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Moving the needle on primary care burnout: Using a driver diagram to accelerate impact

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ABSTRACT

Prior to the COVID-19 pandemic, studies demonstrated an alarming prevalence of burnout in primary care. In the midst of the pandemic, primary care clinician wellbeing deteriorated and burnout rates increased, yet many organizational efforts to reduce burnout were put on hold due to the urgency of the pandemic. In this article, we present the "Reducing Burnout Driver Diagram" as a tool that clinical leaders and policy makers can use to address and mitigate primary care clinician burnout.

1. Introduction

Burnout, defined broadly as "emotional exhaustion, depersonalization, and a sense of reduced personal accomplishment",[1] is well-recognized in primary care, with pre-COVID studies demonstrating an alarming prevalence of burnout in primary care clinicians.[2,3] Further, studies also indicate that burnout impacts the physical and emotional health of clinicians, the quality of patient care, the educational context of medical learners, and the financial well-being of medical institutions.[4–8] Prior to the arrival of the COVID-19 pandemic, many health care institutions were responding to this data by launching major initiatives to reduce burnout and increase engagement for their clinicians and staff.

The beginning of the pandemic was marked by a sense of shared purpose as clinicians banded together to stem the tide of COVID-19, which may have initially reduced burnout.[9,10] However, as the COVID pandemic extends to its second year, initial meaning-making has given way to exhaustion. Primary care clinicians struggle with even more overwhelming workloads, higher levels of job stress, increased time pressure, limited organizational support, and workplace stressors such as personal safety, fear of infection, and shifting workflows and information.[11] Further, some of the pre-pandemic causes of burnout, such as the demands related to electronic medical record implementation and time spent in front of computers,[12,13] have only been exacerbated during the pandemic with the rapid adoption of telehealth. There is growing evidence that primary care clinicians are struggling with low levels of morale related to lack of support from health systems and colleagues leaving primary care.[14,15]

While we will not know the full impact of COVID-19 on the healthcare workforce until the pandemic is long over, it is clear that clinician wellbeing has deteriorated during this time and burnout rates continue to soar.[16,17] There perhaps has never been a more urgent time to create and utilize successful interventions to decrease burnout, yet many organizational efforts to reduce burnout were paused during the pandemic. Therefore, we introduce the "Reducing Burnout Driver Diagram" (RBDD), a tool that can be used to systematically address and mitigate shared causes of burnout in primary care practices (see Fig. 1).

2. The Reducing Burnout Driver Diagram

Driver diagrams, often used in quality improvement (QI) projects, are an effective way to show a team's theory of what "drives" or contributes to the achievement of a project aim. These diagrams translate a high-level improvement goal into a logical series of steps to reach the goal. This logic map (also referred to as a 'theory of change') shows the relationship between the project aim and the primary drivers that contribute directly to achieving the aim. The secondary drivers are defined as the norms, processes, and structures that are necessary and

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sufficient to move primary drivers.[18] The primary and secondary drivers allow teams to have a shared understanding of the big picture, identify changes that may lead to improving the aim, and maintain focus on the larger goal in an environment where there are competing priorities.

RBDD is a tool that was originally created as part of a primarry care collborative in the greater Boston area, drawing on burnout reduction models[19–21] to help identify concrete tactics and actionable steps to reduce burnout. A small team of city-wide primary care leaders, clinicians, and primary care staff from academic medical institutions and community health centers met over three months to draft the RBDD. Using key themes and concepts from the evidence, coupled with their own experiences, the team worked through an iterative process to create the RBDD. The RBDD was then introduced to the entire collaborative via a half-day launch event.

