

TO THE EDITOR:

Hematology referral madness syndrome

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A 91-year-old man drove 3 hours to be seen by a hematologist for an appointment he was told he could not afford to miss. He was referred for advice on the duration of anticoagulation after he was diagnosed with heparin-induced thrombocytopenia 2 months earlier when he had coronary artery bypass surgery.

A 22-year-old woman with anemia because of severe menometrorrhagia was referred for evaluation of thrombocytosis needed to have a "bone marrow biopsy to test for blood cancer."

A 44-year-old woman, who was overweight and a heavy smoker, living 120 miles from our center, was referred for evaluation of increased white blood cells ($11 \times 10^3/\mu\text{L}$ on account of neutrophilia $7.6 \times 10^3/\text{ccu}$) because she "could have leukemia."

In our classical ("benign") hematology clinic, the first patient was advised to continue his current anticoagulant (warfarin) for an additional month. This could spare the patient an unnecessary trip if a referring provider had consulted guidelines on managing heparin-induced thrombocytopenia management within a few minutes at the point of care. The woman with thrombocytosis was told that her platelets were increased because of iron deficiency anemia (from severe menometrorrhagia) that will eventually normalize after her anemia corrects on iron replacement (which they did), a fact that the referring physician probably knew, if he could take a moment to reflect on it. After taking the history of the patient who presented with mild leukocytosis, it became clear that she had been evaluated for it several years earlier. At the time, she was told that the etiology of her mild leukocytosis was related to her obesity and smoking. The patient was referred to us after being seen for <5 minutes in the primary care office.

These patients had waited 2 to 4 months to be seen at our tertiary academic center. It is probably obvious to all readers that the management of these patients did not require referrals to a subspecialty tertiary center. However, what we describe is not an exception. This trend of increasingly referring patients to subspecialists pervades all specialties, not only our specialty, hematology. The "referral madness" results in hyper-fragmentation, defined as the delivery of health services across an excessively large number of specialists of poorly coordinated providers,¹ with the serious consequence of inadequate access to high-quality care. In our practice, we consult >1500 patients per year in our hematology clinics, of whom 50% to 70% of patients have similar clinical questions as the patients described in the opening vignettes. Each of these patients sees multiple providers. However, as more individuals make more decisions, the probability of diagnostic and therapeutic error increases.

What are the possible explanations for this increasingly intolerable poor quality of care? Because the cornerstone of expertise is judgment competence,² we argue that judgment competence was compromised in each case.

What affects judgment in people who otherwise have proven their professional competence by completing their medical training, passing the board exams, meeting all regulatory requirements for continuing medical education, and probably dealing with similar clinical cases in their professional

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All data are available on request from the corresponding author, Benjamin Djulbegovic (djulbegov@musc.edu).

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career? It is not the lack of knowledge per se. In the final analysis, the quality of care comes down to time. The limited time provided to practitioners to go beyond minimally required data collection to enable cognitive efforts to reflect, deliberate, review, and look up information severely curtails their ability to make high-quality, evidence-based decisions. The lack of time is increasingly compromising clinical judgment competence leading to unnecessary referrals and fragmentation of care.

To maintain their incomes, physicians increasingly need to see more patients. To accommodate more patients, health providers have drastically reduced the time they devote to their patients. But, because there is a strong reciprocal relationship between the quantity and quality of decisions, the reduced time typically leads to poor decisions.³ It has been estimated that health care providers' decisions affect 80% of all health care expenditures,⁴ and poor decisions represent the leading cause of death.⁵ Providers constrained by time can only effectively practice if they rely on their memory, reaching out to well-rehearsed heuristics they can immediately activate.³ To minimize error in their judgments, and given the limits of our brain capacity,³ the physicians are forced to subspecialize. Consequently, it is not unusual for physicians to see only patients with 1 disease, even though they have spent years learning how to care for patients with various problems in their specialty. It is not, therefore, surprising that some providers are reluctant to investigate topics with which they are less familiar. As a result, many physicians, primary care or even specialists, increasingly refuse to see patients with common problems such as anemia or leukocytosis even if they have been trained in managing these problems. If the problem falls into a category that they cannot easily retrieve from their memory, physicians will refer the patient to specialists instead of searching for information external to one's own memory, a hallmark of the educational and scientific process fundamental to gaining clinical competence.

