Session 3 Webinar Learning Objectives

1. To explore the ways in which HSS can be integrated into clinical clerkships

2. To identify the use of HSS within clerkship evaluations

3. To recognize how SOAP-(V)alue integrates clinical reasoning and value-based care at the bedside

4. To describe the impact SOAP- V had on medical students in the clinical clerkship years
The Harvard Center for Population and Development Studies

Inequities in US COVID-19 Deaths
(as of April 16, 2020)

people living in the most disadvantaged counties have the highest COVID-19 death rates

1. Health Systems Science Curriculum at CWRU SOM
2. HSS Assessment
3. HSS in Clerkships- SOAP- V
Basic, Clinical and Systems Science
Health Systems Science Integration

• Longitudinal, developmental curriculum
• How to improve health care quality, increase the value of care provided, enhance patient safety, deliver population-based medical care and work collaboratively in teams.
• How to advocate for patients and communities and recognize the socio-ecological determinants of health, health care policy and health care economics.
• Demonstrate Systems Based Competency
• Development of Change Agents

Health Systems Science

“ We are only as good as we diagnose”

“ We are only as good as the care we deliver”
Western Reserve Curriculum

Year I

Foundations of Medicine and Health
(20 months)

Basic, Clinical and Health System Science

Block 1: Immersive HSS

Systems and Scholarship: Community Engagement, QI,
Population Health
Patient Navigator
Professional Learning Plans
Interprofessional Clinical
Tuesday Morning Seminars- Health Disparities, Advocacy,
Health Policy
PHYSICAL DIAGNOSIS
COMMUNICATION SKILLS
COMMUNITY-PATIENT CARE PRECEPTORSHIP

Year II

Core Clinical Rotations- SOAP V, Error Reporting
Science and Art of Medicine Integrated
(48 weeks, flexible scheduling)

Research & Scholarship
(16 week block +
electives, flexible scheduling)

Year III

Advanced Clinical and Scientific Studies
Areas of Concentration
Electives
Bootcamps, Transitions to Residency
(10 months, flexible scheduling)

Year IV

Block 1 Weekly Themes

<table>
<thead>
<tr>
<th>Week 1</th>
<th>Population Health</th>
<th>In Sickness and in Wealth; Not Just a Paycheck</th>
<th>Pandemic Flu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 2</td>
<td>Determinants of Health</td>
<td>Toni Jackson: Determinants of Health</td>
<td>Population Health</td>
</tr>
<tr>
<td></td>
<td>When the Bough Breaks; Place Matters</td>
<td>Determinants of Health/Social Work</td>
<td>Poverty Simulation</td>
</tr>
<tr>
<td>Week 3</td>
<td>Health Systems</td>
<td>Mr. Prince: Medical Error</td>
<td>Health System/Safety Net</td>
</tr>
<tr>
<td></td>
<td>Collateral Damage; Becoming American</td>
<td>Determinants of Health/Social Work</td>
<td>Global Health System Comparisons</td>
</tr>
<tr>
<td>Week 4</td>
<td>Patient-centered care</td>
<td>Mrs. Sanchez: Diabetes Mellitus</td>
<td>Chronic Conditions</td>
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<td></td>
<td>&quot;Bringing It All Together&quot;</td>
<td>Bad Sugar</td>
<td>Poverty Simulation</td>
</tr>
<tr>
<td>Week 5</td>
<td>Jack Lee: Well Adult Care</td>
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</tbody>
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Systems & Scholarship
A longitudinal curriculum in Year 1 and 2 which enables students to apply QI, Population Health and Research skills to ensure patient care meets the Institute of Medicine’s 6 quality domains: safety, patient centeredness, equitable, efficient, timely and effective.

