



### Organizational Science and Health Care

Journal:	<i>Academy of Management Annals</i>
Manuscript ID	ANNALS-2019-0115.R3
Document Type:	Article
Keywords:	HEALTH CARE MANAGEMENT, ORGANIZATIONAL BEHAVIOR, ORGANIZATION, PUBLIC HEALTH

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8 **ORGANIZATIONAL SCIENCE AND HEALTH CARE**  
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46 We greatly appreciate Associate Editor Marya Besharov for her constructive and thoughtful  
47 feedback. We would like to also thank Parama Sahoo, John Min, and Michele Lan for their  
48 research assistance. Finally, we are thankful for the helpful comments and feedback from Conlan  
49 Orino as well as seminar participants at the University of Toronto Institute of Health Policy,  
50 Management and Evaluation, the Center for Health Services and Outcomes Research at the Johns  
51 Hopkins Bloomberg School of Public Health, the Wharton Health Care Management  
52 Department, and the University of Pennsylvania School of Nursing Center for Health Outcomes  
53 and Policy Research.  
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## ABSTRACT

We review research on “organizational science and health care” (OSHC), defined broadly as research focusing on topics commonly studied in the organizational and management literatures, and conducted in health care settings. Using almost 700 articles published in leading organizational science (OS) and health care (HC) journals in the past decade, we first apply network methods to map this burgeoning field of research, highlighting topics that are more in the foreground (and background) of the field. We then conduct an in-depth review of recent and influential articles studying the five most prominent topics (organizational change, learning, coordination/cooperation, teams/structure, and performance). Next we synthesize this research, highlighting the patient-centered, dynamic, and specialized nature of health care work, and detailing disciplinary distinctions across studies published in OS and HC journals. Whereas research in OS journals tends to emphasize broad generalizability and organizing processes, research in HC journals tends to emphasize contextualized problems and the role of organizational structures and practices in solving them. We conclude by articulating the need for a broader orientation that integrates both of these disciplinary orientations, in ways that could allow scholars to advance OSHC with future research that is both rigorous and relevant.

## INTRODUCTION

Research on topics of organizational science in health care settings has proliferated in recent years across both organization- and health-focused disciplines. This interest is sensible in many ways: the health care sector is among the largest in the economy (health spending in the U.S. accounted for 17.7% of the nation's GDP in 2019 (CMS, 2019); global health spending accounted for 10% of the global GDP in 2019 (World Health Organization, 2019), so by proportion alone, health care should be a core setting for much research published by organizational scholars. At the same time, the health care industry comprises a complex web of organizations wherein failures of management or coordination have the potential for dire consequences (Institute of Medicine (US) Committee on Quality of Health Care in America, 2000, 2001; Ramanujam & Rousseau, 2006b). Consequently, better understanding of organizational challenges and solutions should be of core interest to health care scholars.

Yet as research in this multidisciplinary field has grown in volume, it has remained loosely connected, hampering scholars' abilities to identify, systematically contribute to, and cultivate a comprehensible body of research. In this article, we review the past decade of research on "organizational science and health care" (OSHC) – which we define broadly as research focused on topics of study in organizational science (e.g., topics related to management, organizational theory, organizational behavior, and organizational psychology)<sup>1</sup> and conducted in a health care setting. We do so in order to map the landscape of this developing field, review the findings from its most prominent areas of study, synthesize these findings to identify what is broadly known about organizing dynamics in health care, and chart future directions for more

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<sup>1</sup> In a later section, we describe our scoping of the relevant topics for the purposes of this review.

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2  
3 systematically coalescing and advancing this important field of research and organizational  
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5 scholars' contribution to it.  
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### 7 **Evolution of a Growing Field**

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10 Interest in connecting organizational science and health care extends back to at least the  
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12 1980s with the publication of a few early articles that bridge these domains (e.g., Argote, 1982;  
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14 Barley, 1986). This interest accelerated in the late 1990s and early 2000s, with the publication of  
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16 several pivotal articles (which we find to be commonly cited in the literature we review below)  
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18 conducted in health care and on topics of learning and psychological safety (Edmondson et al.,  
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20 2001), relational coordination (Gittell et al., 2000), and institutional change (Scott et al., 2000).  
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22 This growing interest in understanding organizational issues in health care coincided with two  
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24 landmark and oft-cited reports published by the Institute of Medicine (“To Err is Human,” 2000,  
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26 “Crossing the Quality Chasm,” 2001), each providing prominent recognition of the importance  
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28 of human and organizational behavior for health care outcomes. Concomitant with this growing  
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30 body of research was the expansion and launch of several professional associations and  
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32 conferences that offered spaces for scholars to convene around research in the emerging OSHC  
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34 field. These included the Health Care Management division of the Academy of Management in  
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36 the mid-1990s, the Organization Theory in Health Care Association and its annual conference in  
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38 1998 (an outgrowth of an Academy of Management meeting), and AcademyHealth in 2000  
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40 (formed from a merger of the Alpha Center and the Association for Health Services Research,  
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42 founded in 1976 and 1981, respectively).  
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49 In the ensuing years, propelled in part by these new organizations and conferences and  
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51 the increased visibility and interest afforded by the Institute of Medicine reports, the corpus of  
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53 influential articles in the field of OSHC expanded, covering topics such as coordination (Faraj &  
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3 Xiao, 2006), learning (Edmondson, 2003; Nembhard & Edmondson, 2006), and innovation  
4 (Ferlie et al., 2005). Though these early years of the new millennium clearly marked the  
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6 incipience of OSHC as a new field of scholarship – and have yielded their own reviews and  
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8 integration efforts (e.g., Gilmartin & D’Aunno, 2007; Journal of Organizational Behavior  
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10 Special Issue, Ramanujam & Rousseau, 2006a) – the passing of the Patient Protection and  
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12 Affordable Care Act (ACA) in the United States in 2010 marked a turning point in the relevance  
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14 of, and interest in, OSHC scholarship. The decade following passage of the ACA has seen  
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16 tremendous shifts in the fundamental organization, coordination, and provision of health care in  
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18 the US (Health Affairs Special Issue, Weil, 2020), and brought the research interests of OSHC  
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20 scholars to the forefront of public policy and leadership decision-making in health care.  
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### 26 **Reviewing a Decade of OSHC Research**

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28 It is against this backdrop that we review the significant body of research that has  
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30 accumulated in the past decade – the “post-Patient Protection and Affordable Care Act era”  
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32 (Beauvais et al., 2019) – to explain, predict, and control the functioning of health care  
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34 organizations. During this period, health care financing has shifted towards outcome-based  
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36 models that provide increased attention to the managerial and organizational drivers of care  
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38 outcomes. Meanwhile, health care organizations have been subject to increasing consolidation as  
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40 well as decentralization and the associated complexity that can make it more difficult to achieve  
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42 those outcomes. We would be remiss if we did not also acknowledge that the decade started by  
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44 the passage of ACA has ended amid an immense crisis facing the health care industry due to the  
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46 COVID-19 pandemic, which will no doubt also have fundamental and lasting effects on how  
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48 health care is organized in the future (Cutler et al., 2020). Thus, given the rapid growth of OSHC  
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50 research across domains, and the coming challenges initiated in part by the COVID-19  
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3 pandemic, we argue that if ever there was a time to take stock of what has been learned in recent  
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5 research about what can help improve the management and organization of health care, it is now.  
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8 **Three Aims.** Our review contributes to the OSHC literature by addressing three distinct  
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10 (but interrelated) aims regarding the state of research on organizational topics in health care  
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12 settings, as well as articulating potential paths forward for this evolving field of scholarship. Our  
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14 first aim is to establish the bounds of this flourishing, but (as we find it) disconnected, research  
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16 field. To do this, we review nearly 700 research articles published in leading organizational  
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18 science (OS) and health care (HC) journals over the last decade to provide a fundamental  
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20 mapping of the landscape of OSHC research. Our broad view reveals the topics that have been  
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22 prominent and central in the past decade (e.g., organizational change), topics that are peripheral  
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24 or understudied (e.g., trust), and clusters of topics that are likely to be studied together (e.g.,  
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26 safety, culture, and stress/strain).  
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31 Our second aim is to develop a rich, integrated understanding of the research findings in  
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33 the most active areas of the OSHC literature. Here, we focus on the five most prominent topics  
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35 of OSHC research – those frequently studied in research published in *both* OS and HC journals  
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37 in the past decade (namely organizational change, learning, coordination/cooperation,  
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39 teams/structure, and performance). The insights that emerge – often from previously  
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41 disconnected research streams – range from understanding the motivators, mechanisms and  
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43 outcomes of change, to the varied causes and consequences of learning in health care, the ways  
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45 individuals coordinate within and across organizations (and when that coordination is beneficial),  
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47 the structures and team processes that enhance health care outcomes, and the dozens of  
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49 predictors of multidimensional performance in health care organizations.  
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3 Our third aim is to step back and holistically take stock of these prominent streams of  
4 OSHC research to better understand emergent themes and points of disconnection that can  
5 inform a productive path forward. A synthesis of the research reviewed reveals several key  
6 themes and insights about organizational work in health care settings. First, improving the  
7 quality of patient care is the near-unquestionable goal of any new practice or intervention  
8 (whether organizational or clinical). Second, the work is fundamentally dynamic in nature  
9 (constantly evolving in not only clinical knowledge, but also organizing structure). Third,  
10 individuals and organizations are highly interdependent, but fundamentally specialized (i.e.,  
11 across roles or care domains). In addition to acknowledging these emergent themes, we highlight  
12 differences in how scholars across disciplines within OSHC have approached these topics. For  
13 instance, research published in OS journals is largely focused on the development of  
14 generalizable theories of organizing (i.e., underlying processes of action that contribute to  
15 effective outcomes across any organizational setting), whereas research published in HC journals  
16 is largely focused on solving contextualized problems of health care organizations (i.e., applying  
17 organizational structures and devices to understand and guide the resolution of specific  
18 challenges in a particular health care setting).

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40 **A Path Forward.** Building from our general mapping and review, we conclude with  
41 ideas for future research that hold promise for enhancing and expanding the impact of OSHC  
42 work. Specifically, we argue that the discipline-specific approaches to OSHC are each (on their  
43 own) limited, and the disconnection between them stymies the progress and impact of OSHC  
44 research. The common approach observed in OS outlets results in a focus on universally-  
45 generalizable theory that happens to arise from research in a health care setting (what we term an  
46 “OS *in* HC” perspective), while the common approach observed in HC outlets results in a focus  
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3 on deploying organizational concepts to model and resolve specific problems of health care  
4 settings (what we term an “OS *of* HC”). In contrast, we advocate for OSHC scholars to consider  
5 a broader, more integrative “OS *and* HC” orientation to their research. This broader approach  
6 entails considering both the generalizability and contextualization of OSHC research (e.g.,  
7 adopting a mid-range view of “bounded generalizability” by considering how findings from  
8 research conducted in one domain of health care might apply to other health settings), while also  
9 attending to both the top-down structures of organizations *and* the bottom-up organizing  
10 practices of individuals and collectives within these organizations (e.g., adopting meso-level  
11 models, employing cross-level research tools, and investigating the interplay of structures and  
12 processes over time). Adopting this framing would not only guide scholars in exploring new  
13 domains of OSHC research (i.e., the less-studied areas revealed in our field mapping), but also in  
14 revisiting and enhancing research on prominent OSHC topics by applying this new perspective.  
15 Advancing this framing will no doubt require broader changes to field norms and practices,  
16 including a careful (re-)consideration of the types of research pursued and where this research is  
17 published, in order to develop OSHC as a more integrated, systematic field of study. We call for  
18 organizational science and health care scholars to heed and adopt these necessary changes in the  
19 coming years.

