

## Evaluating Clinical Microsystems

This Toolkit is presented as a basis for ideas but should certainly be tailored to your institution; contact the AMSA-PCP NPCW field team at [aaron.cook@primarycareprogress.org](mailto:aaron.cook@primarycareprogress.org) for help adapting this to your school.

**Format:** Talk/Workshop

**Target audience:** aspiring and current medical students, residents, faculty, and community providers

**Target audience size:** 20-40 participants

**Duration of Event:** 70 minutes

**Short Description:** This workshop can be set up as a discussion for how innovative clinics and practices can use the framework of the “clinical microsystem” to incorporate the proper human and technological resources to comprehensively manage their patients. The event can take on various forms, but the following toolkit describes the event as a guided talk with several opportunities for discussion. This talk focuses on: the definition of clinical microsystem; what the speaker’s current clinical microsystem is like; and how the framework of the clinical microsystem can be used for testing change to improve health outcomes. The talk can also consider the role of the primary care microsystem within cohesive macro-organizations and the larger community, market, and social policy systems if that is of interest.

**Anticipated budget:** \$50-150 for food, \$10-25 for flyers advertising the event and handouts

### Learning objectives:

After this event, participants will:

1. Become acquainted with the definition of a clinical microsystem
2. Learn how clinical microsystem organization increases patient safety and care quality
3. Examine the relationship between the primary care microsystem and the larger healthcare macrosystem (ex: how accountable care organizations incentivize this type of care delivery)
4. Examine the role of the microsystem as a laboratory for clinical innovation

**Challenges to primary care that it targets/benefits:** This workshop exposes trainees to functional delivery science and team based models of care and gets them thinking about ways to evaluate the quality of care they deliver. It also promotes a mindset conducive to success, one of constantly looking towards new venues for improvement.

**Concept Overview:** The term microsystem is originally a business concept, and can be described as the smallest replicable unit that contains all the necessary features for a group to function cohesively. In medicine, a clinical microsystem consists of both the team of providers and staff that work together to deliver care, the tools and information technology that assist care delivery, and the patients that receive that care. The proper functioning of a clinical microsystem is assisted by effective strategy, information technology, and the proper skills and training to respond to patient, provider, and organizational needs (Mohr, Batalden, & Barach, 2004). Moor, Batalden, and Barach succinctly outline eight dimensions of high performing microsystems in their 2004 paper on patient safety and the clinical microsystem:

- Constancy of purpose
- Investment in improvement

- Alignment of role and training for efficiency and staff satisfaction
- Interdependence of the care team to meet patient needs
- Integration of information and technology into workflows
- Ongoing measurement of outcomes
- Supportiveness of the larger organization
- Connection to the community to enhance care delivery and extend influence (Mohr, Batalden, & Barach, 2004)

The microsystem has “clinical and business aims, linked processes, a shared information environment and produces services and care which can be measured as performance outcomes. These systems evolve over time and are (often) embedded in larger systems/organizations

As any living adaptive system, the microsystem must: (1) do the work, (2) meet staff needs, (3) maintain themselves as a clinical unit” (Godfrey, Nelson, & Batalden, 2004).

#### **Format of the event (breakdown by time and activity):**

##### Preliminary Notes:

- Some of the content for this talk has been adapted from the “Clinical Microsystems Action Guide” produced by the Trustees of Dartmouth College (Godfrey, Nelson, & Batalden, 2004)
- It is recommended that event facilitators recruit speakers with some familiarity with the clinical microsystem organizational structure.
- Even if a speaker is not overly experienced with the clinical microsystem framework, many clinicians might already do several of the things the framework is designed to ensure occur in practice, and can therefore use the format to organize their thinking and structure a presentation around testing process change.
- Speakers can use the following timeline as a guideline for their talks, although they are encouraged to use whatever content they feel is most applicable to their experience in practice.

