

Health Policy in Medicine: Inside the Beltway

Misdiagnosis and Comparative Effectiveness Research

by Eugene Rich, MD, FACP

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Note: For this column, Dr. Rich responds to questions posed by a colleague at Creighton on his recent publication in the *Journal of Comparative Effectiveness Research* entitled "From methods to policy: Misdiagnosis: an emerging priority for comparative effectiveness research".

Questions were prepared by:
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Question 1: Please expand on "the part for obstetric ultrasound" in pregnancy (Page 2, 1st paragraph) and how it contributes to misdiagnosis/overdiagnosis?

Dr. Rich's Answer: In the article, I observed that the 2009 Institute of Medicine (IOM) report on national priorities for Comparative Effectiveness Research (CER) identified ultrasound during pregnancy as among the top 50 CER research questions to be studied. As outlined in the report, the Committee's approach to identifying these priorities included "extensive consultation with and input from stakeholders" (including a web-based topic nomination process with over 1750 respondents); development of priority-setting criteria; commitment to developing a broad-based portfolio of priority topics; a three round committee voting process; and detailed committee discussion of 155 candidate topics.

I noted in my article that the IOM report phrasing of this issue reflected the more complex role in patient care played by some diagnostic technologies; thus the CER required might be more than a traditional technology assessment enumerating the risk of a false positive or false negative from a single use of the test. The Report described the comparative effectiveness research priority for ultrasound during pregnancy as follows: "Compare the effectiveness and outcomes of care with obstetric ultrasound studies and care without the use of ultrasound in normal pregnancies." The full report noted that "the use of ultrasound scanning through gestation...is highly variable, and it is not known whether the frequency of use affects pregnancy outcomes or safety." Thus members of the Committee were persuaded that during the care of normal pregnancies, some uses of this diagnostic technology might ultimately prove unhelpful in achieving better outcomes, and that CER on this topic was a national priority.

Question 2: Can you cite some examples for this scenario mentioned in the paper: The clinician must first accurately categorize the patient's health concern before it is possible to have a meaningful discussion on a specific decision like "given your condition (A) do you prefer the expected outcomes from test X or test Y?"

Dr. Rich's Answer: As has been highlighted by the "Choosing Wisely" Campaign, screening tests for coronary artery disease are sometimes overused. To quote the American College of Cardiology: "Asymptomatic, low-risk patients account for up to 45 percent of unnecessary 'screening.' Testing should be performed only when the following findings are present: diabetes in patients older than 40-years-old; peripheral arterial disease; or greater than 2 percent yearly risk for coronary heart disease events." Therefore physicians should not recommend either stress cardiac imaging or advanced non-invasive imaging to patients without cardiac symptoms unless high-risk markers are present. <http://www.choosingwisely.org/doctor-patient-lists/american-college-of-cardiology/>

Question 3: Can you cite some examples for this scenario mentioned in the paper: “Furthermore, in many complex or urgent clinical circumstances patient engagement cannot be the primary solution to averting misdiagnosis.”

Dr. Rich's Answer: There are many clinical circumstances where the patient’s preferences should be engaged in considering the risks and benefits of misdiagnosis- examples include mammographic screening for breast cancer. However in many circumstances the patient may be too ill to engage in a substantive discussion regarding the risks and benefits of testing – for example, the patient in respiratory failure for whom pulmonary embolism is among the diagnostic possibilities (along with pneumonia and congestive heart failure).

Question 4: Can you provide any specific examples relevant to the question you pose? “What practice site or delivery system features augment or interfere with accurate recognition of the patient’s specific condition?”

Dr. Rich's Answer: Some years ago I studied how resident physician workload influenced decision-making. We observed for example that under high workload conditions, internal medicine residents were less likely to know details of their patient’s social history that might affect the proper timing and placement for hospital discharge (Griffith III, C.H., E.C. Rich, and J.F. Wilson. “Housestaff Knowledge of Their Patient’s Social History.” *Academic Medicine*, vol. 70, no. 1, 1995, pp. 64-66).

It is sobering to note that in a different study we found residents more likely to discharge older hospitalized patients quickly when their workload was high (Hillson, S., E.C. Rich, B.E. Dowd, and M.G. Luxenberg. “Intern Workload and Patient Age: Busy Interns Treat the Elderly Differently.” *Gerontology and Geriatric Education*, vol. 14, no. 2, 1993, pp. 33-41). Thus excessive physician workload could be a practice site feature that interferes with accurate recognition of the patient’s condition.



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