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42 The rest of this paper proceeds as follows. In the section below we begin with our first  
43 aim: mapping the landscape of OSHC research in the past decade. We then turn to our in-depth  
44 review of prominent OSHC topics (our second aim), and our efforts to generate a more holistic  
45 integration of insights in OSHC research (our third aim), before concluding with a discussion of  
46 a path forward for enhancing the quality and impact of OSHC scholarship.  
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## MAPPING THE LANDSCAPE OF OSHC RESEARCH

### Search Criteria

To map the landscape of this emergent and inherently dispersed field of OSHC, we established boundary conditions that were broad and inclusive (Elsbach & van Knippenberg, 2020), while at the same time consistent and disciplined. We limited our review by time, restricting the selection of articles to those published in the past 10 years (2010 – 2019; in-print, excluding online-only or in-press articles), dating back to the passing of the ACA as described above. Additionally, reflecting the multi-disciplinarity of OSHC, we constrained our search to include specific journals commonly accepted as high-quality outlets in either OS or HC disciplines. To incorporate research from OS traditions (including management, organizational theory, organizational behavior, and organizational psychology), we reviewed research in management journals that are commonly accepted as “top” publication outlets (and frequently included in prior review articles in management; see Table 1).<sup>2</sup> To incorporate research from HC traditions (including health policy, health services research, and medicine), we drew on recent rankings of publication quality and relevance (Borkowski et al., 2018), and also solicited expert opinions from scholars in the health services research field. For the purposes of this review, we included an outlet if it ranked in the top 10 for either quality or relevance (the two dimensions of

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<sup>2</sup> We recognize that the search conducted, like any, has inherent limitations, and that there is OSHC research in journals beyond those selected for our review. We based our selection of OS journals on existing, commonly-shared views of quality and relevance (e.g., journals frequently featured in review articles in management, promotion criteria, etc.) and believe that the set of OS journals used here is a highly relevant and representative sample. However, for robustness, we replicated our search with additional journals that might be categorized as related to “OS” – journals adjacent to organizational science and focused on sociology (*American Journal of Sociology* and *American Review of Sociology*) and human resources (*Human Relations*, *Human Resource Management*, and *Personnel Psychology*). This search yielded an additional set of 67 articles. We coded the topics covered in these additional articles, and we did not observe any clear shifts in the rates at which topics were studied relative to our primary set of OS articles. The most prominently studied topics that we explore in this paper were also among the most prominent topics appearing in these additional articles. We do not include the articles identified in this robustness search in our overall review.

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3 the Borkowski et al., 2018 ranking), was included in the top 30 for the other ranking (e.g., if top  
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5 10 for quality, at least top 30 for relevance), and was identified by experts as a high-quality  
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7 journal (see Table 1 for final list).<sup>3</sup>  
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10 We further bounded our review to a set of organizational science topics on which we  
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12 would focus. Specifically, we started with the list of topics identified by Heath and Sitkin (2001)  
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14 as core concepts in their seminal article on organizational research. To ensure that our search  
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16 process would appropriately capture relevant articles, we augmented this list by considering  
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18 additional terms that reflect variants of these organizational topics as they are used or applied in  
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20 the domain of health care. Specifically, using the journal *Health Care Management Review*  
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22 (HCMR) as a benchmark for organizational research published in health care, we reviewed all  
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24 2019 HCMR articles to identify additional terms that seemed to align with those of the topics in  
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26 Heath and Sitkin (2001) – and that, if not included, would lead us to overlook an article that  
27  
28 seemed to fit our definition of OSHC. For example, we added the term “coordination” and  
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30 bundled this with the Heath and Sitkin (2001) term “cooperation.” The full list of topics used as  
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32 search terms is available in Table 2.  
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38 [Insert Table 1 and Table 2]  
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### 40 **Article Selection and Analysis**

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42 Applying this set of search criteria (time, journal, and topic), we then identified articles  
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44 for review using the following procedure. For organizational science journals, we assumed that  
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46 the topics of each article would consistently relate to organizational science, but the research  
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53 <sup>3</sup> The *Journal of Health Economics* meets our criteria, though we exclude this journal given its focus on economics  
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55 rather than management, organization theory, organizational behavior, and organizational psychology. Moreover, as  
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57 noted earlier, we acknowledge that there is OSHC research published outside of these outlets, but basing our  
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59 inclusion criteria on these established rankings and expert opinion gives us confidence that our set is representative  
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and reflective of high-quality outlets in HC disciplines that publish work on organizational topics.

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3 settings would vary; thus, we first sought to narrow down to research conducted in health care  
4 settings. Consequently, we searched for the following key words (and their permutations) in the  
5 text of the articles: healthcare, hospital, medicine, surgery, physician, and nurse. We then  
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7 screened these articles and selected only those that reported a) empirical studies b) conducted in  
8 a health care setting, and c) that studied at least one of the topics identified in our search criteria.  
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10 To do so, the first author and a research assistant qualitatively coded each article's title and  
11 abstract based on our set of identified topics.  
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19 In contrast, we assumed that the research setting of those articles published in health care  
20 outlets would almost always be a health care setting, but the topics of interest would vary and not  
21 always relate to organizational science. Consequently, we searched for articles that included one  
22 or more of our identified topics in the article's title or abstract. We then screened these articles  
23 using the same inclusion criteria noted above, selecting only those that a) reported empirical  
24 research, b) were conducted in a health care setting, and c) studied at least one of our topics  
25 (again coded qualitatively by the first author and a research assistant).  
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35 This two-part approach yielded a total of 685 empirical research articles (158 in  
36 organizational science journals and 527 in health care journals) that met our criteria. For each  
37 article, we noted the journal type (i.e., organizational science ("OS") or health care ("HC")  
38 outlet), the topic(s) studied (from the list in Table 2, allowing each article to be coded for  
39 multiple topics), and the number of times the article had been cited (as recorded on Google  
40 Scholar). All 685 articles are listed in the Appendix and identified by topic(s).  
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49 To structure our review, we aggregated the articles by topic to identify which topics were  
50 most frequently covered in the reviewed research (see Table 2), and we then mapped the network  
51 of these topics and their relationships to one another. Specifically, we created a network diagram  
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3 wherein each node represents a particular topic, node size corresponds to the number of articles  
4 studying the topic, and ties reflect the degree of co-occurrence of topics within a single article.  
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6 We also conducted a clustering analysis (using the R function *cluster\_optimal*) based on those  
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8 ties and imposed colors onto each node to reflect those clusters. A cluster, in this way, indicates a  
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10 group of topics that were likely to be studied together in the overall set of papers. All told, we  
11  
12 find fifteen distinct clusters of topics among the set of articles (though many are composed of  
13  
14 only one topic). Figure 1 depicts this empirically-driven visualization of OSHC research  
15  
16 conducted in the past decade.  
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21 [Insert Figure 1]  
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### 24 **A Map of the Field** 25

26 This visualization of the field allows us to identify the bounds and contours of recent  
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28 OSHC research, revealing what is foreground and what is background. Specifically, the size and  
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30 clustering of topic nodes in Figure 1 show significant variation in the extent to which these  
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32 various organizational topics appear and co-occur in recent OSHC research.  
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35 Several topics have received a significant amount of research attention and dominate  
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37 (e.g., learning) or are the only topic (e.g., organizational change) in their clusters. Of note,  
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39 among these oft-studied topics, we observe variation in the extent to which OS vs. HC journals  
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41 publish research on these topics (as evident in Table 2). Some topics (e.g., performance,  
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43 organizational change, learning, and cooperation/coordination) are prominent in research  
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45 appearing in both OS and HC journals – and are discussed further in our in-depth review below –  
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47 whereas the study of other topics is more limited to research published in one domain or the  
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49 other. For example, the majority of the research on incentives, pay, and rewards, appears in  
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51 studies published in HC journals (largely focused on the impact of outcome-based payment  
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3 models, e.g., Kristensen et al., 2014): only three studies of incentives, pay, or rewards were  
4 published in OS outlets. Similarly, the topic of communication, which we might expect to see  
5 frequently across both domains, primarily appears in HC outlets. This includes a large emphasis  
6 on physician-patient communication (e.g., White et al., 2018), as well as communication  
7 between care providers (e.g., Pesko et al., 2018; Richter et al., 2016) and/or across organizations  
8 (e.g., Mello et al., 2016). We discuss this divergence between OS and HC research further below,  
9 when we explore the fragmentation revealed in our review.

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11 In addition to clusters dominated by a single topic like those discussed above, Figure 1  
12 also reveals several clusters comprised of multiple topics that each receive substantial attention  
13 in the literature. For example, the topics of teams and structures are both frequently studied  
14 topics, and they are often studied together, consistent with the nature of teams as a ubiquitous  
15 structure for organizing in modern health care organizations that increasingly rely on  
16 multidisciplinary work (A. M. Hughes et al., 2016). Similarly, the topics of stress/strain, safety,  
17 and culture each receive substantial attention and cluster together, aligning with research  
18 demonstrating that stress/strain and culture can contribute to safety outcomes (Mohr et al., 2013;  
19 Steyrer et al., 2013), and that organizations might exhibit a “safety culture” or “safety climate”  
20 that has implications for important outcomes such as readmissions (Hansen et al., 2011).

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22 In other cases, several topics – each studied to a lesser extent on their own – form  
23 meaningful clusters of co-occurring concepts (at least as coded in our set of articles). This  
24 includes the cluster comprising the topics of turnover, absenteeism, burnout, emotion, risk, and  
25 job satisfaction (what we might loosely characterize as work focused on “job satisfaction and  
26 turnover”, based on these being the most frequently studied topics in this cluster). Though each  
27 of these topics is individually less frequently studied than those mentioned above, as a unit, this  
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3 cluster represents a substantial component of OSHC research (forming the 4<sup>th</sup> largest cluster in  
4 our data) with important implications for our understanding of individuals' experience working  
5 in health care, such as the nature and consequences of burnout among health care workers (e.g.,  
6 Leiter et al., 2011; Meeusen et al., 2011; Moller et al., 2019).  
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12 Finally, several clusters of topics that are more peripheral indicate areas of research that  
13 appear to be in the "background" of current OSHC scholarship. These include an "identity"  
14 cluster (including studies of identity, socialization, self-efficacy, family, and organizational  
15 citizenship; again named for the most studied topic in the cluster); another cluster emphasizing  
16 "relationships and trust" in health care (including the topics of relationships, trust, networks,  
17 influence, personality, and justice); a third cluster exploring questions related to "leadership"  
18 (including topics of leadership, decision-making, participation, control, and alliances); and,  
19 finally a cluster that might be characterized as research on individual "motivation and conflict"  
20 (including topics of motivation, conflict, feedback, supervision, and performance evaluation).  
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### 33 **REVIEWING PROMINENT TOPICS IN OSHC RESEARCH**

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35 After generating the map of the OSHC landscape (depicted in Figure 1), we sought to  
36 more thoroughly review the set of topics within this landscape that are both prominent  
37 (suggesting they reflect robust literatures suitable for review) and situated squarely at the  
38 intersection of OS and HC. As seen in Table 3, six topics rise to the level of top-10 most studied  
39 topics in research published from 2010 to 2019 in OS journals *and* HC journals we reviewed:  
40 organizational change, learning, cooperation/coordination, teams, structure, and performance.  
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42 Given that teams and structure emerge in a single cluster (i.e., the topics are likely to be studied  
43 together), we combined these two topics to arrive at a set of five prominent topic areas for  
44 review. For each of these five topic areas, we selected a subset of articles from the full set of 685  
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3 articles identified in our initial search, following recent guidance to read “broadly but  
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5 selectively” when conducting a literature review, in recognition that often “less is more”  
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7 (Alvesson & Sandberg, 2020), and in line with approaches prioritizing work that is more  
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9 impactful or recent within a domain of research (e.g., Raveendran et al., 2020).  
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11  
12 [Insert Table 3]  
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14  
15 Specifically, we curated a subset of articles to review in depth within each of the five  
16  
17 prominent topics by: (1) selecting the top 15 most cited articles for a given topic within our  
18  
19 entire identified set; then (2) adding any of the top 10 most cited articles in the 5-year period  
20  
21 between 2014-2018 (chosen to match the 5-year impact factor timespan used in 2019) that were  
22  
23 not already captured by the overall top-cited articles in step 1; and, finally, (3) including all  
24  
25 articles in a topic area that were published in 2019, to ensure that the most recent work (that may  
26  
27 not have had time to accumulate citations) was reflected in our subset. This process yielded  
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29 between 25 and 33 articles to be reviewed for each of the five prominent topic areas. Articles  
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31 could repeat across topic area (for example, an article might have been coded as studying both  
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33 learning and cooperation/coordination; e.g., Nembhard & Tucker, 2011a), such that we reviewed  
34  
35 a total of 114 articles (51 in organizational science journals; 63 in health care journals), with 90  
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37 articles pertaining to a single topic area, 20 articles pertaining to two topic areas, and 4 articles  
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39 pertaining to three topic areas.<sup>4</sup>  
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45 Aggregating the many individual studies published across the disparate journals and  
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47 research traditions that make up OSHC makes clear that the field’s understanding of the  
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49 functioning of health care organizations has advanced significantly, particularly in the key areas  
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51 of research we reviewed. The accumulated insights of each of these domains, discussed below,  
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<sup>4</sup> All 114 articles included in this more in-depth review are identified with an asterisk in the Appendix.  
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3 demonstrate how the field has advanced knowledge, in particular regarding the motivators,  
4 mechanisms and outcomes of *organizational change* in health care, the causes and consequences  
5 of *learning* within and among health care organizations, how individuals enact  
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10 *cooperation/coordination* across roles and health professions (and when that coordination is  
11 most beneficial), the use of *teams and other structures* that enhance health care organizations'  
12 ability to deliver high-quality outcomes, and the variety of predictors and multidimensional  
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17 nature of successful *performance* in various health care settings.  
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### 19 **Organizational Change**

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21 Research on change, development and innovation has flourished over the past fifty years  
22 across all scientific disciplines (A. H. Van De Ven & Poole, 1995), and these topics continue to  
23 attract scholarly attention in both OS and HC. In fact, it is hard to imagine a context to which the  
24 idea 'change never starts because it never stops' (Weick & Quinn, 1999, p. 381) better applies.  
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Health care has been described as a context in which change has been slow, in part because of its  
complexity, but also its competing and contradictory pressures and demands (Chreim et al.,  
2010; Engle et al., 2017); it has also been described as a context in which change has been  
constant because of advances in scientific evidence, regulatory changes, and a host of other  
issues related to health care economics, costs, and financing (Hoff et al., 2016). Indeed, health  
care has created its own change-related scientific specialty—implementation science—which  
aims "to better understand, explain, and address problems associated with translating explicit and  
implicit intentions into desired changes" (Nilsen et al., 2013, p. 4).<sup>5</sup>

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<sup>5</sup> Implementation science as an area of research within health care research was fueled by the 2006 launch of the journal *Implementation Science*, devoted to publishing translational research that focuses on advancing the uptake of research into practice.