0:00-0:05

- Event facilitators introduce themselves
- Event facilitators put the event into context of National Primary Care Week and its theme, “Innovations in Primary Care”
- Event facilitators explain the format of the event
- Event facilitators introduce speaker

0:05-0:20

- Speaker gives a clinical microsystem concept overview, including: origin of the concept, rationale for applying it to medicine, and an inclusive definition of a primary care microsystem (see **Concept Overview**, above, for details).
- After the concept overview, the speaker should open the floor to questions or present a leading question to engage the audience.

*Ex: Multiple-choice question.*

*Which of the following people or technologies would not be considered part of a primary care microsystem in a clinic affiliated with a community medical center?*

- A) nurse practitioner B) hospital administrator C) electronic health record D) office manager

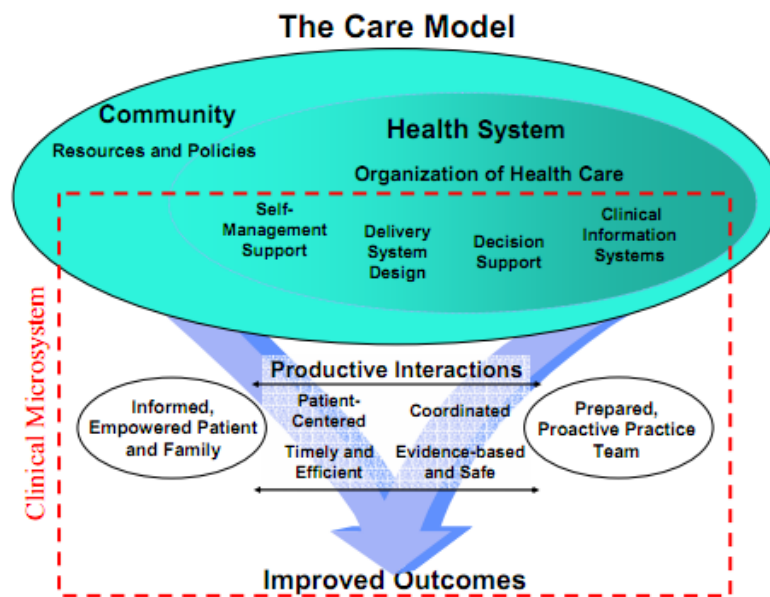
*Answer: B*

*Why? The hospital administrator is responsible for ensuring the cohesive functioning of the primary care microsystem within the larger medical center network. The administrator, although influential in determining the type of care a patient receives, is generally not directly involved in the care process.*

*The nurse practitioner is directly involved in orientation, assessment, addressing patient concerns and care delivery. The electronic health record allows care to be properly coordinated, and can be used to order prescriptions, among other services. The office manager is involved in directing patient entry, assignment, and exit from the clinic/practice.*

*By this point the audience should have a general sense of the primary care microsystem and why it provides a good organizational structure for thinking about continuous quality improvement and linking patient needs to systems of care.*

*The following "Care Model" diagram provides an overview of the factors that make a clinical microsystem successful:*



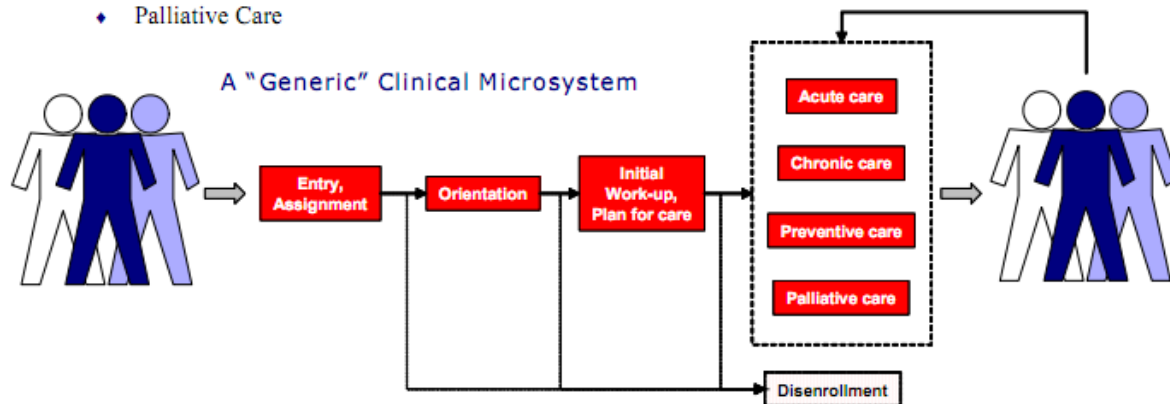
Wagner EH. Quality improvement in chronic illness care: a collaborative approach. *Jt Comm J Qual Improv.* 2001.

