Discussion, Modification, Approval
Launch of Detailed Planning Group:
Understanding the Healthcare System; and
Learning to Lead Change and Improvement
Phase I: 2000-2009
Insertion of Key Material by Local Individual Faculty Advocates; Targets of Opportunity (with a few examples)

- Year 1 Orientation: Thinking about health care as a system
- Year 2 Orientation: Patient safety, nosocomial disease
- Year 2 OD: geographic variation in care
- Year 2 Elective: How to improve the healthcare system (example)
- Year 3: Interdisciplinary Clinical Experience Course
- Year 3: Family Medicine Clerkship
  - Student improvement project in local office practice
- Year 4: Geriatrics and Ambulatory Medicine Clerkship
  - Exploring home-based systems of healthcare
- Year 4: Health, Society, and the Physician:
  - How healthcare is funded; efforts at continuous quality improvement
- Year 4: Clinical Pharmacology and Therapeutics
  - System of drug discovery-development-approval, marketing
  - Medication errors, root-cause analysis


**Background**

- CDC’s ACIP, ACOG and AAP recommend pregnant women receive the inactivated influenza vaccine.
- Vaccination reduces the risks of complications and hospitalization due to influenza in pregnant women.
- A study including over 2000 pregnant women shows no adverse effects to the neonate.

**APD WCC Information**

- The Alice Peck Day Memorial Hospital Women’s Care Center provides a full range of gynecological and obstetrical services.
- Located in Lebanon, NH, it serves 20 communities across VT & NH.
- WCC staff includes 3 physician providers and 3 midwives.

**Alice Peck Day Women’s Care Centers System Map**

**Aim**

To offer the flu vaccine to all pregnant women presenting to APD from October until April.

**Methods**

**Interviewed**

- The office manager about the current system in place.
- Other clinic staff about their perception of their role in the overall process.

**Shadowed** new OB patients through the process.

**Recommendations**

- Raise patient awareness and education.
  - Display posters in waiting and exam rooms.
  - Establish a uniform system among APD WCC employees.
  - The nurse will ask the vaccine every time.
  - Facilitate vaccine documentation.
  - Add a brightly colored sheet to document influenza vaccination proposal at the beginning of the chart.
  - Keep the vaccination log with the influenza vaccine basket.
  - Maintain a system to collect data.
  - A cross-sectional chart review will take place on the 1st Monday of each month.
  - Stratify data based on each microsystem.
  - Promote clinic pride and awareness of the program.
  - Publicly display a chart that tracks how many patients have received the influenza vaccine.

**Mock Results**

**Lessons Learned**

- It is important to make decisions as a team, with all affected parties participating.
- The most successful programs display respect for each involved party.
- Think small! The little changes can make a big difference.
- The team is already overwhelmed. Do not give them more work!
- A good change does not happen over night.

**References**

2. Dodds L; McNeill SA; Fell DB; Allen VM; Coombs A; Scott J; MacDonald N. Impact of influenza exposure on rates of hospital admissions and physician visits because of respiratory illness among pregnant women. CMAJ2007 Feb 13;176(4):463-8.
Phase II: 2009-2010

Vertical Integration Group Report

Greg Ogrinc, Cathy Pipas, Ginny Reed, Tina Foster, Mark Splaine, Catharine Clay, Ben Snyder, Ako Takakura

- There are spots within our curriculum of excellent instruction in various aspects of how the healthcare system works, and how to improve it
- Various subjects are covered in each of the four years, integrated into existing clerkships and courses; no freestanding courses at present
- A few other medical schools do an excellent job teaching this material (e.g. Univ Missouri-Columbia, CWRU, Univ Colorado-Denver), although there is not yet a clear national consensus on what should be included as a “benchmark” curriculum for all schools
- Our coverage is good overall, but it is also scattered, superficial in many areas, and insufficient; it could and should be much better
- Would benefit from central planning of a comprehensive curriculum that places appropriate material into each of the four years, integrated into existing courses and clerkships, and building towards capstone learning experiences in Year 4
Phase III:
Medical Education Committee June 2010