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3 We review twenty-five change-related empirical studies split almost evenly between  
4 organizational science and health care outlets. Although the majority of studies focus on some  
5 aspect of planned change at the organizational level, the levels of analysis range from the more  
6 micro study of individuals to the study of change in teams and units (such as primary care  
7 practices), to the more macro study of systems' change. For example, Battilana (2011) uses data  
8 gathered from 93 change projects initiated by clinical managers at the National Health Service in  
9 the United Kingdom to examine how social position (within the field/profession and within the  
10 organization) affects an individual actor's likelihood of initiating organizational changes that  
11 diverge from the institutional status quo. Rutledge and colleagues (2019) use a mixed methods  
12 design to understand both the challenges of implementing accountable care organizations  
13 (ACOs) in four states in the US and the effects on health care quality, costs, and utilization. This  
14 body of research reports the study of change in a variety of settings (cancer centers, primary care  
15 teams, pharmacies, hospitals and hospital units) and in a variety of countries including Canada,  
16 France, Germany, Israel, Italy, UK, US, and an unnamed European country.

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19 ***Motivators of change.*** Declining performance is often considered to be a central reason  
20 why decision makers (often considered to be a single entity, e.g., CEOs) undertake  
21 organizational change (Cyert & March, 1963). Yet, empirical findings supporting this idea are  
22 mixed (Desai, 2016, p. 876), and decision processes in most complex organizations are  
23 frequently governed by coalitions or groups (e.g., CEOs and Boards of Directors) that have  
24 competing and conflicting interests. What happens then? Drawing on longitudinal panel data for  
25 a set of for-profit hospitals operating in California, Desai (2016) finds that features of corporate  
26 boards influence how organizations responded to performance downturns; hospitals governed by  
27 large boards with substantial equity ownership are less likely to enact change in response to  
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3 faltering performance. One implication of this finding is that competitive forces between  
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5 coalitions, such as disagreements among board members with management regarding precise  
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7 changes to be made, can be consequential to change processes more generally. This is both  
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9 important and problematic because, as noted earlier, health care organizations (and particularly  
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11 hospitals) have been accused of being slow to change and changing only when prodded by  
12  
13 regulators or other external pressures. Given the vast knowledge and expertise internal to health  
14  
15 care organizations, might not other professional groups motivate change efforts? In a  
16  
17 longitudinal case study of a German hospital group's strategic change formulation processes  
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19 Ridder and Schrader (2019, p. 18) find that successful strategy formation is fostered by the  
20  
21 coexistence of planning and emergence, with boards of directors communicating the strategic  
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23 intent top-down, and medical experts introducing promising medical themes bottom-up. Yet, this  
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25 work also suggests that medical expertise is often neglected in the strategy-formation process.  
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31         Extending our earlier observation that individuals in particular social positions are more  
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33 likely to drive change, a study of institutional change in French cancer centers (Castel &  
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35 Friedberg, 2010) reveals that the structural position of change entrepreneurs matters. They find  
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37 reformers to be at once insiders and outsiders—centrally placed in power structures because of  
38  
39 their leadership roles as heads of cancer centers, but marginally placed because they are experts  
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41 in a not yet dominant medical specialization. Compagni, Mele, and Ravasi (2015, p. 268) study  
42  
43 diffusion of robotic surgery and similarly find that a combination of central and peripheral actors  
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45 both promote (and adopt) new practices early on, but for very different reasons. Central actors  
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47 want to preserve their revered position while peripheral actors want to improve their social  
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49 standing. Still, these dynamics change as innovation diffuses and gains ground; early adopters'  
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3 implementation experiences influence decisions of late adopters by gradually reducing  
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5 uncertainty regarding how to implement.  
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8         Although some research points to actors in particular social positions as more likely to  
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10 initiate change, this is not always the case. For example, Chreim et al. (2010) find that change  
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12 leadership is more of a collective enterprise involving a variety of actors dispersed across the  
13  
14 system. Lockett and colleagues' (2014) study of sensemaking and change also raises questions  
15  
16 about the homogeneity of particular actors' network and dispositions to seize change  
17  
18 opportunities. And, Battilana and Casciaro (2012, p. 381) find that it is not necessarily position  
19  
20 that matters for change initiation and adoption, but rather, the structure of a change agent's  
21  
22 network, such that "low levels of structural closure (i.e., "structural holes") in a change agent's  
23  
24 network aided the initiation and adoption of changes that diverged from the institutional status  
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26 quo but hindered the adoption of less divergent changes."  
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31         Three additional studies (published in OS outlets) suggest that time, space, and support  
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33 also act as motivators of planned change. For example, clinicians are more likely to adopt  
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35 changes to clinical processes when they have time and space to engage in deliberate efforts to  
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37 alter their abstract understanding of why and how they are to alter their routine practices, and  
38  
39 when they also have time and space to experiment with and practice new routines (Bucher &  
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41 Langley, 2016). The importance of liminal spaces and time for reflection and experimentation is  
42  
43 also prominent in a study of a merger of health care organizations conducted by Howard-  
44  
45 Grenville, Golden-Biddle, Irwin, and Mao (2011). Another study adds nuance to this idea,  
46  
47 demonstrating that having time to understand and anticipate the benefits of change may fuel  
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49 adoption early on in a change effort but may become less important as change progresses (T. G.  
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51 Kim et al., 2011). That is, as change initiatives progress, it is harder to get individuals to buy in  
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3 because the anticipated benefits of change lose their novelty and their motivational currency; in  
4 contrast, as time progresses in implementation efforts, the quality of the employment relationship  
5 becomes a more significant driving factor (T. G. Kim et al., 2011).  
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10 ***Mechanisms of change.*** The question of how change occurs is addressed in many of the  
11 change studies we reviewed. We noted earlier the role particular positions play in motivating  
12 change, but several studies suggest that it also occurs through relational mechanisms such as  
13 influence and commitment processes. For example, Birken and colleagues (2015) study 120 US  
14 health centers that initiated an intervention to reduce health disparities, and they find that top  
15 managers directly influence middle managers' commitment through a particular set of actions.  
16 That is, when top managers both convey the criticality of implementing the innovation and  
17 provide middle managers with a set of implementation tools (e.g., training, funding, and other  
18 human resource-related tools such as performance reviews and incentives), middle managers'  
19 commitment to enacting innovation increases. Engle and colleagues (2017) similarly find that  
20 middle manager commitment, enacted through their various actions and interactions, is critical to  
21 successful transformation. Additionally, Wise and colleagues (2011) study primary care practices  
22 in Michigan seeking to implement the infrastructure and processes of the Patient Care Medical  
23 Home (PCMH), and find that commitment to change (as well as perceived capability to  
24 undertake and accomplish operational requirements) are critical to the process. Indeed, as their  
25 results indicate, while "appropriate incentives are important...they are not sufficient to bring  
26 about changes in primary care" (Wise et al., 2011, p. 421).  
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49 In addition to relational mechanisms, a key theme in several studies is the importance of  
50 implementation toolkits as means through which change is facilitated (e.g., Birken et al., 2015;  
51 Kellogg, 2011). As Kellogg (2019) finds in her study of PCMH implementation in two US  
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3 hospitals, managers are more likely to realize micro-level changes in practice when they  
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5 “activate” lower-status subordinates and provide them with particular tools to use in their work  
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7 with other higher-status professionals. Beyond middle managers’ commitment, actions,  
8  
9 interactions, and relational mechanisms that build change readiness and commitment, the  
10  
11 research we reviewed suggests that change is more likely when units, teams, or organizations  
12  
13 have a strong climate for innovation, as Somech and Drach-Zahavy (2013) find in a study of 96  
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15 primary care teams.  
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19 ***Outcomes of change.*** The idea that most change initiatives fail (often estimated in the  
20  
21 prescriptive literature at 50%-70%, see Burnes, 2011) has been repeated for over 40 years,  
22  
23 although scholars have challenged this ongoing narrative (M. Hughes, 2011). Thus, it is not  
24  
25 surprising to find that six studies, all published in HC outlets, investigate change outcomes. Most  
26  
27 of these studies are descriptive. Some studies explore change in particular practices, for example  
28  
29 the adoption of team huddles in a set of VA patient-centered medical homes (Rodriguez et al.,  
30  
31 2015), the ways in which clinicians (physicians and nurses) use electronic health records seven  
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33 years post adoption (Rathert et al., 2019), the adoption of a checklist to help in birthing practices  
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35 and its effect on maternal and infant mortality (Semrau et al., 2017), and the adoption of patient  
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37 reported outcomes (PROs) (Jensen et al., 2015). Other studies explore change more broadly at  
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39 the organizational or institutional levels, such as the effects of the Accountable Care Act on care  
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41 delivery and patient outcomes after its enactment (Lewis et al., 2019; Rutledge et al., 2019), the  
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43 outcomes of value-based payment reform initiatives (Conrad et al., 2014), and organizational  
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45 identity change during the merger of former rival health care organizations (Clark et al., 2010).  
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51 In sum, studies of change in health care settings reaffirm the fact that change programs *do*  
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53 produce change and transformation, although not always in the ways in which the change  
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3 initiative is envisioned or intended. Moreover, there are well-known barriers and constraints to  
4 change and successful adoption of particular initiatives. These include limited time, increased  
5 workload, insufficient training, inadequate resources and other operational constraints, confusion  
6 and lack of clarity around goals and benefits, and relational conflict and mistrust.  
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## 12 **Learning**