CWRU School of Medicine University Track Early Years Curriculum

<table>
<thead>
<tr>
<th>July Year 1</th>
<th>March Year 2</th>
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</thead>
<tbody>
<tr>
<td><strong>Block 1</strong> Becoming a Doctor (5 wk)</td>
<td><strong>Block 5</strong> Host Defense and Host Response (14 wk)</td>
</tr>
<tr>
<td>(Public Health, Health Equity, QI/Patient Safety/Medical Error, Bioethics, Professionalism)</td>
<td>(Host Defense, Microbiology, Blood, Skin, Auto-immune)</td>
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<tr>
<td><strong>Reflection, Integration &amp; Assessment</strong></td>
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</tr>
<tr>
<td><strong>Block 2</strong> The Human Blueprint (11 wk)</td>
<td><strong>Block 6</strong> Cognition, Sensation, and Movement (14 wk)</td>
</tr>
<tr>
<td>(Endo, Repro, Development, Genetics, Mol Biol, Cancer Biology)</td>
<td>(Neuro, Mind, Musculoskeletal, Cellular Neurophysiology)</td>
</tr>
<tr>
<td><strong>Reflection, Integration &amp; Assessment</strong></td>
<td><strong>Reflection, Integration &amp; Assessment</strong></td>
</tr>
<tr>
<td><strong>Block 3</strong> Food to Fuel (11 wk)</td>
<td><strong>Block 7</strong> Structure</td>
</tr>
<tr>
<td>(GI, Nutrition, Energy, Metabolism, Biochemistry)</td>
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</tr>
<tr>
<td><strong>Reflection, Integration &amp; Assessment</strong></td>
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</tr>
<tr>
<td><strong>Block 4</strong> Homeostasis (14 wk)</td>
<td><strong>Block 8</strong> Foundations of Clinical Medicine</td>
</tr>
<tr>
<td>(CV, Pulm, Renal, Cell Regulation, Pharmacology, Cell physiology)</td>
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<tr>
<td><strong>Reflection, Integration &amp; Assessment</strong></td>
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<td><strong>Block 6</strong> Structure</td>
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<td><strong>Block 7</strong> Foundations of Clinical Medicine</td>
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<td><strong>Systems &amp; Scholarship</strong></td>
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</table>
Students as “Change Agents”

“Active Participants” or “Co Producers” of Systems Improvement

– Organization of Health care delivery is changing and all graduates of medical schools will not be practicing in settings that are similar to where they trained.

– Unstable system in transition- how do we give the students tools to better prepare on how to deal with a changing health care system?
1. Health Systems Science Curriculum at CWRU SOM

2. HSS Assessment

3. HSS in Clerkships - SOAP- V

HSS Assessment- Student and Curriculum

- **Year 1**
  - Block 1 evaluation
  - Summative Synthesis Essay Questions (SSEQs)
  - Professional Learning Plans (PLP)
  - Portfolios- Reflective Practice, Interprofessional Team Skills, Professionalism, Research Skills

- **Year 2**
  - QIKAT- R (pre and post curriculum)
  - Systems Thinking Tool
  - HSS NBME exam
  - PLP completion
  - Portfolios- Patient Care, Communications Skills

- **Year 3**
  - SAMI assessment- peer and facilitator
  - HSS NBME exam
  - Portfolio- Systems Based Practice and Personal and Professional Development
### Competency: Systems-based Practice

- **System-based Practice**
  - Demonstrates an understanding of and responsiveness to health care systems, as well as the ability to call effectively on resources to provide high value care.
  - Compares and contrasts simple, complicated, and complex systems.
  - Diagrams the contributions leading to medical errors in a given situation.
  - Describes various organization, financing, and delivery systems of healthcare in local communities.
  - Applies quality improvement methods in health promotion activities.
  - Considers risks and benefits in proposing patient management plans.
  - Ability to identify and classify the different microsystems they work in.
  - Describes the steps of a root cause analysis.
  - Describes the impact of cost, insurance, and reimbursement on patients’ ability to receive proper healthcare.
  - Applies quality improvement methods to propose a plan to improve healthcare delivery for an individual patient (CPT49 patient).
  - Justifies choice of tests and treatment plans by considering inherent risks and benefits.
  - Identifies the impact of the specific healthcare delivery system on one’s clinical decision making.
  - Uses a Root Cause Analysis to study errors within the healthcare system and propose changes to prevent similar errors.
  - Considers economic and cultural factors, individual and family contributions and the availability of healthcare system resources in clinical decision making.
  - Applies quality improvement methods to the care of a patient to develop a plan to address specific behavior changes.
  - Accesses, critically appraises and utilizes biomedical information for making decisions that are relevant to the care of individuals and populations.

### Competency: Teamwork and Interprofessional Collaboration

- **Teamwork and Interprofessional Collaboration**
  - Demonstrates knowledge and skills to promote effective teamwork and collaboration with health care professionals across a variety of settings.
  - Demonstrates effective teamwork and collaboration to improve patient care including transitions of care.

