Optimizing Value, Quality and Safety in Health Care: A Case Study in Surgery

Recently, there has been a focus in the literature and the lay press that when compared to other countries, healthcare in America is remarkably expensive without better overall health or health outcomes. Furthermore, the IOM Report “To Err is Human” highlighted disturbing data regarding safety issues in the US healthcare system. An in-depth understanding of the key concepts of value, quality and safety is therefore critical to the education of future physicians.

It is well-documented that the majority of adverse events experienced by hospitalized patients occur in surgery. Furthermore, surgical interventions account for a significant proportion of our nations’ health care spending. For these reasons, surgery offers the ideal setting to explore these three components critical to improving the US healthcare system, namely value, quality and safety. This course provides an opportunity to examine factors that influence the care we provide and to critically consider the value (defined as outcome over spending) of this care. Value in health care can be decreased either by poor outcomes or by high costs. As such, efforts to improve value in surgery focus on quality, safety and appropriate utilization of critical resources. Within the department of surgery we have numerous opportunities to see these efforts in action and consider areas for improvement.

Fourth year students will follow patients longitudinally from clinic to discharge (including rehabilitation and home health care) and consider how these important concepts are encountered and impact care in the clinical arena. The overall strategy for this clerkship is to offer students an opportunity to follow four to six patients from the clinic, to the operating room and through their postoperative course. Students will be required to attend all lectures, discussion groups and write one independent narrative paper that presents a specific concept and the implications of policy or strategies to improve value in healthcare spending for the surgical patient. The concepts covered in this course will be generalizable to other disciplines.

Objectives:

1. Demonstrate understanding of system efforts to promote high value health care.

2. Integrate understanding of complex care for individuals with policy or institutional level strategies to improve health.

3. Identify processes or attitudes that may (or may not) provide for the fair and just distribution of health care resources.

Faculty Roster:

Course Directors: Gretchen Schwarze and Caprice Greenberg

Primary Faculty: Jon Matsumura, CW Acher, Joshua Mezrich

Clinical Faculty: Vascular, CT, Transplant surgeons
Week 1: Lectures, Reading, Clinic

At the beginning of the course, each student will be assigned to a faculty mentor who will provide oversight, aid in the identification of appropriate patients, and be available for discussion of evolving issues.

Lectures:

Value and Health Care Spending: Schwarze

A Systems Approach to Patient Safety: Greenberg

Regional Disparities in Health Care Utilization: Translating Data from Clinical Trials into Clinical Practice using Renal Artery Stenting and Endovascular Aneurysm Repair as Examples: Matsumura

Measuring and Reporting Surgical Outcomes: Greenberg

Process Improvement, High Volume Centers and Evolution of Technology: Volume, Outcomes and Cost Considerations in the Treatment of Thoracoabdominal Aneurysms: CW Acher

Fair and ethical distribution of health care resources: Schwarze

The debate about the Life Years from Kidney Transplant allocation system: Mezrich

Reading:

Incorporating economic reality into medical education, Sessions, Detsky, JAMA

The shadow government in health care, Sessions, Detsky, JAMA

A behavioral and systems review of professionalism, Lesser, Levinson, JAMA

Economics, ethics and end of life care, Weiss, JAMA 1999

Increased price transparency in health care, Sinaiko, NEJM

The unbearable rightness of bedside rationing, Ubel, Arch int Med


Select readings from Institute of Medicine To Err is Human and Crossing the Quality Chasm

Hospital volume and surgical mortality in the US, Birkmeyer, NEJM 2002 346(15)1128-37


Incidence and types of adverse events and negligent care in Utah and Colorado, Studdert, Med Care 2000.


**Clinics:** Vascular, Thoracic, Transplant, Cardiac, Hepatobiliary *(Students will be the only 4th year students in clinic. There may be a third year student in clinic but this student will have a distinctly different role and learning objectives)*

Week 2-3: Inpatient surgical service, follow up clinics, case based seminar discussions

Each student will follow several patients (ideally met in clinic) throughout their hospital course and discharge. Patients could also be acquired upon transfer from an outside institution or upon presentation to the ER; however, the patient must be met prior to surgery. Ideally, each student would follow 4-6 patients depending on the acuity (for example if a patient goes to the OR more than once during his/her hospitalization, the student will follow fewer patients), more intensively: intake, pre-op, post-op, on the floor to post op tests, in ICU, to social service rounds (consideration of placement), and could potentially follow them to inpatient rehab or even to the L-TACH, Select Hospital. To do this the student will participate in morning rounds with the team, follow the patient to the operating room (under supervision of the attending staff) and follow the patient on the floor post-operatively under supervision of the resident/attending staff and with assistance from the mid-level providers who will be able to inform the student about care team meetings, additional in-hospital testing, and post-hospital disposition.