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14 Understanding how learning unfolds in health contexts has been of significant interest to  
15 researchers across both organizational science and health care disciplines over the past decade.  
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17 Given the nature of health care as a domain of unending change (as reviewed above), this interest  
18 in the processes and consequences of learning in and among health care organizations is perhaps  
19 not surprising. Indeed, health professionals are engaged in highly knowledge-intensive work  
20 with critical consequences for failure, and so developing, sharing, and applying knowledge in  
21 pursuit of high-quality patient care outcomes is essential, giving rise to a robust, multi-faceted  
22 body of research on individual, team, and organizational learning in health care. The 30 articles  
23 on learning that met our review criteria (20 published in organizational science journals and 10  
24 in health care journals) report on a broad range of qualitative and quantitative research efforts,  
25 including surveys, archival data analysis, in-depth observations and interviews, simulations, and  
26 experimental interventions. Across these studies, researchers explore the benefits of learning at  
27 multiple levels of analysis and across a variety of important outcomes, including the types of  
28 performance studied in non-health contexts (e.g., supervisor-rated job performance; Wolfson et  
29 al., 2018, 2019), but also a range of more health care-specific outcomes, such as improvements  
30 in patient mortality or reduced adverse events (e.g., KC et al., 2013; Nembhard & Tucker, 2011a;  
31 Vashdi et al., 2013), improvements in care quality benchmarks and evaluations (e.g., Nembhard,  
32 2012; Noël et al., 2013), or improvements (generally reductions) in key temporal metrics such as  
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3 operative time in surgery or “door to balloon” time for ST-segment elevation myocardial  
4 infarction (STEMI) patients (e.g., Nembhard et al., 2014; Vashdi et al., 2013).  
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8 This research has also considered health care domain-specific forms of learning, focusing  
9  
10 in particular on the antecedents and consequences of particular knowledge and practice  
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12 innovations in hospitals and other care settings. Work in this tradition has explored the diffusion  
13  
14 of novel health technologies and practices, such as electronic medical records (EMR; Angst et  
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16 al., 2010), telehealth (Singh et al., 2010), or medications used in addiction treatment (Heinrich &  
17  
18 Cummings, 2014), as well as the learning processes and knowledge resources involved in  
19  
20 transitioning to new forms of care delivery (such as the PCMH care model) or new geographic  
21  
22 locales (e.g., Gupta & Khanna, 2019; Lanham et al., 2016). Notable within this stream of  
23  
24 research is a focus on the impact of robotic technology on learning and professional practice  
25  
26 among health occupations, with research demonstrating, for example, how the presence of an  
27  
28 innovative drug-dispensing robot can alter the routines and interprofessional interaction  
29  
30 dynamics among pharmacists, technicians, and assistants in a hospital pharmacy in ways that  
31  
32 require significant reconfiguration of professional boundaries and skillsets (Barrett et al., 2012).  
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34 In a recent study of robotic surgery, Beane (2019) similarly observes that the use of robotic  
35  
36 surgical techniques (compared to older “open” surgical practices) significantly alters the  
37  
38 traditional roles and learning practices of surgical trainees, requiring them to engage in norm-  
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40 challenging “shadow learning” to compensate for the loss of participative learning opportunities  
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42 that would normally be present in the more traditional open surgery.  
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49 ***Sources of learning in health care.*** More broadly, research on learning in health care has  
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51 considered a variety of different sources of knowledge or improvement opportunities, ranging  
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53 from incidental accumulation of experience to more deliberate learning efforts. Studies of the  
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3 role of accumulated experience (all published in OS journals, at least among the articles  
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5 reviewed here) have modeled the impact of surgeons' past experiences on their performance in a  
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7 current surgery. For instance, Ramdas and colleagues (2018) find that the use of a particular  
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9 medical device (e.g., a particular brand or type of hip replacement device) that the surgeon had  
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11 not previously used, or had not used recently, can increase the length of time needed to complete  
12  
13 a surgical case, introducing additional cost and potential risk for a patient. Other work has  
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15 focused on the role of surgeons' prior successes and failures, finding that surgeons seemed to  
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17 learn more (i.e., have lower patient mortality) from their own cumulative successes (relative to  
18  
19 their own failures), but more from others' (i.e., peers') cumulative failures (KC et al., 2013). KC  
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21 and colleagues (2013) note that this pattern is consistent with psychological research on  
22  
23 attribution (i.e., the fundamental attribution error), such that surgeons discount the learning value  
24  
25 of their own failures and others' successes as due to uncontrollable external factors such as luck  
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27 (though the authors also explore the interactive effects of these different forms of experience as  
28  
29 complements to one another). Similar arguments about the role of experience have been  
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31 advanced at the organizational level of analysis. Two studies with hospitals demonstrate that  
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33 hospitals learn from their accumulated experience in a particular task (such as negotiating the  
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35 purchase of a particular medical device; Grennan, 2014) and are more likely to learn from  
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37 failures when these failures are more distributed (i.e., hospitals are more likely to systematically  
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39 improve surgical patient mortality when prior deaths are distributed more evenly across surgeons  
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41 versus being more concentrated in a small number of surgeons; Desai, 2015).

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49 At the same time, a substantial body of research – across both OS and HC journals – has  
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51 explored the use of more deliberate learning practices and interventions (i.e., “deliberate  
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53 activities to create, acquire, or transfer knowledge;” Nembhard & Tucker, 2011a, p. 907) in  
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3 health care organizations. This includes the study of individual efforts to seek out feedback,  
4 expert advice, and new experiences or opportunities in order to improve performance (Wolfson  
5 et al., 2018), as well as team practices and interventions to improve reflection on team members'  
6 experience ("team reflexivity"), which can help the team generate innovative solutions,  
7 collaborate effectively, and improve patient care outcomes (e.g., Schippers et al., 2015; Vashdi et  
8 al., 2013). Research by Nembhard and colleagues demonstrates that health care professionals'  
9 efforts to engage in this deliberate learning within their unit or organization (i.e., efforts to solicit  
10 creative problem-solving ideas or generate solutions internally) benefit patient care outcomes  
11 and performance in the long run (Nembhard, 2012; Nembhard et al., 2014; Nembhard & Tucker,  
12 2011a). Yet this work also reveals important caveats to the deliberate learning and performance  
13 relationship; the long-run performance benefit might only emerge after a short run performance  
14 decline from engaging in these efforts (i.e., a "worse-before-better" trend; Nembhard & Tucker,  
15 2011a), and these internal learning efforts appear better suited to later stages of performance  
16 improvement (whereas more externally-focused efforts to import others' best practices are more  
17 helpful in early stages; Nembhard et al., 2014).

18  
19 Other research in this area has added further nuance regarding the different  
20 manifestations of, and influences of, these deliberate learning practices in health care  
21 organizations. For instance, using reports from a sample of health care managers, researchers  
22 find that women and men receive different types of deliberately developmental work experiences  
23 (e.g., men are more likely to report receiving developmental training experiences related to  
24 managing major incidents and emergencies, whereas women are more likely to report receiving  
25 training on health and safety; King et al., 2012). Additionally, research in health care journals  
26 has highlighted the potential benefit of including patients as key actors in these learning  
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3 practices, examining the value of patients' (and their families') accounts and perceptions of  
4 events as inputs to learning and quality improvement efforts (e.g., Etchegaray et al., 2016; Grob  
5 et al., 2019). And while deliberate learning may manifest in different ways, its effects may also  
6 hinge on the context; for instance, formal leadership focused on patient safety is associated with  
7 learning from adverse events, particularly in smaller hospitals (Ginsburg et al., 2010).

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14 ***Health care learning in context and with others.*** Integrating the different views and  
15 conceptualizations of learning in health care organizations evident in these studies, we note  
16 several trends that seem to be emerging in this area of research. The first is a recognition and  
17 treatment of learning as a contextually-situated, multi-level phenomenon in health care  
18 organizations. Recognizing the importance of contextual influences, many of the studies in this  
19 area explore the impact of various situational, structural, or cultural elements in moderating the  
20 upstream causes and downstream effects of learning. These studies have shown, for example,  
21 how task complexity, work demands, and the physical work environment moderates the effects  
22 of team reflexivity on innovation and performance among primary care and surgical teams  
23 (Schipper et al., 2015; Vashdi et al., 2013), how hospital size moderates the effects of failure  
24 concentration and formal leadership on learning (Desai, 2015; Ginsburg et al., 2010), and how  
25 staffing levels, unit climate, and job characteristics moderate engagement in and performance  
26 benefits of individuals' informal learning in health care organizations (Wolfson et al., 2018,  
27 2019). Moreover, consistent with Edmondson's (2002) notion of the "local and variegated nature  
28 of learning in organizations," this body of research has considered not only organization-level  
29 learning practices, but also has probed more deeply the individual-, team- and unit-level  
30 processes of learning that unfold in health care organizations (as evident further above), as well  
31 as their impact on higher-level outcomes. For instance, some research in this area has modeled  
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3 how individual characteristics and behaviors influenced team or unit-level outcomes (e.g.,  
4 examining how individual personality and background impact team creativity and  
5 implementation of innovation in primary care teams; Somech & Drach-Zahavy, 2013). Other  
6 research has used in-depth qualitative methods to illuminate the interpersonal actions and  
7 interactions that underlie learning and performance of care delivery teams (e.g., how care team  
8 members update their understanding of and handle an unexpected difficulty during simulated  
9 patient care; Christianson, 2019), organizations (e.g., how learning is synchronized across  
10 different groups through changes to the hierarchy and role obligations; Valentine, 2018), and  
11 broader health systems (e.g., how differences in power dynamics and outcome assessments of  
12 individuals from various organizational sub-units drive organizational learning during the  
13 integration of a large health care system; A. Van de Ven et al., 2019).

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A second emerging trend evident in these studies is a recognition of learning in health care as a socially-influenced process that involves others' experiences, rather than only an actor's own. Organizational research has long been interested in this notion of vicarious learning (see Myers, 2018), and research on learning in health care, across multiple levels of analysis, further reinforces the importance of this social learning process. At the organizational level, studies of the diffusion of new innovations, practices, and standards frequently recognize the social nature of diffusion, demonstrating how hospitals and other organizations are influenced by the behavior of others in choosing whether to adopt EMR (Angst et al., 2010), using particular drugs in treating addiction (Heinrich & Cummings, 2014), or pursuing recognition as a "Magnet" hospital (Lasater et al., 2019). Other work directly examines the benefits of organizations learning vicariously from their peers (i.e., as part of quality improvement collaboratives) and finds that these inter-organizational learning efforts have unique impact on patient care outcomes and

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3 performance (above-and-beyond internal learning efforts; Nembhard, 2012; Nembhard et al.,  
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5 2014). At the individual level, research explores how surgeons learn from others' failures and  
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7 successes (as described earlier; KC et al., 2013), and specifically examines vicarious learning as  
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9 part of individuals' informal, field-based learning efforts, demonstrating the conditions under  
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11 which this vicarious learning can be more or less beneficial for individual performance (Wolfson  
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13 et al., 2018, 2019). Finally, consistent with broader trends towards viewing learning as a more  
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15 relational, co-constructed process at work, the reviewed research points to the value of  
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17 interpersonal learning relationships (e.g., mentoring) and reciprocal learning among care team  
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19 members (Noël et al., 2013; Snoeren et al., 2016). Qualitative, ethnomethodological research  
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21 (LeBaron et al., 2016) also details how care providers can flexibly engage in handoff routines to  
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23 exchange information and co-construct a common understanding about the care of a given  
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25 patient (consistent with the notion of handoffs as "conversations" rather than "telegrams;" Cohen  
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27 et al., 2011).

### 32 33 **Cooperation/Coordination**

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35 Consistent with the observations of cooperative interpersonal learning, individuals  
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37 coming together to engage in more general cooperative, coordinated action in service of  
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39 providing high-quality care has been essential in health care organizations. Indeed, it seems to  
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41 have taken on even greater importance in the wake of changing regulations and financial  
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43 incentives for coordinated care stemming from the ACA, particularly in the research we  
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45 reviewed from HC journals. This work has frequently examined the cooperative behaviors and  
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47 coordination strategies adopted by health care providers as part of broader structural changes to  
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49 health care organizations, such as the shift in primary care to the PCMH model (Wagner et al.,  
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51 2014) or as part of the move to Accountable Care Organization (ACO) models that financially  
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3 incentivize organizations to coordinate care and reduce costs (Anderson & Chen, 2019; Lewis et  
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5 al., 2019).

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8 Results of these different studies generally support the idea that greater coordination  
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10 among health care providers is performance-enhancing. For instance, a randomized trial reveals  
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12 care coordination for patients with multiple chronic illness can lead to significantly better  
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14 medical outcomes, satisfaction with care, and quality of life (Katon et al., 2010). Other work  
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16 offers complementary perspectives, for example highlighting the beneficial role of specific  
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18 behaviors involved in cooperative care within surgical teams (e.g., workload sharing and  
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20 interpersonal helping) as drivers of surgical quality (mediating the effect of team learning on  
21  
22 surgical duration, particularly in highly complex cases; Vashdi et al., 2013). Similarly research  
23  
24 has demonstrated a positive impact of teamwork and coordination on provider satisfaction in  
25  
26 primary care (Song et al., 2017). Yet research has also suggested a need to temper these  
27  
28 performance-benefits claims, demonstrating in particular that the beneficial effects of greater  
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30 coordination may not be evident immediately (Rodriguez et al., 2019), as improvements in  
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32 patient care outcomes due to increased interdisciplinary collaboration can take multiple years to  
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34 emerge (Nembhard & Tucker, 2011a).