### Competency: Systems-based Practice

- **Systems-based Practice**
  - Demonstrates an understanding of and responsiveness to health care systems, as well as the ability to call effectively on resources to provide high value care.
  - Effective use of resources to provide high-value care including attention to patient safety.

### Competency: Reflective Practice

- **Reflective Practice**
  - Demonstrates habits of ongoing reflection and analysis to both identify learning needs and continuously improve performance.
  - Demonstrates habits of ongoing reflection and self-improvement.
  - Uses patient data to identify and address areas for improvement based on clinical encounter.

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### Educational Program Objectives

<table>
<thead>
<tr>
<th>Competency</th>
<th>Milestones at End of Block 4/First Year</th>
<th>Milestones at Start of Clinical and Research Years</th>
<th>Milestones for the MD Degree</th>
<th>Educational Program Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>System-based Practice</td>
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<td></td>
<td>Demonstrates awareness of context of care, patients' values and healthcare system resources in clinical decision-making. Applies principles of quality improvement and safety to patient care.</td>
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<td></td>
<td>Applies knowledge of health-care systems to patient care discussions.</td>
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**Case Western Reserve University**

**School of Medicine**

**Page 1 of 1**
Systems-based Practice
Demonstrates an understanding of and responsiveness to health care systems, as well as the ability to call effectively on resources to provide high value care.

Milestone: Considers economic and cultural factors, individual and family contributions and the availability of health care system resources in clinical decision making.

Prompt: Describe a specific patient scenario over the last year in which you (and your clinical team) took into consideration economic and cultural factors, individual and family contributions, and the availability of health care system resources when making a clinical decision? Reflect on how you think this impacted the patient’s care and whether it helped or hindered care.

1. Health Systems Science Curriculum at CWRU SOM
2. HSS Assessment
3. SOAP-Value
SOAP-V: A New Pathway to High-Value Care

Clifford D. Packer, MD
Louis Stokes Cleveland VA Medical Center
Professor of Medicine, Case Western Reserve University School of Medicine

Life Expectancy v. Cost of Care

StatLink: http://dx.doi.org/10.1787/888932916040
How do you incorporate value?

1. **Evidence of value**: Before ordering a test, have you and the team considered whether the result would change management? Before ordering a treatment, have you considered the evidence for the treatment vs. no treatment or an alternative treatment?
2. **Patient values**: Have you discussed with the patient their goals and values? Do they recognize the potential harm of the test/treatment compared to alternatives?

3. **Relative cost**: What is the approximate cost of the test/treatment? Are there less costly alternatives with similar benefits?

Where to get cost information
- Healthcarebluebook.com
- iTriage – a mobile app
Spending Patterns in Region of Residency Training and Subsequent Expenditures for Care Provided by Practicing Physicians for Medicare Beneficiaries

JAMA 2014; 312(22):2385-93

Among general internists and family physicians who completed residency training between 1992 and 2010, the spending patterns in the HRR in which their residency program was located were associated with expenditures for subsequent care they provided as practicing physicians for Medicare beneficiaries. Interventions during residency training may have the potential to help control future health care spending.
Implementation

- 3 medical schools (Penn State, Harvard-Beth Israel Deaconess, Case Western Reserve-Cleveland VA)
- American College of Physicians and Carl J. Shapiro Institute as partners
- Each school with intervention and control arm
  - Pre- and post-surveys on attitudes of medical students, residents and faculty
  - Measuring use of SOAP-V via email link and direct observation

Methods

- **Nonrandomized controlled trial**, with half of the third-year students at each institution in the control arm and half in the intervention arm.
- Before the clerkship both control and intervention students attended a 1-hour lecture on general principles of HVC. Students in the intervention group received an additional 1-hour SOAP-V training session, which included background on overuse and pressures faced by students on rounds to order unnecessary tests; introduction to the SOAP-V framework; a video of a student using SOAP-V on rounds; and role-play opportunities using SOAP-V in their presentations.
- They received a pocket card, which referenced Healthcarebluebook.com, a website that displays health care costs by US geographic region.
- **We asked students to use the SOAP-V framework during inpatient rounds** and informed faculty and residents that students might incorporate elements of HVC into their discussions.
- Students in intervention and control arms at each school were surveyed on their attitudes toward HVC at the beginning of the clerkship year (pre-intervention) and then again at the completion of the medicine clerkship and at 6 and 12 months, via a 19-item questionnaire soliciting perceptions and self reported practices in HVC.