3. Implementing the Reducing Burnout Driver Diagram

The RBDD was used by 14 primary care practice teams to 1) identify

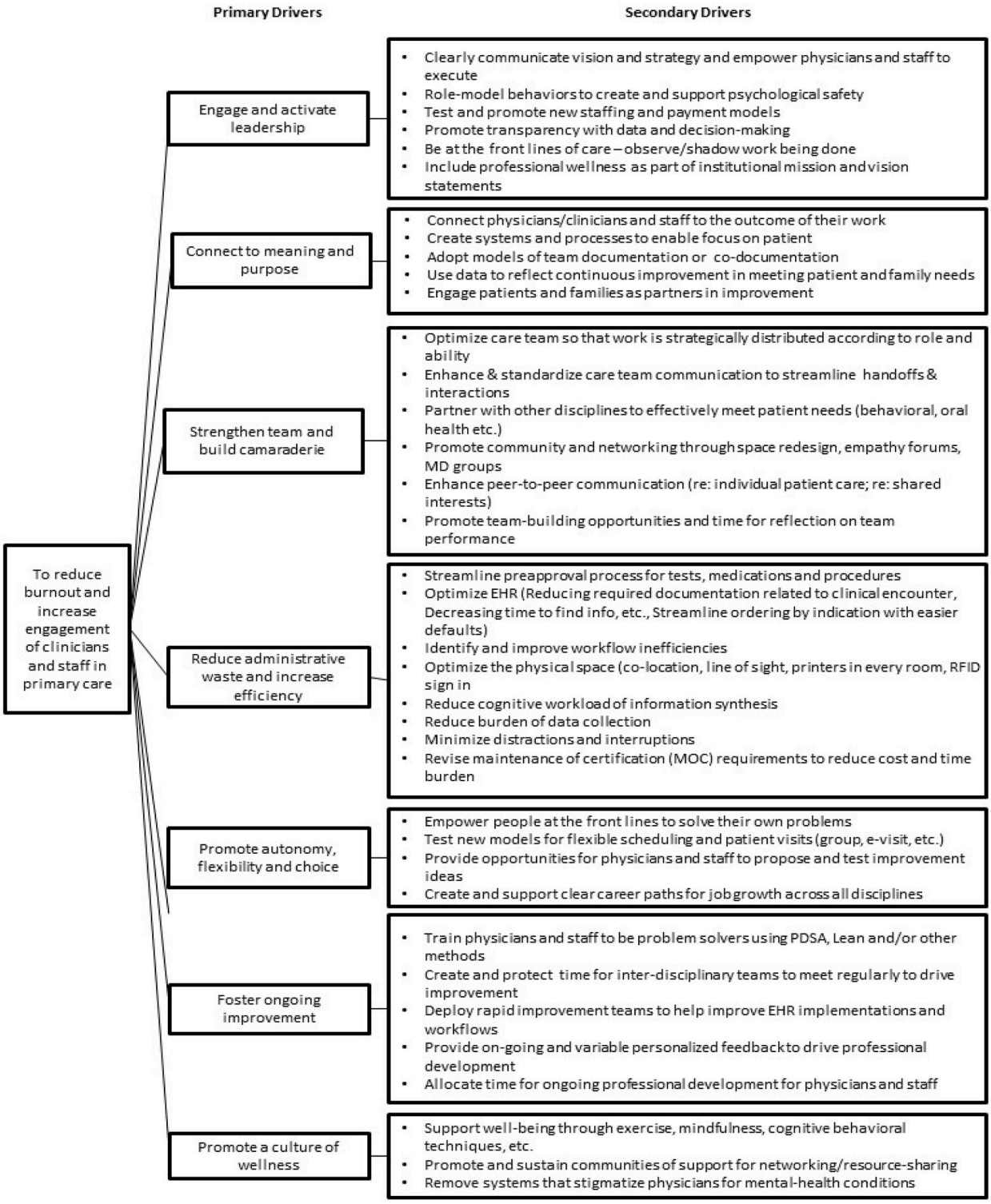

Fig. 1. Reducing burnout driver diagram.

the primary and secondary drivers that were contributing most to burnout in their practice; and 2) to plan QI projects around those drivers of burnout that could be impacted within a year. Teams had the option of choosing from seven primary drivers: 1) engage and activate leadership; 2) connect to meaning and purpose; 3) strengthen team and build camaraderie; 4) reduce administrative waste and increase efficiency; 5) promote autonomy, flexibility and choice; 6) foster ongoing improvement; or 7) promote a culture of wellness. Most of the primary practice teams selected QI projects focusing on drivers two, three, and four: connect to meaning and purpose; strengthen team and build camaraderie; and reduce administrative waste and increase efficiency.