0:20-0:40

- The speaker should then describe how the microsystem she works in operates. The speaker might consider walking the audience through the process map for patients from entry to exit, noting how the team model ensures proper care delivery, follow up, and disease management.

*This example can be used to detail workflow in a clinical microsystem, which generally consists of A) entry/assignment, B) orientation, C) assessment, and D) plan for care as diagramed below courtesy of the "Clinical Microsystems Action Guide," pg. 24.*

- Entry/Assignment
- Orientation
- Initial work-up (assessment)
- Plan for care based on knowledge of the patient and includes:
  - ◆ Acute Care
  - ◆ Chronic Care
  - ◆ Preventive Care
  - ◆ Palliative Care



*It might be worth briefly over viewing how care differs for each of four patient subpopulations and how care is personalized depending on the conditions, self-management skills, and desires of each patient:*

**A. Acute/Emergent B. Chronic C. Preventive D. Palliative** (Godfrey, Nelson, & Batalden, 2004).

0:40-1:00

- The Microsystem as a Laboratory for Clinical Innovation: The last part of the talk could focus on how the organizational structure of the clinical microsystem provides an excellent venue for testing change to current care processes.
- The following steps, as reviewed in the "Clinical Microsystem Action Guide," work well to effectively testing change:
  1. Create a flowchart of the CURRENT process
  2. Brainstorm change ideas. Some ideas may be able to be implemented immediately; other ideas require planned tests of change, PDSA (Plan-Do-Study-Act).
  3. Select one test of change to implement
  4. Develop the PDSA
  5. Conduct the test
  6. Revise/Implement the new process (Godfrey, Nelson, & Batalden, 2004)

*Depending on the capabilities of the speaker, there are several options for presenting this information:*

- *If the speaker has already undergone this process in the past, they can simply detail their experience through the process.*
- *They can put on a mini "Local Innovation Case Study" workshop. The speaker could hand out copies of an old process map, allow attendees to study the flowchart, and then open the floor to brainstorming change ideas. The speaker can then reveal the proposed action plan, and discuss any ideas that might have come up during the brainstorm. After discussion, the speaker can show data that suggest the change improved patient outcomes (ex: for diabetes management, show that after a process change, average hemoglobin A1c levels dropped for the patient panel)*

- *Alternatively, they can hand out copies of a process map for a current process, such as managing a chronic care patient with hypertension, allow participants to study the map, and have a forward thinking brainstorm culminating in the group developing a Plan-Do-Study-Act for how to change this process to improve outcomes. This option is unique in that it provides an opportunity for a future collaboration between highly motivated and engaged participants and speakers looking to provide a mentorship role to actually test the proposed implementation plan.*

1:00-1:10

- Open floor to questions and continued discussion, followed by closing remarks.

### **Prep work for event:**

The PCP-AMSA NPCW field team can help with any of these steps. Contact [aaron.cook@primarycareprogress.org](mailto:aaron.cook@primarycareprogress.org) for more information.