• Medical students are well positioned to bring value discussions into patient care activities.
• Students at 3 medical schools used the SOAP-V framework during team presentations to apply high value care in their medical decision making.
• The intervention group reported higher self-efficacy toward addressing the economic health care crisis, initiating team discussions on unnecessary tests or treatments, and considering potential costs to patient and system; these changes were not present in the control group.

6-Month Data:
% Somewhat or Completely Agree

- I have the power to address the economic HC crisis
- I would be comfortable initiating discussion about unnecessary tests-treatments with my team
- In my clinical decisions, I consider potential costs to the HC system

N=226
C=Control
I=Intervention
RESULTS OF THEMATIC ANALYSIS OF FOCUS GROUPS

SOAP-V served as a generalizable tool across clinical experiences
• “I had medicine first and I had it on my mind the rest of the year. When the discussions came up I had that added context.”
• “If we can start having the health systems conversation talk much earlier on in our training, then you kind of switch your mindset and say, ‘Okay, this is something important.’”
• “It definitely influenced me in the outpatient setting. I started to be more conscious of it and I would take into account not only guidelines, but would it change our management?”

SOAP-V emphasized topics like cost and patient harm that were usually avoided
• “I just didn’t think we did a good enough job of informing the patients about why we were doing the tests we were. Most of the discussions that we had about value were in the hallway, not in the patient’s room.”
• “(The system) lacks a finite idea of what this cost is. It’s almost like having a credit card with an unlimited amount of money. You never know how much you’re spending because you don’t have a definitive statement of what’s going on.

SOAP-V facilitated value conversations
• “[A value-based question] would prompt either the intern or the resident to ask the same question.”

How to talk about high value care

• Don’t hesitate or apologize when it comes to bringing up cost issues on rounds. These days, everybody is aware of the importance of high value care, and the best attendings and residents are already talking about it and teaching it.
• You don’t need to discuss all three components of high value care in every presentation. A simple comment about the patient’s preferences, the cost of a test, or the questionable utility of a procedure is often enough to get the value discussion going.
• Cite guidelines, randomized trials, and other evidence to support your thinking about the proposed test or procedure.

• *Embed the discussion of value in your assessment and plan.*
An example: meniscal tear

- The patient is a 59-year-old woman with a left knee meniscal tear diagnosed by MRI last week. The MRI also revealed moderate osteoarthritis. She’s having moderate pain with walking, mild swelling, and occasional locking of the knee. Her health insurance has a high deductible, and she would prefer to avoid surgery if possible. The cost of a knee arthroscopy is $3000-$5000 and the cost of a full course of physical therapy would be $1000-2000. A randomized controlled trial of patients 45 and over with meniscal tear and mild-to-moderate arthritis showed similar results at 6 and 12 months with surgery or physical therapy. I think that physical therapy would be a reasonable approach for her, and it would be in keeping with her preference to avoid surgery. We could offer her a corticosteroid knee injection today to reduce the pain and swelling and help her to tolerate the physical therapy.

SOAP-V Publications

Medical Schools Now Using SOAP-V

- Case Western Reserve University
- Harvard
- Penn State
- Albany
- Mayo Clinic
- Illinois-Chicago
- Dell (Austin, Texas)
- University of Minnesota
- Geisel School of Medicine
- UCSF
- University of South Carolina

Next steps and conclusion

- We received a $25,000 ABIM grant to expand SOAP-V to resident ambulatory clinics at Cleveland VA and Penn State. Research is ongoing.
- We partnered with the Cleveland Institute of Art animation department to develop a 4-minute animated SOAP-V video
  https://www.youtube.com/watch?v=3PLHpx1Kilw
SOAP-V Collaborators

- Harvard/Beth Israel Deaconess: Sara Fazio, Grace Huang
- Cleveland VA: Clifford Packer
- Penn State: Eileen Moser, Sue Glod
- Shapiro Institute: Grace Huang, Richard Schwartzstein
- American College of Physicians: Patrick Alguire, Daisy Smith
- AAIM/CDIM: Sara Fazio, Valerie Lang

High Value Care Tools

- Online HVC Cases
  https://hvc.acponline.org/physres_cases.html
- Simple cases on HVC
  http://www.med-u.org/simple#
- Choosing Wisely lists
References (cont’d)


• Taking the Lead on Health Care Quality Improvement- MOOC,, Dolanksy, MA; Singh, MK; Moore, S; 2015 https://www.coursera.org/learn/hcqualityimprovement

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