- Approved general plan to improve DMS curriculum in how the healthcare system works, and how to improve it
- Focus on improving quality of care, safety of care, affordability of care, overall value
- Match material taught with educational theme of each year
- Train students who will become leaders committed to understand, change and improve the healthcare system, regardless of their eventual career choices
- Develop detailed curricular plans during AY 2010-11, with implementation in August 2011
Phase IV Summer 2010
New Material, and Consensus Building

- Conversations with key experts
  - Paul Batalden MD, TDI
  - Jim Kim MD, President of DC
  - Jim Weinstein DO, President of DHC
  - Ginny Reed, PhD, Course Director HSP
  - Chip Souba MD, PhD, Dean of DMS
- Complete revision of Year 1 Orientation
  - Introduction to the profession of medicine
  - Using one central case (65 year old veteran with lung cancer) as a window into the healthcare system
  - Woven into case are issues of cost of care, insurance coverage, how we pay for healthcare, regulation of tobacco, importance of prevention, teamwork (tumor board), quality of care, safety (nosocomial infection), shared decision making, regional differences in utilization, systems of care, improving the system, confidentiality issues with the EMR
Phase IV Continued
Summer 2010

- AAMC/AMA National Conference
  - New Horizons in Medical Education
- Keynote address by Donald Berwick, MD, MPP
  - Physicians will need to learn to navigate in and continually improve complex systems in order to improve the health of the patients and communities they serve
  - Physicians should be prepared to help lead healthcare systems toward every-higher quality care for all
  - Medical schools will need to teach the scientific foundations of system performance and provide opportunities for students to participate in team-based improvement of real-world health systems in which they work
- IOM six “Aims for Improvement” of health care
  - Safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity
General Outline of Plan for Curriculum at DMS

- **Year 1 Theme:** Sciences that form the foundation of physician education
  - Introduce the fundamental sciences that help to understand the healthcare system, and how to improve it
  - Series of nine case-based lectures and discussions over the year

- **Year 2 Theme:** Pathophysiology
  - System improvements within each organ system, and built into PBL cases
  - Pathophysiology of “disease” of the system itself

- **Year 3 Theme:** Six core clinical clerkships
  - Students participate in ongoing healthcare improvement projects already underway within each clinical department
  - Continue individual office improvement project in Family Medicine

- **Year 4 Theme:** Remaining clerkships, capstone courses
  - Expand coverage, include group improvement projects in Health, Society, and the Physician
  - Continue personal improvement project/paper of medication-related lapse in the system of drug prescribing-compounding-dispensing-outcome in Clinical Pharmacology and Therapeutics
Year 1: “Basic Sciences” for understanding the Healthcare System (Batalden and Davidoff. What is “quality improvement, and how can it transform healthcare? Qual Safe Health Care 2007;16:2-3)