- Build event leadership team
- Consider reading resources on clinical innovation such as :  
[http://clinicalmicrosystem.org/assets/materials/workbooks/outpatient\\_primary\\_care.doc](http://clinicalmicrosystem.org/assets/materials/workbooks/outpatient_primary_care.doc)
- Please take a look at the “Clinical Microsystem Action Plan” for an incredibly detailed overview of Clinical Microsystems and other possible topics of interest for your talk. Some helpful resources in the document include a Primary Care Practice Profile (p. 12), a model flowchart (p. 15), and a Clinical Microsystem Assessment Tool (p. 18-19):  
[http://clinicalmicrosystem.org/materials/workbooks/action\\_guide/CMAG040104.pdf](http://clinicalmicrosystem.org/materials/workbooks/action_guide/CMAG040104.pdf)
- Recruit clinical innovators who utilize the “clinical microsystem” framework
  - \*Note\*: A “clinical innovator” is someone who is thinking about or is trying a new way to organize their clinic to provide better, safer, more efficient, and more patient-centered care. This could include practicing in teams composed of medical doctors and other allied health professionals; providing enhanced patient access, including email and phone consultations and after hours care; using information technology; and more. When you try to recruit presenters on clinical microsystems, try not only asking about “clinical innovators” and people working on “clinical microsystems” but also phrases like “anyone who’s trying to change something in the clinic, like the way patients are scheduled or test results are communicated” or “someone working on how to make the practice more efficient and have better flow”.
  - Use the Find a Mentor feature at IHI: <http://www.ihl.org/communities/Pages/default.aspx>.
  - Contact AMSA leaders to see if they have recommendations.
  - Contact PCP ([aaron.cook@primarycareprogress.org](mailto:aaron.cook@primarycareprogress.org)) to see if they have any recommendations.
  - Contact leaders of FM, IM, Peds, and other departments to ask about anyone working on clinical innovation/clinical microsystem projects.
  - Some teaching hospitals have people designated for clinical innovation. Search your local hospitals to see if anyone holds that position.
  - People working on improving the clinical microsystem don’t need to be MDs or Dos – they can be NPs, PAs, MAs, or anyone else. Make sure you don’t limit your search to doctors.
- Have a meeting (or conduct over email) with presenters to go over event format.
- Book a room that is conducive to discussion and won’t make attendees feel uncomfortable about asking questions
- Ask presenters if they need any audiovisual aid for their introductory presentations

- Get food, sign-up sheets, name tags, blank paper and pens for the event

**Promotion for event:**

- Flyers in classes, posted at clinics
- Email blasts
- Ask faculty to include a slide promoting the event before lectures
- Ask your friends to tell their friends, to tell their friends...
- Facebook event page
- Twitter

**How to involve other constituents:**

- Ask presenters to invite their colleagues to contribute to their presentation
- Ask everyone at the clinic – MDs, Dos, PAs, NPs, RNs, MAs, etc. - to reach out to their colleagues to invite
- Contact head of student groups at allied health schools to invite to participate
- Contact chief residents at local teaching hospitals to invite their residents

**Potential post-event activities:**

- Primary Care Innovation Collaborative: <http://primarycareprogress.org/programs/primary-care-innovation-collaborative/>
- Host another event such as the Local Clinical Innovation Case Study Workshop: <http://primarycareprogress.org/programs/npcw/event-ideas/case-study/>
- Ask presenters to take a few trainees one day to shadow

**Evaluation:**

- If you are receiving funding from AMSA or PCP, contact them to find out what evaluation guidelines will be for this event.
- Potential evaluation questions to handout to participants are:
  - Do you feel more connected to the [institution] primary care community? (Not at all, a little bit, very much)
  - How much has your understanding of the clinical microsystem framework improved due to this event? (Not at all, a little bit, very much)
  - How much has your understanding about the importance of effective management in improving healthcare delivery changed? (Not at all, a little bit, very much)
  - Do you feel that implementing change is a less formidable task using the clinical microsystem framework?
  - Do you feel like you know how to find mentors better as a result of this event? (Not at all, a little bit, very much)