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40 ***Coordination at multiple levels in health care.*** Across the studies reviewed, we observe  
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42 the use of a variety of different specific conceptualizations and measures of coordination. They  
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44 most generally focus on different levels or patterns of cooperative role-based behavior, enhanced  
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46 communication, and/or sharing of information and goals among the actors engaged in a patient's  
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48 care (whether part of a team within one particular arena of care, or working across care settings;  
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50 e.g., Kolbe et al., 2014; Vimalananda et al., 2019). One particular conceptualization of this  
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52 cooperative dynamic among care providers that was frequently studied in our review set was that  
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3 of *relational coordination*, which focuses on coordination among individual health care  
4 professionals through “frequent, high-quality communication supported by relationships of  
5 shared goals, shared knowledge, and mutual respect” (Gittell et al., 2010 pp. 491-491). A variety  
6 of studies, across different health care settings, demonstrate that greater relational coordination  
7 among providers from different professional backgrounds (i.e., physicians, nurses, social  
8 workers, pharmacists, etc.) working as part of a care team is associated with increased quality of  
9 care (e.g., Cramm & Nieboer, 2012; Gittell et al., 2010; Noël et al., 2013).

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12 In addition to these studies of interpersonal coordination (i.e., among individual care  
13 team members representing different functional or professional backgrounds), research has also  
14 considered the causes and consequences of greater coordination at the organizational level (e.g.,  
15 involving coordination between different hospitals or units of a broader health system, or among  
16 multiple health service organizations). For example, inter-hospital collaboration and cooperation  
17 can lead to patients being transferred from lower to higher-capability hospitals to receive higher-  
18 quality care (Lomi et al., 2014), while innovations such as publicly posting emergency  
19 department (ED) wait time estimates can enhance coordination among multiple hospitals in the  
20 same care network by allowing patients to select lower-wait facilities (Dong et al., 2018).  
21 Similarly, greater inter-organizational collaboration between health care organizations and other  
22 social service organizations (i.e., aligning strategy and coordinating current work between these  
23 different types of organizations in a region or area; Brewster, Tan, et al., 2019) has been shown  
24 to improve patient care outcomes, with evidence indicating that the presence of denser  
25 multisector collaborative networks of health care and social service organizations in a given  
26 community is associated with reduced health care spending and preventable deaths (Brewster,  
27 Yuan, et al., 2019; Mays et al., 2016).  
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3                   ***Drivers of coordination in health care.*** Though much of the research on coordination in  
4 health care organizations has emphasized the beneficial outcomes of cooperative behavior, we  
5 note a trend in this area of work (and particularly among studies published in OS journals) of  
6 exploring antecedents and processes of coordination in organizations. For instance, researchers  
7 have examined how broader contextual characteristics such as organizational support and  
8 emphasis on patient-centered care (Weinberg et al., 2011) or the demographic and professional  
9 characteristics of a unit (e.g., the extent to which members belong to higher or lower status  
10 professions within health care, and the intersection of professional differences with demographic  
11 group memberships; DiBenigno & Kellogg, 2014) influence the degree and quality of  
12 collaboration in health care settings. Other work has considered how specific actions or  
13 interventions influence coordination and subsequent performance, such as implementing  
14 deliberate learning practices (which have been shown to influence care outcomes through their  
15 effect on collaboration; Nembhard & Tucker, 2011a), or leaders communicating clear vision and  
16 values (finding that visions imbued with stronger imagery and a more manageable number of  
17 values predict hospital care outcomes, an effect shown in a non-hospital context to be mediated  
18 by shared goals and coordination; Carton et al., 2014).

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21                   Finally, research in this area has also begun to unpack the different ways that cooperation  
22 and coordination can manifest in health care settings – recognizing, for instance, that different  
23 organizational structures deployed to provide health care services can generate correspondingly  
24 different areas of emphasis for coordination (e.g., the particular service line structure dictates the  
25 nature of the coordination problem to be solved; Louis et al., 2019). Often drawing on qualitative  
26 methods, research in this area has also probed the way various norms, structures, and practices  
27 (such as the presence of different clinical and non-clinical leadership roles or the use of handoffs  
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3 for transferring care among providers over time) influence the focus and enactment of  
4 collaborative behavior among health professionals (LeBaron et al., 2016; Mitra et al., 2019), as  
5 well as how the changing nature of health care structures and practices (and specifically the  
6 introduction of robotic technologies) alter existing patterns of collaboration (Barrett et al., 2012;  
7 Matt Beane & Orlikowski, 2015), helping to build a robust understanding of the micro-dynamics  
8 of cooperative behavior in health care settings.  
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### 17 **Teams and Other Structures**

19 The question of how to structure work dates back to the beginning of the field of  
20 organizational science (March & Simon, 1958; Simon, 1957; Taylor, 1911). Moreover, as noted  
21 above, the study of structures in health care is motivated by the potential for those structures to  
22 support effective cooperation and coordinated action. Yet, challenges to structuring work abound  
23 in health care, given the increasingly specialized nature of the context, wherein care must be  
24 integrated across sometimes wide knowledge and status boundaries (DiBenigno & Kellogg,  
25 2014; Rosen et al., 2018). Furthermore, it can be difficult to impose a particular structure on the  
26 requisite multidisciplinary groups, as a lack of consensus around who should be involved in  
27 patient care can lead individuals to act with discretion to involve (or not) other professions and  
28 specialties (J. W. Kim, 2020). Compounding that uncertainty is the short-lived nature of many  
29 interactions. Shift-based work and training rotations can lead to the constant reconstitution of  
30 groups, and an individual's contributions to a patient's care may be fleeting (Bedwell et al.,  
31 2012).  
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49 Despite the dynamic nature of health care, the research reviewed here includes 28 papers  
50 (16 in organizational science outlets, 12 in health care) that explore the role of basic  
51 organizational structures (“descriptions of and templates for ongoing patterns of action;” Barley  
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3 & Kunda, 2001) as well as specific team structures, in settings ranging from primary care to  
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5 long-term care and operating rooms, emergency departments, and medical-surgical units in  
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7 hospitals.  
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10 ***Basic structures for organizing work.*** Much of the research in this area sheds light on  
11  
12 basic structures for facilitating coordination, including routines, roles, and hierarchy. The  
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14 research reviewed on routines has tended to focus on the potential benefits of standardized  
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16 routines in the form of checklists, and while using checklists alone has mixed effects (Arriaga et  
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18 al., 2013; Cavalcanti et al., 2016), using checklists coupled with training may be more beneficial  
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20 in improving care outcomes (Neily et al., 2010). Still other research highlights the role of  
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22 emergent and implicit patterns of behavior that can distinguish between higher and lower  
23  
24 performing groups (Kolbe et al., 2014). Importantly, these established ways for working  
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26 (whether explicit or implicit) need not be static, as is found in the case of individuals within  
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28 surgical clinics who intentionally change their treatment routines (Bucher & Langley, 2016).  
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30 Given the rapid pace at which best practice evolves in health care, the updating of routines is  
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32 likely critical.  
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38 In addition to routines, roles are a nearly constant structure for organizing work in health  
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40 care, but those roles can be ambiguous and overlapping. For example, research has documented  
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42 the disagreement across professions (nurse practitioners and physicians) about the role of nurse  
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44 practitioners, particularly in response to policy changes to the allowed behaviors of nurse  
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46 practitioners (Donelan et al., 2013). To this end, research has emphasized the importance of  
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48 clarifying roles (Donelan et al., 2013) and negotiating roles over time, for example, as an  
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50 organization shifts to using multi-disciplinary teams (Chreim et al., 2010).  
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3 Hierarchy, a final basic structure covered in the research reviewed, is a ubiquitous feature  
4 of health care organizations, whether derived from informal status or formally assigned  
5 authority, and can serve to establish roles that impact coordination. For example, Leroy et al  
6 (2012) find that a team's leader (head nurse) "walking the talk" regarding safety increases team  
7 prioritization of safety and subsequently leads to fewer reported errors; but, simultaneously, this  
8 behavior leads to more team psychological safety and subsequently more willingness to admit  
9 errors when they do happen.

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19 **Teams.** In addition to research on basic organizational structures, a growing set of studies  
20 focuses on teams in health care (see also Rosen et al., 2018), often citing increasing attention to  
21 the use of team-based care as a rationale for the given study. Despite this acknowledged trend,  
22 some research continues to question the efficacy of team-based models of care on the bases that  
23 their value is "not yet firmly established" (Reiss-Brennan et al., 2016). Using this rationale,  
24 Reiss-Brennan and colleagues (2016) test the efficacy of using a team-based model of care to  
25 integrate physical and mental health care and find it to be associated with improved quality of  
26 care, less utilization of primary care, and lower cost of care. Of note the authors highlight that  
27 some facilities in their study faced challenges to adopting team-based care in that many  
28 insurance systems lacked a mechanism for billing for collaborative services, effectively  
29 disincentivizing collaborative work. This impact of the larger system on the adoption of a team  
30 structure is echoed in research that describes efforts around increasing team-based care as a part  
31 of a broader structural change within accountable care organizations (Lewis et al., 2019).

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49 Related to understanding the systems within which teams are embedded, a substantial  
50 amount of the reviewed research explores boundaries around teams and other team-like  
51 collaborations. Team boundaries are commonly prescribed to be clear and stable (e.g., see  
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3 Valentine & Edmondson, 2015), and although the research we reviewed reveals an exploration  
4 of the perhaps more realistic fuzziness of boundaries, a common theme emerging from the  
5 research is an emphasis on instilling some kind of stability. For example, research exploring the  
6 boundaries both between and within organizations demonstrates that performance is better when  
7 hospitals clarify organizational boundaries by hiring hospitalists (versus using non-employee  
8 physicians who are encumbered by logistical challenges), and when they bound those employed  
9 physicians in a multi-disciplinary service (versus using groups of specialists that must constantly  
10 negotiate their roles and interdependencies; Louis et al., 2019). Similarly, research finds that  
11 when individuals of varied professions are assigned to a single, clearly defined team, unit-level  
12 performance is greater than when boundaries are blurred by individuals contributing to multiple  
13 teams at once (Crawford et al., 2019). To coordinate in the midst of short-lived, role-based work  
14 in EDs, Valentine and Edmondson (2015) again find value in imposing a boundary: “pods” (or  
15 de-individualized sets of specific roles: physicians and nurses) can effectively bound a group and  
16 are found to facilitate both teamwork (within the interprofessional pods) and ED throughput,  
17 despite rapid turnover in the individuals filling each role within the pods (Valentine &  
18 Edmondson, 2015). Additionally, and again consistent with the theme that boundaries are  
19 beneficial, research finds that clearly bounding the set of teams involved in a multi-team system  
20 can enhance coordination within and between those teams (Jones et al., 2019).

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Group composition, and specifically group diversity, is another team feature prominently explored in the research reviewed. Group diversity can harm a variety of outcomes due to related social categorization and status differences (e.g., white and male primary care physicians receive higher patient satisfaction ratings than their nonwhite and female counterparts, Hekman et al., 2010), cognitive gaps that give rise to conflict (e.g., a supervisor’s perceived cognitive

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3 dissimilarity with a subordinate is associated with more relationship conflict, worse performance  
4 evaluations, and more abusive supervision, Tepper et al., 2011) or both (aligned demographic  
5 and occupational differences can reinforce status differences and thereby impair collaboration,  
6 DiBenigno & Kellogg, 2014). At the same time, professional diversity has become elemental to  
7 health care, offers the potential for integrating specialized expertise and varied perspectives, and  
8 can enhance creativity (Somech & Drach-Zahavy, 2013) and performance (Compagni et al.,  
9 2019). To make sense of diversity's mixed effects, research has turned to not only asking  
10 whether diversity is helpful, but how and when. For example, Compagni and colleagues (2019)  
11 find that professional diversity in an overall health care team improves performance when it is  
12 associated with more frequent (but not too frequent) communication within a core subgroup of  
13 physicians. Others have highlighted the contextual factors that determine the effectiveness of  
14 diversity, such as the role of open-mindedness in tilting the effects of diversity from negative to  
15 positive (Mitchell & Boyle, 2015), and the role of demographic compilation across subgroups  
16 that determine the effectiveness of a professionally diverse group (DiBenigno & Kellogg, 2014;  
17 King et al., 2011).

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38 The teams research reviewed here also includes a focus not on the structure of teams, but  
39 the team processes that can yield beneficial outcomes. These processes included team learning  
40 that can reduce the duration of procedures (Vashdi et al., 2013) and reflexivity that can enhance  
41 innovation (Schippers et al., 2015), emergent patterns of behavior that support updating in  
42 response to surprises (Christianson, 2019), and general teamwork that follows from a culture of  
43 compassionate love (Barsade & O'Neill, 2014). In line with work reviewed on both learning and  
44 cooperation/coordination, these team processes are typically found to be beneficial, though their  
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3 effects can hinge on contextual features such as the work climate (Schippers et al., 2015; Somech  
4 & Drach-Zahavy, 2013).