Participating practices measured the impact of their burnout reduction work through tools such as annual burnout surveys. Interestingly, while the primary driver of addressing administrative waste and efficiency was initially chosen by many teams as the nexus of a QI project, as it was considered "low hanging fruit", the teams most successful in reducing burnout were those that coupled the efficiency driver with the strengthening team driver.

For example, three practices within one larger health system created interdisciplinary innovation teams with protected time to work on building collaboration skills for medical assistants (strengthening team driver) and developing workflows for complex patients (efficiency driver), which the practices believed would positively impact burnout. During the 10-month collaborative, the innovation team developed a new role for medical assistants to serve as scribes, coordinated workflows for patients with diabetes to be cared for by an interdisciplinary team, and implemented a social determinants of health screener. The three practices demonstrated a significant decrease in reported burnout symptoms across all three practices (31–27%) as measured by their annual Primary Care Workforce Survey, while non-participating sites in that health system experienced no change in burnout symptoms (static at 38%).

Another practice team focused on improving their prescription refill process. Many found the practice's prescription refill process very inefficient, causing not only errors but also frustrating clinicians by creating additional work. The team anticipated that focusing on prescription refills would not only improve the quality and safety of the practice (efficiency driver), but would strengthen the team's camaraderie as they worked towards improving communication skills with one another (strengthening team driver). One year after making workflow improvements and training staff on new guidelines, the practice's refill errors went from an average of 80% to 6%. Clinicians reported that the decrease in refill errors reduced the burden of re-work and feelings of frustration.

4. Lessons learned

All 14 primary care teams reported that the RBDD tool helped them build consensus around the biggest contributors to burnout, identify burnout-related QI projects, and create roadmaps for increasing joy in practice. Further, we believe that the RBDD was especially helpful in reducing symptoms of burnout as it created an increased locus of control and improved connection and teamwork.

Locus of control: Burnout can be caused by clinicians feeling a lack of control, especially when they observe parts of the system that are broken, and know that fixing, or optimizing, them is beyond their control. This is especially true in primary care, where the demands on clinicians have increased without a system in place that effectively manages the volume of work. The RBDD driver diagram can assuage some of these feelings by giving control to primary care teams and allowing them choose the primary drivers of burnout in their current practice and to tailor the secondary drivers to their own practice in order to make improvements. Reducing administrative waste and increasing the efficiency driver are the "low hanging fruit" that teams can identify and address in the short-term to produce "quick wins" and improve staff perception of control and ability to affect change, which will, in turn, produce more change.

Strengthening teams: We would advocate that due to the disruption that many primary care teams have experienced since the pandemic arrived, addressing the strengthening team and building camaraderie driver is critical. The shift to remote work and telehealth disrupted cohesive primary care teams that used to work together in-person on a daily basis. Investing time in strengthening teams and focusing on the secondary drivers might also ease the transition back to in-person or "hybrid" work environments.

At the center of both connection to purpose and team-strengthening is greater time spent in relationships with others, whether with patients or with other staff. These are both critical as we face higher levels of clinician burnout due to the COVID-19 pandemic and its inevitable mental health toll for health care workers. We know that healing is largely relational and must be a key ingredient to any future efforts to reduce burnout.

5. Next steps

As we move through the COVID-19 pandemic, clinical leaders and policy makers need a set of tools to address clinician burnout. In light of the increased strain on medical institutions due to COVID-19 and the ensuing unprecedented disruptions in healthcare, innovation in primary care redesign has never been more critical or challenging. We must create time and incentives for clinicians to build and strengthen teams in order to do the hard work of supporting the future health of our country. Use of tools such as the RBDD can accelerate primary care teams efforts to do just this.