Students will spend 2-3 half days per week in clinic primarily understanding the process of follow up of post operative patients. Students will be able to observe post-operative outcomes including functional status, understand the resource needs of the postoperative patient and assess methods to monitor durability and outcome of the operation performed. Supervision will be from attending staff in clinic.
One student per rotation will have the opportunity, if desired, to substitute observation of 3 patients with an intensive examination of an itemized bill for a patient who has been recently admitted to the vascular service. This student under the supervision of Dr. Acher or Dr. Matsumura will organize a multidisciplinary team including a nursing student, a D4/5 nurse (or OR or TLC nurse), and vascular resident with oversight by the corresponding nurse manager to carefully review the patient’s bill in order to identify extraneous costs and consider of the indications for the use of diagnostic tests and therapeutic intervention. Evidence based practices will be compared to actual practices where appropriate, correction of system based practices will be instituted. UWHC nursing leadership and HVT service line leadership are supportive of this focused multidisciplinary “vascular collaborative.”

Discussion groups: 3 per week for weeks 2-3. These will be student led and based on the independent study cases from http://improvehealthcare.org/. Each student with staff supervision (like a college seminar) will lead at least one meeting. These meetings will take place in the morning (over coffee), after rounds or at the end of the day.

Independent study: Review cases in health care policy using the online casebook developed by Harvard students http://improvehealthcare.org/ case assignments: Conflict of Interest and Patient-Physician Trust, Consumerism in Health Care, End of Life Care, Health Information Technology and the Use of Computerized Medical Records in Medicine, Medical Malpractice: The Case of Julie Freeman, Paying Physicians, The Transformation of the Veterans Health Administration: The Case of Dr. Sarah Biel, Value Based Insurance Design

Conferences: Students will be asked to attend one of multiple conferences that at exist at UW that focus on Value, Resource Distribution, or Quality and Safety Improvement: QI review, OR process meetings, Risk Management Meetings, Transplant decision meetings. A brief written summary of the conference will be required from each student reflecting on decisions made regarding use of health care resources (about 1 page).

Week 4:

Write up experience using a patient narrative that incorporates one or two of the major concepts discussed in this elective considering policy and/or practice interventions. Length of narrative is approximately 3-5 pages.

Grading: Drs Schwarze and Greenberg will be responsible for grading each student’s performance on this rotation. The grades will reflect the student’s ability to incorporate clinical experience with concepts taught in this course. The grade will reflect observations of the student’s professionalism in the hospital and clinic, group discussion leadership and integration and understanding of critical course concepts as demonstrated by the final narrative paper.
Components of grade: Participation in clinical activities (clinic, ward, OR): 15%, Final paper: 40%, Leadership of case based seminar: 30%, Conference reflection: 5%. The grading scale will align with the grading scale for the third year rotation in surgery (A, AB, B, BC, C).

Credits: 4 – this elective will satisfy the 4th year surgery requirement.

Funding: The resources we will need to run this course include support of faculty: (5: each will be responsible for one lecture and one discussion group, one will be responsible for 2 lectures and 2 discussion groups) and coordination of the student’s clinical activities: identifying open clinics and hospital based surgical services so as to reduce conflict with 3rd year surgery students, identifying conferences both regularly occurring and special meetings (QI, root cause analysis), coordination of course evaluations and reservation of rooms and times for the lectures and case-based discussions.

Additional notes: This course could be offered for students away from the UW campus if other sites that offer clinical opportunities in surgery would be willing to provide clinical opportunities that need to be incorporated in to this rotation. In addition, there is room to expand this elective to non-surgical clinical experiences. Ideally, the same lectures can be used to guide understanding of value in health care in medicine or pediatrics. However, in order for students to have the same opportunities to observe the interplay of cost and outcome in 4 weeks, non-surgical venues will likely need to be limited to inpatient, high acuity care.

Using web-ex technology students off-site could participate in lectures and group discussions. The vascular surgery department uses this on a regular basis to conduct teaching sessions and journal clubs in the region.

Number of students: This elective can accommodate no more than 7 students per month.

Months offered: September, November, March, April