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8 Lastly, scholars have examined “team trainings” that can provide individuals with the  
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10 skills needed to work effectively within a team structure (see also Shuffler et al., 2018 for a  
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12 broad review of team development interventions). In the work reviewed, team trainings are  
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14 shown to enhance individual and team processes as well as patient and organizational outcomes  
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16 such as mortality rates and time of procedures (A. M. Hughes et al., 2016; Neily et al., 2010).  
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18 Moreover, these findings are robust to the training strategy, physical fidelity of simulations,  
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20 whether the targets are clinicians versus students and working in interprofessional versus  
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22 homogeneous groups (A. M. Hughes et al., 2016). The content of team trainings, however, is  
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24 shown to alter effectiveness; the inclusion of feedback, which may increase anxiety, can detract  
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26 from effectiveness (A. M. Hughes et al., 2016); whereas, the inclusion of briefings along with  
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28 training about communication strategies may be particularly beneficial to improving proximal  
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30 collaboration processes and outcomes (Neily et al., 2010).  
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35 ***The shifting structures of dynamic health care contexts.*** We uncover several trends in  
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37 our review of research on teams and other structures. First, there is an emerging undertone of  
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39 appreciation for the instability of health care structures. For example, the reviewed research  
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41 suggests that routines can and perhaps should evolve (Bucher & Langley, 2016), that  
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43 occupational roles evolve (Chreim et al., 2010), and that individuals actively manage boundaries  
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45 around their unique occupational roles as work becomes more integrated (Compagni et al.,  
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47 2019). Researchers are also acknowledging the importance of frequent team membership  
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49 changes (Valentine & Edmondson, 2015; Vashdi et al., 2013). In short, organizing work in the  
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51 stable and bounded structures known to support effective performance (e.g., Hackman, 2011)  
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3 may not be feasible in many health care contexts, which raises new questions. For example, the  
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5 instability of health care teams calls into question the benefits of organizing work in teams at all,  
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7 and the general approach to understanding and cultivating teamwork may require new theory. To  
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9 this end, research has begun to explore new theory for understanding learning in short-lived  
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11 teams (Vashdi et al., 2013), the “meso-level structures” of de-individualized role sets that can  
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13 support teamwork in the absence of formal team structures (Valentine & Edmondson, 2015) and  
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15 the team training that creates individual capabilities that can be transferred from team to team (A.  
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17 M. Hughes et al., 2016). Overall, the research we reviewed reflects a trend toward appreciating  
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19 what Langley et al (2019) would call boundary work to manage the unstable boundaries around  
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21 professions (e.g., Compagni et al., 2019), teams (e.g., Valentine & Edmondson, 2015), and  
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23 organizations (e.g., Epané et al., 2019) – a trend critical to understanding organizational  
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25 challenges in health care and developing theory that will generalize across health care settings  
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27 and to other highly dynamic industries. In doing so this work begins to address the need to  
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29 understand more fluid ways of organizing (Traylor et al., 2021).  
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35 A second trend is an emerging multi-level view of providing care. This trend is evident in  
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37 research that examines variables at multiple levels at once (Hekman et al., 2010; A. M. Hughes  
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39 et al., 2016) and that takes account of the interdependencies of the *system*. For example, research  
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41 has explored personnel interdependence between teams as individuals contribute to multiple  
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43 teams simultaneously (Crawford et al., 2019), task interdependence as multiple teams must work  
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45 together to provide patient care in a multi-team or multi-unit system (Jones et al., 2019), and the  
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47 interdependence between an organization and non-employee physicians contracted to provide  
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49 care within the organization (Epané et al., 2019; Louis et al., 2019).  
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## Performance

Embedded in the research highlighted in the preceding sections is a shared assumption that these organizational concepts and efforts (e.g., engaging in greater learning or deploying a new team structure to better coordinate action in the face of ongoing change) are valuable insofar as they enhance individual or collective performance in health care. Correspondingly, our mapping of the OSHC field reveals that performance features squarely as one of the most prominent OSHC topics – of the 685 papers identified in our search, 16% (18% in OS outlets; 15% in HC outlets) focus on the study of performance. The research that we examined in depth and review here includes 33 papers (11 in OS outlets, 22 in HC outlets). This research reports on nearly exclusively quantitative research (c.f., Dixon-Woods et al., 2012) exploring a variety of performance metrics in health care. The empirical measures employed range from financial outcomes and costs – typically for an organization or patient – to general assessment of an individual’s job performance (e.g., supervisor ratings, Colquitt et al., 2012), to a host of metrics thought to capture the “quality” of care. Measures described as indicating quality care include efficiency (e.g., length of stay, Gittel et al., 2010), care provider adherence to evidence-based practices (Compagni et al., 2019), and both objective patient outcomes (e.g., mortality rates, Jha & Epstein, 2010) and subjective ratings (e.g., patient satisfaction, Reilly et al., 2014).

Unlike other topic areas reviewed (e.g., the work on teams and other structures reviewed above) that tend to focus on units of analysis within an organization, the research on performance also examines inter-organizational dynamics and community-level assessments of performance (Brewster, Tan, et al., 2019; Brewster, Yuan, et al., 2019), as well as including assessments for which the patient is the unit of analysis (e.g., performance metrics include cost per patient,



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3 patient satisfaction, patient health outcomes, and patient length of stay, Gittel et al., 2010;  
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5 McWilliams et al., 2016; Zhou et al., 2010).

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8 While in some research the different measures of performance are lumped together within  
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10 a single measure (King et al., 2011), other researchers include multiple facets of performance in  
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12 a single study, even exploring the relationship between them (e.g., how a measure of patient  
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14 outcomes and adherence to best safety practices relates to hospital profitability, Beauvais et al.,  
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16 2019; how objective performance measures relate to patient satisfaction, Hekman et al., 2010).

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19 ***Drivers of performance.*** The reviewed research points to a multitude of performance  
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21 drivers, which we organize into three overarching groups: system-level features, organizational  
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23 design, and organizational behavior. First, research suggests that system-level features of health  
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25 care organizations can impact organizational performance. Research (notably all published in HC  
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27 outlets) has explored the effect of shifts to the types of value- or outcome-based payment models  
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29 promoted by the ACA's passage. These programs have been shown to increase adherence to best  
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31 practices, reduce subsequent hospitalization, and decrease costs, with mixed effects on patient  
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33 perceptions of care (Bonfrer et al., 2014; McWilliams et al., 2016; Soeters et al., 2011). Further,  
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35 research has suggested the possibility of positive spillover effects both from incentivized to non-  
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37 incentivized care practices within an organization, and from incentivized to non-incentivized  
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39 organizations (Kristensen et al., 2014). That said, there are varied means for rewarding  
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41 performance, and pay-for-performance models are not uniformly effective (Bonfrer et al., 2014;  
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43 Kristensen et al., 2014), suggesting a need for greater attention to what is being incentivized and  
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45 the latitude of the incentivized individuals to make relevant changes. In addition to payment  
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47 models, the systems' workforce flow – hiring, transfer, and voluntary turnover rates – can alter  
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49 performance by affecting job demands both in the near and long term (Reilly et al., 2014),  
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3 whereas duty-hour reform that does not change the overall workforce pool, but does restrict  
4 hours worked by residents, might *not* impact patient outcomes and resident examination  
5 performance (Rajaram et al., 2014).  
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10 Organizational design is a second key feature to emerge in the reviewed research as a  
11 predictor of performance. In accordance with our earlier review of work on teams and other  
12 structures, the research on performance suggests that it is associated with the structure of work  
13 units. For example, earlier assignment of emergency department (ED) patients to physicians,  
14 along with dedicated nurses and beds, can reduce patient wait times and lengths of stay (Song et  
15 al., 2015). In contrast, in primary care, care provided by individuals assigned to multiple teams at  
16 once (as opposed to a clear and stable team) is associated with subsequently more visits to EDs  
17 and urgent care (Crawford et al., 2019). Further supporting the idea that clear boundaries can  
18 improve performance, the employment of hospitalists (versus the use of contracted physicians  
19 from outside of the hospital) is shown to be more costly, but this cost was outweighed by  
20 revenue gains such that using hospitalists is associated with better organizational financial  
21 performance (Epané et al., 2019). Finally, the compositional makeup of a work unit relative to its  
22 patient population can affect how care providers behave, and thus impact performance. For  
23 example, demographic representativeness of hospitals was shown to affect the extent to which  
24 patients are treated civilly, and thereby impact ratings of the quality of care and the extent to  
25 which resources were used effectively (King et al., 2011).  
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47 Lastly, individual and collective behaviors throughout the health care system can support  
48 performance. Leadership, particularly at the top of the organizational hierarchy, emerges in the  
49 literature we reviewed as a strong predictor of organizational performance. Multiple studies  
50 demonstrated that hospital board and managerial practices that emphasize quality are associated  
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3 with better hospital adherence to established evidence-based practices (Jha & Epstein, 2010; Tsai  
4 et al., 2015). Management practices that focus on succession management (e.g., top management  
5 team engagement, selection and onboarding practices) have also been linked to organizational  
6 performance in terms of patient satisfaction and costs (Groves, 2019). Similarly emphasizing the  
7 role of leadership at the top of organizational hierarchy, CEO rhetoric (strong imagery and a  
8 small number of values) reduces readmissions (Carton et al., 2014). Additionally, top  
9 management practices (e.g., clearly defining strategy, providing feedback, encouraging  
10 knowledge sharing, and involving department heads in decision-making) are associated with  
11 better hospital performance, which may be explained by department heads' increased awareness  
12 of organizational goals (Vainieri et al., 2019). General top-down directives (e.g., encouragement  
13 to report errors) are also linked to reduced hospital mortality (Toffolutti & Stuckler, 2019), and  
14 the effect of leadership permeates throughout levels of an organization – the perception that  
15 one's supervisor is more just is associated (via trust, commitment and uncertainty) with better  
16 job performance ratings from that supervisor (Colquitt et al., 2012).  
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35 In addition to leadership, practices related to the use of technology and communication  
36 can have substantial effects on performance. For example, the adoption of EHR systems has been  
37 shown to relate to better process adherence and patient satisfaction (Adler-Milstein et al., 2015),  
38 and secure patient-physician emailing through an EHR is associated with better performance, as  
39 assessed by measures of adherence to best practices (e.g., screenings of HbA1c) and patient  
40 outcomes (e.g., HbA1c control, Zhou et al., 2010). More broadly, Senot and colleagues (2016)  
41 find in research in a hospital setting that the specific type of caregiver-patient interaction has  
42 important implications. The authors find that caregivers engaging in meaningful conversations  
43 with patients is beneficial, complementing efforts to adhere to evidence-based practices. Yet,  
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3 caregivers responding to specific patient needs seems to compete for resources with adherence to  
4 best practices, thus fueling a tradeoff between reducing readmissions and decreasing costs. The  
5 communication among care providers, too, is important. Professional diversity in a primary care  
6 team can (when there is some but not too much communication within a subgroup of general  
7 physicians) increase adherence to practices deemed part of the “optimal care” for diabetic  
8 patients (Compagni et al., 2019).  
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11 Further suggesting the importance of communication, a series of studies examines multi-  
12 faceted measures that are comprised of a variety of elements – including communication (e.g.,  
13 information sharing, teamwork) – that are combined in a single measure and that predict  
14 performance (e.g., high performance work practices, Gittell et al., 2010; Leggat et al., 2010;  
15 patient safety culture, Li et al., 2019; and civility climate, Oppel et al., 2019). As noted in our  
16 earlier review of research on learning, we also find that individuals’ engagement in informal  
17 learning can enhance individual job performance (as rated by supervisors, Wolfson et al., 2019),  
18 while at the unit level, deliberate learning can enhance unit performance (Nembhard & Tucker,  
19 2011a). As also noted previously, these positive effects may hinge on contextual factors such as  
20 time pressure (Wolfson et al., 2019), and may take time to manifest (Nembhard & Tucker,  
21 2011a).  
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42 ***Performance as a multidimensional construct.*** An important trend we observe among  
43 these studies is a grappling with what characterizes effective performance, broadly, and “quality”  
44 care, more specifically. We observe two key issues. The first regards the growing list of ways to  
45 measure performance or quality; researchers have taken to including explicit caveats about the  
46 uncertain generalizability of their findings about one measure of performance to others not  
47 included in the study (e.g., see Nembhard & Tucker, 2011a). The second issue relates to the rise  
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3 in using subjective measures such as patient or provider ratings of care quality. The subjective  
4 nature of such ratings may be problematic due to their bias (Hekman et al., 2010), but other  
5 research has also called into question the precision of “objective” measures of performance. For  
6 example, Dixon-Woods and colleagues (2012) use an ethnography to explore what organizations  
7 do when they calculate and report central venous catheter bloodstream infections. They find that  
8 “the definitions for classifying infections used were seen as subjective” and “despite being given  
9 explicit and widely used definitions, the participating units were not counting the same things in  
10 the same way” (Dixon-Woods et al., 2012).  
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22 Perhaps in response to the seemingly increasing ways of measuring performance and the  
23 lack of an ideal single metric, research we reviewed calls for treating quality (or performance,  
24 broadly) as a multidimensional construct, and also demonstrates the value in so doing (e.g., see  
25 Senot et al., 2016; Vainieri et al., 2019). These explicit calls align with a general trend to include  
26 multiple measures of quality within a single study, either as a composite measure (King et al.,  
27 2011; Vainieri et al., 2019), or as separate indicators (Brewster, Yuan, et al., 2019; Gittel et al.,  
28 2010; Groves, 2019; McWilliams et al., 2016; Senot et al., 2016; Soeters et al., 2011). Given that  
29 payment models are shifting to performance-based models of payment, a more sophisticated  
30 appreciation of a) the multiple facets of performance and b) which levers affect which specific  
31 performance metrics both is apt and should enhance our ability to cultivate more effective health  
32 care organizations.  
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## 46 **TAKING STOCK OF OSHC RESEARCH**

