

Patient-Centered Care or Patient Data-Centered Care: A Tale of 2 Admissions

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In today's clinical environment, residents may begin and end patient care at the computer, seeing the patient only during a brief period between these electronic interactions. In contradiction to Oslerian teachings, clinical reasoning and faculty feedback on this important element of physician competence are conspicuous by their absence. Patients admitted from the emergency department (ED) to a specialty team at a teaching hospital come prepackaged with a diagnosis and treatment plan. Traditionally, residents interviewed and examined patients, generated their own assessment and plans, and reviewed old medical records. Today, residents "biopsy" electronic records in preparation for the many patient care tasks ahead, long before they lay eyes on the patient. There seems to be near complete faith in the admitting diagnosis and a dearth of independent inquiry. Two cases presented here illustrate the dangers of this new clinical method.

Case 1

A 50-year-old man with a history of hypertension was admitted from the ED with a diagnosis of recurrent pneumonia. He had been admitted 4 times in 3 months for cough and shortness of breath. The admitting residents entered antibiotic orders before seeing the patient. Further review of the history revealed that the patient had had dyspnea on exertion for 4 months with orthopnea and cough at night and without fever, chills, or risk factors for recurrent pneumonia. Examination revealed an elevated jugular venous pressure, tachycardia, and an S3 gallop. The patient had actually had several episodes of symptoms related to congestive heart failure diagnosed as "recurrent pneumonia." Echocardiogram showed dilated cardiomyopathy, and the patient rapidly improved with diuresis.

Case 2

A 55-year-old man with a history of hypertension and chronic anemia was admitted to the internal medicine department with a 2-day history of diffuse abdominal pain, fever, nausea, vomiting, and watery diarrhea. There was no history of recent travel, contact with a source of infection,

or new medications. Physical examination revealed a temperature of 102°F, tachycardia, borderline low blood pressure, and diffuse abdominal tenderness without signs of an acute abdomen. The patient was diagnosed with gastroenteritis, laboratory and stool studies were ordered, and intravenous fluids were started. Worsening of pain, vomiting, and abdominal distention developed. The general surgery consultant (a junior resident) requested a computed tomography (CT) scan before seeing the patient; the surgery attending recommended urgent exploratory laparotomy based on his clinical impression of suspected perforation. This suspicion was confirmed.

The preceding cases vividly illustrate some of the dangers that can result from declining clinical skills and reasoning among trainees. Clinical teachers in all specialties can create a library of such cases. It has been stated that the "I-patient" inside electronic health records (EHRs) receives more attention than the real patient.¹ Although EHRs contribute to improved patient care by providing updated lists of problems, medications, allergies, prior investigations, and notes, increasing documentation requirements take clinicians away from the bedside. This contributes to declining clinical skills and a "clerical" work environment.^{1,2} Medical educators must implement pragmatic solutions to train future generations of outstanding clinicians, balancing benefits and limitations of technology with awareness of work demands.

In 2013, residents spend little time at the bedside demonstrating hypothesis-driven physical examination or skilled clinical reasoning.^{3,4} Attending physicians spend even less time role modeling, teaching, or observing these skills.^{5,6} Although many barriers to bedside interactions are reported, educators' recommendations for effective bedside teaching consist of a few simple strategies.⁷⁻¹⁰ Emphasis on diagnostic hypotheses derived from the patient's history^{11,12} and a reflective clinical examination would encourage trainees to engage in early and analytic clinical reasoning during patient encounters.¹²⁻¹⁵

Shrinking bedside time and declining critical thinking can lead to diagnostic errors, from faulty detection of clinical features to faulty triggering of diagnostic hypotheses,¹⁵ as in our cases. In a study of 3 internal medicine residency programs, a third of errors were attributed to faulty diagnoses, many not discussed with attending physicians.¹⁶ Premature closure, exemplified in the preceding cases, is a frequent error of clinical reasoning, occurring

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at all levels of training.^{14–17} Trainees are prepared to accept ED diagnoses without independent data gathering. Lack of clarification or confirmation by attending physicians could further compound the problem.^{15–17} Bedside patient discussions initiate novices into a world that requires judgment and thought,² and that continually expands the clinical repertoire of trainees.^{1,2,18,19} Without excellent role models²⁰ to instill these skills, trainees may acquire outstanding computer skills and become adept at ordering investigations and using management algorithms without knowing how to perform skilled physical examinations and apply analytic clinical reasoning.^{10,15,18,19}

A lack of systematic clinical skills assessment during or at the end of many residencies may further contribute to declining clinical skills among physicians in training and those entering practice.^{18,19,21–23} In addition, clinical teachers do not adequately observe trainee–patient interactions or provide specific and actionable feedback.²⁴ Attending physicians may be unaware that residents admit patients without independent review of clinical data, or they may witness this without registering or correcting faulty habits. When these behaviors become the norm, trainees will see nothing wrong in treating “chartomas” without using clinical data and critical thinking as the basis of diagnoses.^{1,2,10,18,19}

Educators state that modern medical trainees are often oblivious to overt clinical findings and order an array of investigations without clinical reasoning and thus provide cost-ineffective care.^{1,15,18} One of my former residents called the CT scan the “doughnut of truth.” The temptation to accept a history from an electronic record or another physician and bypass clinical reasoning is strong. To investigate and manage patients on the basis of prepackaged diagnoses is all too easy but can lead clinicians down the wrong path.

There continue to be valid reasons to emphasize sound clinical skills in residency training. Patients still expect physicians to lay a hand or a stethoscope on them^{18,19}; skilled history, examination, and clinical reasoning contribute to accurate diagnoses^{15,25}; medical educators can play a role in decreasing diagnostic errors that arise from faulty clinical thinking, which could lead to more cost-effective care.^{15,18,19}

Some examples of clinical skills curricula in internal medicine residencies include the Boston Medical Center curriculum, featuring scheduled bedside rounds by master clinicians, physical diagnosis workshops, and physical examination OSCE (objective-structured clinical examination) during intern orientation; the Brigham and Women’s hospital curriculum, featuring workshops, faculty development on bedside teaching, master clinician rounds, and a teaching resident elective with attending observation and

feedback; and the Stanford 25 curriculum, which features 25 physical diagnostic maneuvers taught by master clinicians supplemented by an online syllabus.¹⁹ It is imperative that such curricula teach a reflective clinical examination with an analytic or hypothesis-driven deductive-reasoning approach rather than nonanalytic thinking or pattern recognition.^{12–15} Only by spending more time at the bedside can teachers improve their bedside teaching skills.²⁶

Residency programs need to design innovative curricula to improve clinical skills of trainees where residents’ history-taking and physical examination skills are observed, clinical reasoning is probed, residents are required to justify diagnostic and management approaches, and clinical skills are assessed before graduation. High-touch and high-tech medicine can be successfully combined by developing a cadre of master clinicians to champion and spearhead “back to bedside” initiatives and by having all clinical teachers serve as bedside role models. By what other means can residents learn skilled history taking, a reflective examination, and astute clinical reasoning? And, what else could ensure the highest-quality patient-centered care?

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