CRediT author statement

Erin E. Sullivan: Conceptualization, Methodology, Writing-Original Draft Preparation & Supervision; Kathleen Dwiel: Data Curation, Investigation, Writing- Editing & Review; Lindsay Swain Hunt: Writing-Editing & Review, Project Administration; Kathleen Conroy: Writing-Editing & Review; Investigation; Katherine Gergen Barnett: Conceptualization, Writing- Original Draft Preparation & Investigation.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

1 Bianchi R, Schonfeld IS. Defining physician burnout, and differentiating between burnout and depression—I. In: *Paper Presented at: Mayo Clinic Proceedings*. 2017.
2 Peckham C. National physician burnout & depression report 2018. *Medscape*. January 17, 2018, 2018.
3 Monsalve-Reyes CS, San Luis-Costas C, Gómez-Urquiza JL, Albendín-García L, Aguayo R, Cañadas-De la Fuente GA. Burnout syndrome and its prevalence in primary care nursing: a systematic review and meta-analysis. *BMC Fam Pract*. 2018; 19(1), 59-59.
4 Dyrbye L, R Thomas M, Stanford Massie F, et al. Burnout and suicidal ideation among U.S. Medical students. *Ann Intern Med*. 2008;149:334–341.
5 Shanafelt TD, Balch CM, Bechamps G, et al. Burnout and medical errors among American surgeons. *Ann Surg*. 2010;251(6):995–1000.
6 Fahrenkopf AM, Sectish TC, Barger LK, et al. Rates of medication errors among depressed and burnt out residents: prospective cohort study. *BMJ*. 2008;336: 488–491.
7 Brown SD, Goske MJ, Johnson CM. Beyond substance abuse: stress, burnout, and depression as causes of physician impairment and disruptive behavior. *J Am Coll Radiol*. 2009;6(7):479–485.
8 Buchbinder SB, Wilson M, Melick CF, Powe NR. Estimates of costs of primary care physician turnover. *Am J Manag Care*. 1999;5(11):1431–1438.
9 Lim R, Van Aarsen K, Gray S, Rang L, Fitzpatrick J, Fischer L. Emergency medicine physician burnout and wellness in Canada before COVID19: a national survey. *Can J Emerg Med*. 2020;22(5):603–607.
10 Dinibutun SR. Factors associated with burnout among physicians: an evaluation during a period of COVID-19 pandemic. *J Healthc Leader*. 2020;12:85.

11 Shanafelt T, Ripp J, Trockel M. Understanding and addressing sources of anxiety among health care professionals during the COVID-19 pandemic. *Jama*. 2020;323(21):2133–2134.

12 Arndt BG, Beasley JW, Watkinson MD, et al. Tethered to the EHR: primary care physician workload assessment using EHR event log data and time-motion observations. *Ann Fam Med*. 2017;15(5):419–426.

13 Sinsky CA, Rule A, Cohen G, et al. Metrics for assessing physician activity using electronic health record log data. *J Am Med Inf Assoc*. 2020;27(4):639–643.

14 Kane L. Medscape US and international physicians' COVID-19 experience report: risk, burnout, loneliness. https://www.medscape.com/slideshow/2020-physician-covid-experience-6013151?faf=1#7; 2020. Accessed February 22, 2021, 2021.

15 Neprash HT, Chernew ME. Physician practice interruptions in the treatment of medicare patients during the COVID-19 pandemic. *J Am Med Assoc*. 2021;326(13):1325–1328.

16 Kannampallil TG, Goss CW, Evanoff BA, Strickland JR, McAlister RP, Duncan J. Exposure to COVID-19 patients increases physician trainee stress and burnout. *PLoS One*. 2020;15(8), e0237301.

17 Morgantini LA, Naha U, Wang H, et al. Factors contributing to healthcare professional burnout during the COVID-19 pandemic: a rapid turnaround global survey. *PLoS One*. 2020;15(9), e0238217.

18 Langley GJ, Moen RD, Nolan KM, Nolan TW, Norman CL, Provost LP. *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance*. John Wiley & Sons; 2009.

19 Shanafelt TD, Noseworthy JH. Executive leadership and physician well-being: nine organizational strategies to promote engagement and reduce burnout. *Mayo Clin Proc*. 2017;92(1):129–146.

20 Linzer M, Levine R, Meltzer D, Poplau S, Warde C, West CP. 10 bold steps to prevent burnout in general internal medicine. *J Gen Intern Med*. 2014;29(1):18–20.

21 Swensen S, Kabcenell A, Shanafelt T. Physician-organization collaboration reduces physician burnout and promotes engagement: the Mayo Clinic experience. *J Healthc Manag*. 2016;61(2):105–127.