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49 We have mapped the general landscape of the OSHC field and reviewed key findings  
50 from its prominent topics, shedding light on the breadth of knowledge that has accrued at the  
51 intersection of organizational science and health care research. We now step back to more  
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3 broadly synthesize the research we reviewed. We articulate several related themes that emerged  
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5 – that organizational dynamics in health care are patient-centered, dynamic, and highly  
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7 specialized – and also identify important points of difference and fragmentation across research  
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9 published in OS versus HC outlets.  
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### 11 12 **Emergent Themes**

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14 *Patient-centered.* A first clear theme emerging in our review of OSHC research is that  
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16 this work commonly interprets the outcomes of organizational efforts with respect to patients'  
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18 (or the population's) satisfaction and health outcomes, privileging an overarching view of  
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20 performance as the delivery of effective patient care in health care settings. Although researchers  
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22 acknowledge performance as a multifaceted construct (as noted earlier), when they study  
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24 performance metrics other than patient health outcomes, they justify the inclusion of those  
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26 metrics as indicators of performance by suggesting a relationship with patient care (e.g. surgery  
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28 lengths are a relevant outcome to study in that they are associated with better patient outcomes,  
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30 Nembhard et al., 2014). This tendency to explore organizational work and associations with  
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32 patient outcomes is consistent across the research reviewed on organizational change (e.g.,  
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34 Rathert et al., 2019), learning (e.g., Nembhard & Tucker, 2011b), cooperation/coordination (e.g.,  
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36 Katon et al., 2010; Vashdi et al., 2013), as well as teams and other structures (e.g., Crawford et  
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38 al., 2019; Song et al., 2015).  
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45 Though this emphasis on patient outcomes is perhaps not surprising (particularly to  
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47 scholars in health disciplines), it reflects a distinct approach within organizational research.  
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49 While organizational science often emphasizes outcomes in terms of finances, this emphasis is  
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51 often tempered in OSHC research, for instance, by examining both costs and patient outcomes in  
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53 a single study (Adler-Milstein et al., 2015) or combining the two in a composite performance  
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3 measure (Groves, 2019; King et al., 2011; Vainieri et al., 2019). Additionally, although a  
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5 significant body of research in organizational science examines outcomes such as customer  
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7 satisfaction, the role of the customer more generally in organizational research is not manifest to  
8  
9 the same degree as what we observed in our review (where we might consider the patient to be  
10  
11 the primary “customer” of a health care organization’s work). Although some scholars claim that  
12  
13 the role of the patient is likely to remain “more [one] of victims than partners” (Wears &  
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15 Sutcliffe, 2019, p. 193), other scholars recognize efforts to integrate the patient into the work of  
16  
17 health care (Etchegaray et al., 2016; Grob et al., 2019), highlighting the unique role the recipient  
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19 of care services plays in these organizational settings (in ways that may generate organizational  
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21 dynamics not seen in other industry settings). Furthermore, the criticality of patient outcomes  
22  
23 and satisfaction in health care settings may breed an intolerance to poor “customer satisfaction.”  
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25 That is, interventions or experiments that improve financial performance at the expense of  
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27 customer satisfaction or product quality might be acceptable in another setting but would likely  
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29 not be tolerated in a health care organization. This encapsulates the view, evident throughout  
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31 OSHC research, that the organizational work done in health care carries serious consequences for  
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33 patients, correspondingly placing great importance on the application of organizational findings  
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35 for patient care and other related measures of performance (as well as a need for understanding  
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37 connections among different performance metrics).  
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44       ***Dynamic.*** The high-stakes nature of much of the work in health care settings may also  
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46 yield a sense that existing knowledge is never good enough, producing an assumption that there  
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48 is always a need to change and improve. Indeed, the hope for improved patient care underlies  
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50 constant changes in health care organizations as structures and practices shift (driven both from  
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52 the top-down and bottom-up). The result (and our second key theme) is a highly dynamic context  
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3 in which the work of patient care unfolds. This dynamism is pervasive, spanning organizational  
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5 levels, including macro-level changes to organizational forms (e.g., introduction of Patient-  
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7 Centered Medical Homes, Lanham et al., 2016), regulations (e.g., expansions of nurse  
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9 practitioner scope of practice, Donelan et al., 2013), and incentive structures (e.g., shifts to  
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11 value-based payments, Bonfrer et al., 2014; Kristensen et al., 2014; McWilliams et al., 2016;  
12  
13 Soeters et al., 2011). Likewise, at a “meso” level, research points to changes in team structures  
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15 (e.g., introduction of team-based care, Reiss-Brennan et al., 2016; and frequent reconstitution of  
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17 team membership, Valentine & Edmondson, 2015; Vashdi et al., 2013), routines (e.g., changes in  
18  
19 treatment practices, Bucher & Langley, 2016), and the integration of new technologies (e.g., the  
20  
21 introduction of robots conducting pharmaceutical or surgical tasks; Barrett et al., 2012; Matthew  
22  
23 Beane, 2019) as key features of the organization of health care. Other research has also noted  
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25 micro-level changes to individual’s roles (Chreim et al., 2010; Donelan et al., 2013). Overall,  
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27 both the reality of this dynamism in health care, as well as its attendant challenges for organizing  
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29 and enacting high-quality patient care, underscore the importance of research on organizational  
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31 change and learning in these settings.  
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38 *Specialized.* Navigating this dynamic context is challenged by the fact that the work of  
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40 health care organizations is also highly specialized – commonly enacted through de-  
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42 individualized roles or professions (e.g., see Donelan et al., 2013; Valentine & Edmondson,  
43  
44 2015) and dispersed across functional units (e.g., Richter et al., 2016), organizations (Lomi et al.,  
45  
46 2014), and even sectors (e.g., Brewster, Yuan, et al., 2019). As noted in a recent review (Singer  
47  
48 et al., 2020), this specialization and dispersion (our third key theme) occurs both within  
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50 organizations and across them, and it creates a critical need for integration to facilitate the  
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52 provision of care. For example, different factions of professionally diverse teams, units, or  
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3 clinics must develop and adapt structures and organizing practices that support learning and  
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5 effective coordination (Compagni et al., 2019; Cramm & Nieboer, 2012; DiBenigno & Kellogg,  
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7 2014; King et al., 2011; Mitchell & Boyle, 2015; Noël et al., 2013; Vimalananda et al., 2019).

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10 This need also extends beyond organizational walls, highlighting the nature of health care  
11  
12 organizations as part of a larger system of work coordination that can span hospitals and industry  
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14 sectors (Brewster, Tan, et al., 2019; Brewster, Yuan, et al., 2019; Dong et al., 2018; Lomi et al.,  
15  
16 2014). Overall, the specialized nature of organizing in health care creates a need for (often highly  
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18 complex) integration and coordination processes, highlighting the importance of research on  
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20 teamwork, cooperation, and the structures that support these behaviors.  
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### 23 24 **Disciplinary Distinctions**

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26 Despite unearthing the above-noted themes, we observed significant variation across the  
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28 research published in OS and HC journals – both in terms of the particular organizational topics  
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30 that were more prevalent in each set of outlets, and in the approach taken to conducting OSHC  
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32 research. As noted in our initial mapping of the OSHC landscape and cross-domain comparison  
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34 of the topics studied, some topics are covered disproportionately by one discipline or the other.  
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36 For example, though the topics of incentives and communication have been frequently studied in  
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38 articles published in HC outlets, these topics are largely absent from research reported in OS  
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40 outlets. In contrast, the topics of emotion and decision making emerge among the top-10 most  
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42 studied topics in research published in OS outlets, but are rarely covered in the reviewed research  
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44 that was published in HC outlets. This siloing of attention (particularly on topics that seem  
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46 fundamental to the effective functioning of health care organizations) risks the creation of echo-  
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48 chambers and could impede the development of more nuanced, robust knowledge that might  
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50 arise from integrating perspectives on these topics across disciplines.  
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3 However, even among topics that we found to receive attention in both OS and HC  
4 outlets, we observe several consistent differences in the way research on these topics is  
5 approached in the work published in OS versus HC journals. Though not universal or exclusively  
6 applicable, these differences seem to point to two general disciplinary orientations to the study of  
7 OSHC arising within each domain of scholarship, differing in their emphasis on generalizable  
8 theory (OS) versus contextualized problems (HC), and in their emphasis on organizing (OS)  
9 versus organizations (HC).  
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19 ***Generalizable theory vs. contextualized problems.*** The first difference in the research  
20 studies we reviewed is in the emphasis on generalizability (more prevalent in OS journals) versus  
21 contextualization (more prevalent in HC journals). Research in HC outlets has tended to  
22 emphasize the contextualized problem being studied in a particular type of health care setting  
23 (e.g., ACOs, Lewis et al., 2019; nursing homes, Li et al., 2019), belying an assumption of a lack  
24 of generalizability across different health care settings (though notably assuming generalizability  
25 within a particular type of setting). For example, Cramm and Nieboer (2012) motivate their  
26 study by emphasizing the importance of understanding coordination in a primary care setting,  
27 specifically noting:  
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40 “Previous studies have shown that relational coordination is positively associated with  
41 the delivery of hospital care, acute care, emergency care, trauma care, and nursing home  
42 care. The effect of relational coordination in primary care settings, such as disease-  
43 management programs, remains unknown.”  
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46 As this quote illustrates, we find the research reported in HC outlets often uses concepts and  
47 approaches from organizational science (in this case, relational coordination) to address specific  
48 problems in what researchers identify as unique settings within health care (in this case, primary  
49 care settings). These specific settings tend to feature prominently in the positioning and  
50 description of the research, often appearing directly in the title of the article. In contrast, in the  
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3 research we reviewed from OS outlets, we find that the context of the study is typically absent  
4 from the article title, and even (in some cases) the paper's abstract. Rather than motivate the  
5 work around a contextualized problem, we find these OS articles tend to primarily emphasize the  
6 theoretical phenomenon and to relegate mention of the health care setting to the methods  
7 description. Many of the OS articles go so far as to describe the health care context as a  
8 significant limitation of the work, suggesting the necessity of future research in other contexts to  
9 affirm the generalizability of the study's findings (as examples, see Somech & Drach-Zahavy,  
10 2013; A. H. Van De Ven & Poole, 1995; Wolfson et al., 2019).

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12 Similarly, though we observe a general trend towards patient-relevant performance  
13 measures (as noted above), research examining performance by directly assessing costs (e.g.,  
14 costs per patient in a particular setting), patient outcomes, patient satisfaction, or adherence to  
15 established best care practices – notably all fairly contextualized measures – appears relatively  
16 more frequently in HC outlets. In contrast, the performance measures studied relatively more  
17 frequently in OS outlets tend to align with general measures used across industries, such as  
18 measures of productivity (e.g., efficiency, for instance captured as length of hospital stay, Gittel  
19 et al., 2010) or general, supervisor-rated performance measures (e.g., Wolfson et al., 2018,  
20 2019).