• Introduction: Preparing to lead change and improvement in the healthcare system
• Customer/beneficiary knowledge
• Healthcare as a process/system
• Variation and measurement
• Leading, following, and making changes in health care
• Collaboration
• Developing new, locally useful knowledge
• Social context and accountability
• Professional subject matter
<table>
<thead>
<tr>
<th>Knowledge/Skill domain</th>
<th>Some content to consider</th>
<th>Some pedagogical ideas</th>
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</thead>
<tbody>
<tr>
<td>Customer/beneficiary knowledge</td>
<td>• Follow a patient thru an admission, writing a report on the patient’s experience.</td>
<td>• Consider role play with stakeholders, other professionals</td>
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<td>• “Biopsy” the health care experience of a family member.</td>
<td>• In the written report, consider the requirement to identify the “forces” which compete with one another to “hold the unchanged present” in place.</td>
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<td>• Develop a sense of the “burden of illness” from the patient/family perspective.</td>
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<td>Healthcare as process/system</td>
<td>• Clinical microsystems</td>
<td>• Draw the flow of a common process as it actually works, noting the steps, sources of unreliability, possible failure.</td>
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<td></td>
<td>• Work process analysis</td>
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<tr>
<td>Variation/measurement</td>
<td>• Dartmouth Atlas</td>
<td>• Plotting something important over time.</td>
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<td>• Actual performance on any important clinical care item—immunizations, drug monitoring, etc. for a practice or office or clinic.</td>
<td>• Creating a measure that doesn’t exist so that the underlying phenomenon would be faithfully represented.</td>
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<td></td>
<td>• Value compass</td>
<td>• Documenting the process of measuring something important, looking for the errors of measurement and their prevention.</td>
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<tr>
<td>Leading, following &amp; making changes in health care</td>
<td>• “Formula”</td>
<td>• SQUIRE guideline article analysis for learning to read the literature of improvement critically.</td>
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<td></td>
<td>• “Triangle”</td>
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<td></td>
<td>• Simple, complicated and complex situations</td>
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<td></td>
<td>• Personal improvement project</td>
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<tr>
<td>Collaboration</td>
<td>• Clinical microsystem</td>
<td>• Rehearsing promise-making in common situations.</td>
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<td></td>
<td>• Mesosystems</td>
<td>• Role-play</td>
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<td></td>
<td>• Promise-making</td>
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<tr>
<td>Developing new, locally useful knowledge</td>
<td>• PDSA</td>
<td>• Personal improvement project</td>
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<td></td>
<td>• Formula</td>
<td>• Sessions to explore “discomfort” when watching what’s happening.</td>
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<tr>
<td></td>
<td>• Unsafe situations</td>
<td>• Map process for dealing with “unsafe situations,” “ethical breeches”</td>
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<td></td>
<td>• Ethical breeches</td>
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<tr>
<td>Social context/accountability</td>
<td>• Dartmouth Atlas</td>
<td>• Construct a local practice profile, based on publicly available data.</td>
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<tr>
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<td>• Accreditation</td>
<td>• Flow chart the submission of bill and receipt of payment.</td>
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<td>• Boards</td>
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<td>• Payment for care--flow</td>
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<tr>
<td>Professional subject matter</td>
<td>• Formula</td>
<td>• Construct a plan for incorporating some new science into regular practice.</td>
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Year 2: Pathophysiology

- Make sure that each course about an organ/system includes specific material about improving the healthcare system
  - Cardiovascular system: improving door-to-balloon time to improve outcomes in patients with acute MI
  - Nervous system: improving recognition of acute stroke to improve access to tPA therapy
- Revise each PBL case to emphasize how these issues are related directly to the quality of care for each patient
  - For PBL case about acute pulmonary, work through the most cost-effective diagnostic strategies
- Review pathophysiology of “disease” of the healthcare system itself
  - Incentives for disregarding prevention and health maintenance
Year 3: Clinical Education in Six Core Clerkships

- In Family Medicine Clerkship, each student continue to create his/her own Quality Improvement Project for their specific office practice
- Students participate in ongoing Quality Improvement Projects in all six clinical departments while enrolled in six core clerkships
  - Inpatient Medicine: Project to maximize immunizations for Influenza and Pneumococcus for medical inpatients
  - Surgery: Project to incorporate Shared Decision Making in patients being treated for breast cancer
Year 4: Capstone Courses

- Health, Society and the Physician (HSP)
  - Continue current emphasis on key topics such as healthcare finance, policy, and improvement
  - Expand coverage to explicitly focus on science of health care delivery
  - Utilize required small groups as project teams working with DHMC clinical leaders to create project-specific deliverables aligned with DHMC clinical pathways

- Clinical Pharmacology and Therapeutics (CPT)
  - Continue current emphasis on the system of drug discovery/development/approval/marketing/prescribing
  - Continue to explore problems with current system of doctor/nurse/pharmacist cooperation in optimizing quality and safety of drug prescribing
  - Continue capstone experience of every student writing formal paper of analysis of an adverse drug event that explores weaknesses in the healthcare system, and how they can be addressed
Phase V: 2010-2011
Possible Curriculum Content Planning Group

- Greg Ogrinc MD, chairs (VA Outcomes Group, IHI)
- Paul Batalden MD (TDI)
- Mark Splaine MD (TDI)
- Ginny Reed PhD (HSP course director)
- Gil Welch MD (VA Outcomes Group)
- Brenda Sirovich PhD (Statistician, VA Outcomes Group)
- Tina Foster MD, Leadership/Preventive Medicine Residency
- Brooke McLaughlin MPH DMS 1, Graduate of TDI
- Stephanie Rolin MPH, DMS 2, Graduate of TDI
- Allison Arensman, MD/MBA student
- Jonathan Huntington, PGY4, LPM Residency