As our opening vignettes illustrate, hyper-fragmentation^{1,6} severely affects patients' access to health care providers. Increasingly, more patients with less complex problems are being seen by specialists at tertiary centers.¹ Specialists are seeing more patients but not necessarily more new or complex patients that would be more appropriate for them to evaluate. All physicians have more patient visits but fewer new patients. As a result, the system is clogged with ever-increasing patient waiting times.

This trend has major implications for the health care system. Other factors also contribute to hyper-fragmentation, such as the aging population, the rise of chronic diseases, multiple problems leading to different care management pathways, and physicians' desire to reduce misses that may lead to liability consequences. However, the onslaught of trivial referrals seemingly prompted by the desire to mitigate diagnostic or therapeutic uncertainties⁷ often leads to additional workup resulting in the unsafe practice of the cascade of unnecessary diagnostic testing and treatments.

Nevertheless, as we highlighted earlier, high-quality care requires time. It has been said that "time is the greatest commodity of our times." Although everyone acknowledges this fact of today's environment, we are unaware of any initiative that incentivizes providers to spend more time developing competence that will reduce the fragmentation of care. In the United States, the Federal Health Insurance Program of the Centers for Medicare and Medicaid Services, which provides health coverage to >100 million people,

uses codes to allow physicians to charge based on time spent with their patients. However, the coding system does not capture the true time-consuming activities such as reviewing records, coordination of care, and responding to patient emails after the visit. Most importantly, it does not incentivize physicians to look up recent advances in health care.

The best decisions are made when evidence is retrieved at the time we need it.³ Incentivizing physicians to spend more time with their patients and develop competence to answer as many common medical problems that fall within the purview of their overall training as possible would improve the current unacceptable hyper-fragmentation of health care. Although waiting for policymakers to take the time factor more seriously, the current "referral madness" can conceivably be reduced by relying more on electronic consults,⁸ a quick answer to well-articulated questions about the patient's care that would, in our estimate, reduce >50% of unnecessary referrals. Rapid access to current guidelines and specialists through electronic consults regarding collecting, analyzing, reviewing, and interpreting clinical information should also promote clinical competence and reduce trivial referrals. Reducing the number of patients circulating through the health care system would, paradoxically, increase patients' access to specialists, including those with more serious illnesses currently waiting months to be seen. Electronic consultation is an important educational tool addressing relevant problems at the point of care; it can facilitate a stronger partnership with primary care providers, generating significant opportunities for substantial savings, eliminating waste, and improving the quality of care.⁹

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References

1. Agha L, Frandsen B, Rebitzer JB. Fragmented division of labor and healthcare costs: evidence from moves across regions. *J Pub Econ*. 2019;169:144-159.
2. Weiss DJ, Shanteau J. Decloaking the privileged expert. *J Manag Organ*. 2012;18(3):300-310.
3. Djulbegovic B, Beckstead J, Nash DB. Human judgment and health care policy. *Popul Health Manag*. 2014;17(3):139-140.
4. Cassel CK, Guest JA. Choosing wisely: helping physicians and patients make smart decisions about their care. *JAMA*. 2012;307(17):1801-1802.
5. Keeney R. Personal decisions are the leading cause of death. *Oper Res*. 2008;56(6):1335-1347.
6. Snow K, Galaviz K, Turbow S. Patient outcomes following interhospital care fragmentation: a systematic review. *J Gen Intern Med*. 2020;35(5):1550-1558.

7. Djulbegovic B, Hozo I, Greenland S. Uncertainty in clinical medicine. In: Gifford F, ed. *Philosophy of Medicine (Handbook of the Philosophy of Science)*. Elsevier; 2011:299-356.
8. Dosani T, Xiang J, Wang K, et al. Impact of hematology electronic consultations on utilization of referrals and patient outcomes in an integrated health care system. *JCO Oncol Pract*. 2022;18(4):e564-e573.
9. West C, Butler MJ, Kaur S, Karnad A. Classical hematology referrals at an NCI-designated cancer center: lessons learned. *Blood*. 2022;140(Supplement 1):5025-5026.