dillon
Elaine Guregian
Amy Bashforth
NEOMED M3s
Aultman Hospital
Summa-Akron City Hospital
Sean Whalen
National Committee for Quality Assurance

References

1.	Al-Bawardy R, Blatt B, Al-Shohaib S, Simmens SJ. Cross-cultural comparison of the patient-centeredness of the hidden curriculum between a Saudi Arabian and 9 US medical schools. *Med Educ Online.* 2009;14:19.

2.	Bansal A. Cultural competency training is a vehicle to promote patient-centred care. *Clin Teach.* 2010;7(3):225-226.

3.	Barnhart A, Lausen H, Smith T, Lopp L. Electronic health communication: an educational application for this principle of the Patient-centered Medical Home. *Fam Med.* 2010;42(5):322-326.

4.	Blanch-Hartigan D, Hall JA, Roter DL, Frankel RM. Gender bias in patients' perceptions of patient-centered behaviors. *Patient Educ Couns.* 2010;80(3):315-320.

5.	Bombeke K, Symons L, Debaene L, De Winter B, Schol S, Van Royen P. Help, I'm losing patient-centredness! Experiences of medical students and their teachers. *Med Educ.* 2010;44(7):662-673.

References

6.   Bower DJ, Young S, Larson G, et al. Characteristics of patient encounters that challenge medical students' provision of patient-centered care. *Acad Med.* 2009;84(10 Suppl):S74-78.

7.   D'Aquila M. How to integrate the PCMH concept. *Fam Med.* 2011;43(10):745.

8.   David A, Baxley L. Education of students and residents in Patient Centered Medical Home (PCMH): preparing the way. *Ann Fam Med.* 2011;9(3):274-275.

9.   Dent MM, Mathis MW, Outland M, Thomas M, Industrious D. Chronic disease management: teaching medical students to incorporate community. *Fam Med.* 2010;42(10):736-740.

10. Dudas RA, Lemerman H, Barone M, Serwint JR. PHACES (Photographs of Academic Clinicians and Their Educational Status): a tool to improve delivery of family-centered care. *Acad Pediatr.* 2010;10(2):138-145.

References

11. Gorter JW, Visser-Meily A, Ketelaar M. The relevance of family-centred medicine and the implications for doctor education. *Med Educ.* 2010;44(4):332-334.

12. Haidet P. Patient-centredness and its challenge of prevailing professional norms. *Med Educ.* 2010;44(7):643-644.

13. Hammond M, McLean E. What parents and carers think medical students should be learning about communication with children and families. *Patient Educ Couns.* 2009;76(3):368-375.

14. Hauer KE, Boscardin C, Gesundheit N, Nevins A, Srinivasan M, Fernandez A. Impact of student ethnicity and patient-centredness on communication skills performance. *Med Educ.* 2010;44(7):653-661.

15. Heidelbaugh JJ. Teaching strategies behind the principles. *Prim Care.* 2012;39(2):xiii-xiv.

References

16. Henschen BL, Garcia P, Jacobson B, et al. The patient centered medical home as curricular model: perceived impact of the "education-centered medical home". *J Gen Intern Med.* 2013;28(8):1105-1109.

17. Illingworth R. What does 'patient-centred' mean in relation to the consultation? *Clin Teach.* 2010;7(2):116-120.

18.   Institute for Healthcare Improvement Open School Quality Improvement Practicum Handbook. Retrieved September 10, 2014 from http://www.ihi.org/education/ihiopenschool/Courses/documents/practicumDocuments/learnerhandbook.pdf

19. Joo P, Younge R, Jones D, Hove J, Lin S, Burton W. Medical student awareness of the Patient-centered Medical Home. *Fam Med.* 2011;43(10):696-701.

20. Jortberg BT, Fernald DH, Dickinson LM, et al. Curriculum redesign for teaching the PCMH in Colorado Family Medicine Residency programs. *Fam Med.* 2014;46(1):11-18.

References

21. Jucks R, Paus E, Bromme R. Patients' medical knowledge and health counseling: what kind of information helps to make communication patient-centered? *Patient Educ Couns.* 2012;88(2):177-183.

