Do We Really Need Those Labs: A Student-Led Investigation of Cross-Disciplinary Attitudes on Daily Lab Ordering in Academic Inpatient Medicine

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PUBLISHED ABSTRACT

BRANDON YESHOUA

JONATHAN DULLEA

JOO YEON SHIN

WILLIAM ZHAO

OLUREMI KONIGBAGBE

VICTORIA STALTARE

CHIP BOWMAN

ANNE LINKER

SURAFEL TSEGA

MANAN SHAH

**Author affiliations can be found in the back matter of this article*

ABSTRACT

Background: Over-ordering of daily labs affects patient safety through hospital-acquired anemia, patient discomfort, frontline staff burden, and unnecessary downstream testing resulting in the delivery of low-value care. Routine ordering of unnecessary tests occurs for many reasons and can additionally increase cost of care. At our center, previous interventions have targeted lab ordering, but have struggled to remain sustainable. Our student-run project, as part of a high value care curriculum, set out to understand current state practice and local culture to inform future high-value care and quality improvement interventions to target over-ordering of daily labs.

Methods: We employed mixed methods to assess lab ordering behaviors and attitudes at an urban quaternary academic medical center. Electronic medical record (EMR) data was gathered to assess the number of daily labs (BMP, CMP, and CBC) ordered on a general medicine unit from June–October 2020. We surveyed internal medicine (IM) attendings, residents, physician assistants (PA), nurse practitioners (NP), registered nurses (RN), and patient care associates (PCA) to understand cross-professional beliefs and attitudes about daily lab testing.

Results: An average of 2.2 labs were collected per patient day. This was an increase from the 1.3 labs per patient day found in a similar patient population from March 2016 to August 2017 after the last daily lab reduction intervention. A widely distributed survey yielded 127 frontline staff responses: 29 (22.8%) attending physicians, 43 (33.9%) resident physicians and fellows, 12 (9.4%) PAs, 10 (7.9%) NPs, 14 (11.0%) RNs, and 19 (15%) PCAs. Of the 94 ordering providers (MD, DO, PA, NP), 73% thought they

CORRESPONDING AUTHOR:

Brandon Yeshoua

Icahn School of Medicine at
Mount Sinai, US

brandon.yeshoua@icahn.mssm.edu

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were unnecessary. No attending physicians designated daily lab testing as necessary, in contrast to 10% of NPs, 33% of PAs and 25% of residents. Only 29% of ordering providers agreed that daily testing improved patient care and safety; moreover, 89% believe it has potential harms. Of the residents, NP, and PAs, 68% cited worry over attending reaction and 97% cited training/habit as a reason for ordering unnecessary labs.

Conclusions: Analysis of prior interventions on unnecessary lab testing has demonstrated a strong need for sustainable interventions to improve patient care and reduce costs. Our multidisciplinary survey highlights a major discrepancy between attendings and other ordering providers on the necessity of daily tests. These results reveal the potential impact of planned PDSA (plan-do-study-act) cycle interventions including planned educational sessions, the initiation of monthly audit and feedback email, and attending-led rounding discussions on necessary labs.

Learning Objective #1: To describe the current state of daily labs ordered per patient in the context of prior interventions to reduce lab burden as a means to identify areas of improvement for future quality initiatives.

Learning Objective #2: To assess interdisciplinary attitudes on daily laboratory testing to develop a sustainable quality improvement intervention.

Current Lab culture: June 2020
 – Oct 2020.

Fishbone diagram regarding potential factors that lead to unnecessary lab tests. The stars represent focus of intervention.

Respondents: N=127	Results
<ul style="list-style-type: none"> ➤ 27 attendings ➤ 43 residents ➤ 17 NPs ➤ 19 PCAs ➤ 14 RNs ➤ 12 PAs 	<ul style="list-style-type: none"> ➤ 90% of Attendings disagreed/strongly disagreed that "Daily labs enhance patient safety/care" (vs 49% of residents) ➤ 58% of PCAs and 71% of RNs agreed that daily labs enhance patient safety/care ➤ Only 16% of PCAs and 7% of RNs agreed that daily labs may have potential harms ➤ 41% of attendings and 51% of residents said daily labs (safety checklist) are seldom or never discussed during rounds

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Survey Results.

COMPETING INTERESTS

The authors have no competing interests to declare.

AUTHOR AFFILIATIONS

Brandon Yeshoua orcid.org/0000-0001-8555-3509

Icahn School of Medicine at Mount Sinai, US

Jonathan Dullea orcid.org/0000-0002-8018-1213

Icahn School of Medicine at Mount Sinai, US

Joo Yeon Shin

Icahn School of Medicine at Mount Sinai, US

William Zhao orcid.org/0000-0002-4661-1419

Icahn School of Medicine at Mount Sinai, US

Oluremi Konigbagbe

Icahn School of Medicine at Mount Sinai, US

Victoria Staltare orcid.org/0000-0002-6638-6618

Icahn School of Medicine at Mount Sinai, US

Chip Bowman orcid.org/0000-0001-8293-0145

Icahn School of Medicine at Mount Sinai, US

Anne Linker orcid.org/0000-0003-2151-5065

Icahn School of Medicine at Mount Sinai, US

Surafel Tsega orcid.org/0000-0002-0814-3984

Icahn School of Medicine at Mount Sinai, US

Manan Shah orcid.org/0000-0003-0620-1455

Icahn School of Medicine at Mount Sinai, US

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