22. Kontos N, Querques J, Freudenreich O. Two's company, three hundred million's a crowd: balancing clinical integrity and population consciousness in medical education. *Acad Med.* 2011;86(11):1341.

23. Morrow CE, Reed VA, Eliassen MS, Imset I. Shared decision making: skill acquisition for year III medical students. *Fam Med.* 2011;43(10):721-725.

24. Nielsen, M. Olayiwola, J.N., Grundy, P., Grumbach, K. (ed.) Shaljian, M. The Patient-Centered Medical Home's Impact on Cost & Quality: An Annual Update of the Evidence, 2012-2013. Patient-Centered Primary Care Collaborative (2014).

25. O'Neill SM, Henschen BL, Unger ED, et al. Educating future physicians to track health care quality: feasibility and perceived impact of a health care quality report card for medical students. *Acad Med.* 2013;88(10):1564-1569.

References

26. Pelling S, Kalen A, Hammar M, Wahlstrom O. Preparation for becoming members of health care teams: findings from a 5-year evaluation of a student interprofessional training ward. *J Interprof Care.* 2011;25(5):328-332.

27. Saultz JW, O'Neill P, Gill JM, et al. Medical student exposure to components of the patient-centered medical home during required ambulatory clerkship rotations: implications for education. *Acad Med.* 2010;85(6):965-973.

28. Scheffer C, Tausche D, Edelhauser F. "I wish I had a physician like that..."--the use of triangulation on the way towards a patient-centred medical education. *Patient Educ Couns.* 2011;82(3):465-467.

29. Scott MA, Hitch B, Ray L, Colvin G. Integration of pharmacists into a patient-centered medical home. *J Am Pharm Assoc (2003).* 2011;51(2):161-166.

30. Spitalnik DM, Coffield CN, Gabry K, White-Scott S. A lesson in humanism: educating medical students about family-centered care and developmental disabilities. *MD Advis.* 2012;5(2):32-34.

References

31. Teherani A, Irby DM, Loeser H. Outcomes of different clerkship models: longitudinal integrated, hybrid, and block. *Acad Med.* 2013;88(1):35-43.

32. Vaishnava P. PPQRST revisited. *Acad Med.* 2012;87(4):485.

33. Watkins RW. Partnering with universities and colleges to facilitate the PCMH process. An innovative plan to place healthcare management students into practices to promote healthcare transformation. *J Med Pract Manage.* 2012;28(2):134-136.

34. Wilkerson L, Fung CC, May W, Elliott D. Assessing patient-centered care: one approach to health disparities education. *J Gen Intern Med.* 2010;25 Suppl 2:S86-90.

35. Wilson AR, Fabri PJ, Wolfson J. Human error and patient safety: interdisciplinary course. *Teach Learn Med.* 2012;24(1):18-25.

References

36.   David A, Baxley L. Education of students and residents in Patient Centered Medical Home (PCMH): preparing the way. *Ann Fam Med.* 2011;9(3):274-275.

37.   Gould BE, Grey MR, Huntington CG, et al. Improving patient care outcomes by teaching quality improvement to medical students in community-based practices. *Acad Med.* 2002;77(10):1011-1018.

38.   Collins L, Sato R, LaNoue M, Michaluk L, Verma M. Impact of a patient-centered medical home clerkship curriculum. *Fam Med.* 2014;46(6):440-446.

39.   Jortberg BT, Fernald DH, Dickinson LM, et al. Curriculum redesign for teaching the PCMH in Colorado Family Medicine Residency programs. *Fam Med.* 2014;46(1):11-18.

40.   Kayingo G, Kidd VD, Warner ML. Patient-centered medical homes and physician assistant education: preparing the PA student for the practice of the future. *J Physician Assist Educ.* 2014;25(4):21-28.

41.   Djuricich AM. Curriculum in continuous quality improvement for residents. Department of Medicine and Pediatrics, Indiana University School of Medicine. CQI curriculum/Indiana University School of Medicine//Djuricich/MedEd Portal 2006.

Questions

Take Home Point

Join the conversation on Twitter: #STFM50th

Please evaluate this presentation using the conference mobile app! Simply click on the "clipboard" icon 📋 on the presentation page.