21  
22 ***Organizing vs. organizations.*** The second disciplinary difference is what we perceive to  
23 be a fundamental difference in the meaning of “organizational” in the study of organizational  
24 science in health care. Research published in OS journals appears to more often focus on  
25 underlying mechanisms and processes of *organizing* – how individuals and units behave and  
26 interactively shape individual, unit, organizational, and patient outcomes (e.g., how individuals  
27 change routines, Bucher & Langley, 2016; or how teams develop new processes for their work,  
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3 Schippers et al., 2015). Broadly, by favoring organizing, this research explores the agentic  
4 actions of – and patterns of interaction among – individuals and units, which give shape to what  
5 we think of as the organization (e.g., the emergent patterns of interaction within a team can  
6 delineate subgroups and shape team outcomes, Compagni et al., 2019). In contrast, the research  
7 published in HC journals more often explores the direct effects, at the organizational-level, of  
8 various structures, characteristics, or practices of *organizations* (e.g., standardized checklists,  
9 Cavalcanti et al., 2016; staffing a hospital with hospitalists or non-employee physicians, Louis et  
10 al., 2019; or the imposed use of teams vs. no use of teams, Reiss-Brennan et al., 2016). In this  
11 way, research in HC outlets tends to explore the consequences of formal features that comprise  
12 an organization and what causes organizations to have the features they do (e.g., Jensen et al.,  
13 2015; Wise et al., 2011).

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This differentiation aligns with longstanding perspectives on the different – but potentially complementary – ways of modeling or studying organizations, such as Scott’s (1981) notion of viewing organizations as natural systems (aligned with the *organizing* orientation we observe in OS journals) vs. rational systems (aligned with the *organizations* orientation in HC journals). For example, a closer look into the clusters of work that emerge from our broad review of the field of OSHC (the set of topics that frequently co-occurred in the articles found in our dataset) – such as the cluster encompassing the topics of safety, culture, and stress/strain – reveals varying research questions, designs, and conclusions across disciplines. The research focusing on safety and culture – topics that are more geared towards understanding the effects of an organization’s practices and characteristics<sup>6</sup> – is more commonly found in HC journals, with OS journals publishing relatively more work on stress/strain – topics that are more amenable to

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<sup>6</sup> Though we recognize that units and groups within an organization certainly can and do develop their own cultures, individuals do not, such that these concepts lend themselves to a more organizational focus.

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3 being modeled and understood at lower levels of the organization. In this way, the two domains  
4 may be studying different sides of the same coin, but with different approaches, resulting in the  
5 use of different levels-of-analysis (e.g., organizational vs. individual) or analytical approaches  
6 (e.g., variance vs. process models) across HC and OS research.  
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## 12 **A Fragmented Field**

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15 Beyond these differences in conceptualization or orientation towards studying OSHC, our  
16 review also reveals empirical evidence of the fragmented, disconnected nature of research in OS  
17 vs. HC disciplines. Specifically, this fragmentation of the field is evident in the citation patterns  
18 of the 114 papers reviewed in depth across the five prominent topics that emerged from our  
19 mapping of the field of OSHC. We compiled the 7,024 total references appearing in those 114  
20 articles, and specifically identified references to articles in one of the 16 key journals we  
21 included in our field-level review (excluding journal self-citations), coding the reference's  
22 domain as OS or HC accordingly. To examine the diffusion of ideas across domains, we used  
23 this set of cross-journal references to create a network and applied a clustering analysis (using  
24 the R function *cluster\_optimal*). This revealed 3 clusters of journals based on likelihood of cross-  
25 journal citation (see Figure 2). One cluster reflects the eight health care journals included in our  
26 review, while the organizational science outlets split into two clusters that we refer to as  
27 organizational psychology journals (*Journal of Applied Psychology*, *Journal of Organizational*  
28 *Behavior*, *Organizational Behavior and Human Decision Processes*, and *Journal of*  
29 *Management*) and management journals (*Academy of Management Journal*, *Administrative*  
30 *Science Quarterly*, *Management Science*, and *Organization Science*).  
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3           Examining the cross-domain citation patterns among these journals, we find that among  
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5 the 51 OS articles we reviewed in depth (across our five prominent topics), only 2% of the  
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7 references were to articles published in one of the eight HC journals that we examined in our  
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9 review (versus 26% of references to articles appearing in one of the eight OS journals we  
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11 reviewed). Similarly, when examining the 63 HC articles in our in-depth review, only 6% of the  
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13 references were to research published in one of the eight OS journals that we focused on (versus  
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15 17% of references to articles appearing in one of the eight HC journals).

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18           This relative insularity in citation patterns (likely reflecting a corresponding lack of idea  
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20 diffusion across disciplines) also extends to the common “roots” and theoretical underpinnings of  
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22 this research. For example, among the 114 articles we reviewed in depth, Edmondson’s (1999)  
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24 article on psychological safety and learning behaviors, published in *Administrative Science*  
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26 *Quarterly*, is the second most-commonly cited reference (the most cited being a statistics book;  
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28 Aiken & West, 1991) with 11 citations by the 114 articles. Yet, these 11 citations are not evenly  
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30 distributed across domain: nine of these citations appear in OS articles (i.e., in 18% of the 51 OS  
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32 articles we reviewed in depth), while only two appear in HC articles (i.e., 3% of the 63 HC  
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34 articles we reviewed in depth). Similarly, Gittell’s (2000) article on relational coordination,  
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36 published in *Medical Care*, is the fifth-most commonly-cited reference (with a total of seven  
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38 citations among the 114 articles), but was cited in six of the 63 health care articles (10%) and  
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40 only one of the 51 organizational science articles (2%). In short, we observe that articles  
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42 published in one discipline tended to cite articles in other journals in that same discipline. This  
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44 dispersion naturally makes it difficult for the field to advance in a systematic way if only because  
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46 scholars in one discipline potentially work without knowledge of the similar and relevant work  
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48 being done elsewhere.  
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## CHARTING A NEW PATH FOR OSHC RESEARCH

We turn now from the three specific aims of our review of OSHC research over the past decade to considering how the field might productively advance research on these important topics in the future. We argue that our observation of different and fragmented approaches to the study of OSHC suggests that as the field continues to mature, it will be necessary to develop a more common set of views and perspectives to studying organizational topics in health care settings, lest we risk continuing to build a bifurcated field of inquiry. Moreover, the disciplinary approaches to this field of research suggest that the path ahead for future work in OSHC involves more than just expanding the set of topics studied in the field. Rather, this will require adopting a “both-and” mindset<sup>7</sup> – a broader, integrative orientation to OSHC scholarship – with critical implications for not only future research topics, but also for the methods and outlets considered valuable and impactful in the OSHC field.

### **For Want of a Preposition: Towards a Broader “OS *and* HC” Orientation**

Summarizing the disciplinary differences identified in the preceding sections, we characterize work published in OS outlets as reflecting an “OS *in* HC” orientation, reporting research focused on developing generalizable theory about organizing that happens to be studied *in* the context of health care. In contrast, we characterize research in HC outlets as reflecting an “OS *of* HC” orientation, reporting research focused on solving contextualized problems *of* health care organizations. Critically, while the OS *in* HC and the OS *of* HC orientations are both important, they are each also incomplete, and there is significant potential in stepping back and reorienting – using a broader frame to consider organizational science both in and of health care.

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<sup>7</sup> This notion of a “both-and” mindset is consistent with research on paradoxical mindsets or paradoxical frames that facilitate individual and organizational management of tensions, for example between strategies or identities (Miron-Spektor et al., 2018; Smith & Besharov, 2019; Smith & Lewis, 2011; Smith & Tushman, 2005).

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3 Much like Weick's (1979) *The Social Psychology of Organizing*, which provided a new and  
4 broad orientation that advocated for examining both organizing and organizations, and ushered  
5 in a new era of organization studies (special issue commemorating the 50th anniversary of  
6 Weick's *The Social Psychology of Organizing*, Tsoukas et al., 2020), we suggest that OSHC  
7 scholars from both OS and HC traditions broaden their thinking about their work in terms of "OS  
8 and HC." Specifically, we advocate for considering issues of generalized theory and  
9 contextualized problems, and of organizing and organizations. We propose that framing  
10 organizational research in health care as OS and HC could facilitate a broader view that yields a  
11 more conceptually integrated and systematic progression of OSHC research.  
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24 ***Generalizing and contextualizing.*** A pure emphasis on either generalizability or  
25 contextualization is likely problematic, as both approaches come with significant limitations. An  
26 overemphasis on contextualization, without consideration of generalizability, which we find to  
27 be more common in the research published in HC outlets, can lead to unnecessary redundancy  
28 and "reinventions of the wheel." For example, the passage that we quoted earlier, from an article  
29 seeking to test the efficacy of relational coordination in a primary care setting, offers little  
30 consideration of why we should (not) expect the consistent findings of a positive effect of  
31 relational coordination in "hospital care, acute care, emergency care, trauma care, and nursing  
32 home care" to generalize to primary care or elsewhere (Cramm & Nieboer, 2012). At the same  
33 time, an overemphasis on generalized theory, which we find to be more common in the research  
34 reported in OS outlets, can limit scholars from asking questions that have "real-world value"  
35 (Mathieu, 2016).  
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51 Relatedly, this overemphasis on generalizability appears to go hand-in-hand with  
52 characterizing health care contexts as limitations or boundary conditions – at times even  
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3 seemingly apologizing for conducting a study in the context of health care – which is not only  
4 limiting, but also perhaps a self-fulfilling prophecy that may hamper organizational scholars’  
5 ability to have impact in the health care domain. If researchers downplay the context of research  
6 appearing in OS outlets, or relegate it to the methods section, it will be more difficult for HC  
7 scholars to find and draw on the work. This may result in further “recreating of the wheel” not  
8 necessarily from a lack of theory, but simply because of a lack of cross-domain awareness.  
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10 Moreover, as health care continues to rise on the list of largest industry sectors by many different  
11 economic and labor metrics (at least in North America), the health care context is, by definition,  
12 among the most representative work settings scholars could study, making this downplaying of  
13 context increasingly ironic. Critically, we do not find fault in framing a manuscript as many OS  
14 articles do, presenting a problem as broadly existing across industries before narrowing to the  
15 context of health care. Rather, we suggest that counter to some claims, sampling from within a  
16 health care context to study such broad phenomena is not a limitation. Instead, it creates a need  
17 (as we would argue is true of any context) to theorize directly about the specific context so that  
18 one can better appreciate what will and will not generalize, and to what settings, particularly  
19 other domains of health care. Yet, because neither the OS or HC approach leads to both impact  
20 in a specific context and rich development of generalizable theory, the research spread across  
21 disciplines is perhaps less likely to be integrated. The resulting redundancies or echo-chambers  
22 could limit organizational scholars’ ability to have an impact in one of the largest organizational  
23 settings in the economy.

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25 Encouragingly, our review reveals some hopeful emerging evidence of a broader  
26 orientation that combines both contextualization and generalization. Indeed, much of the  
27 research that touts the development of generalizable theory – mostly appearing in OS outlets – is  
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3 also inherently exploring contextual effects and contingencies (e.g., moderating effects of  
4 physical work environment, Schippers et al., 2015; or task complexity, Vashdi et al., 2013).  
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7 OSHC scholars can embrace and extend these trends – for example by heeding prior calls for  
8 problem-driven research (Davis & Marquis, 2005) steeped in real-world problems, before  
9 moving to generalizable theory (Mathieu, 2016). Crawford and colleagues (2019) offer an  
10 exemplary model in their description of their research approach:  
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17 “Our research efforts were thus initiated by observing an organizational problem that led  
18 to an iterative process of abduction wherein we simultaneously analyzed data and  
19 developed theory to understand and explain the higher-level effects of multiple team  
20 membership.”  
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23 These authors both address a real organizational problem for which their findings have  
24 meaningful significance and theorize about the conditions under which their findings will  
25 generalize. Our understanding of generalizability is actually enhanced by these efforts to better  
26 contextualize research, such that boundary conditions are better appreciated, as many others have  
27 noted (Johns, 2006; Maloney et al., 2016; Rousseau & Fried, 2001). OSHC scholars’ knowledge  
28 of organizational concepts *and* the unique features of various health care settings positions them  
29 uniquely to offer value in this way, offering nuanced insights that can fuel broad theory  
30 development and inform practice and policy in the health care industry.  
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41 ***Organizing and organizations.*** The different disciplinary approaches we observe across  
42 OS and HC outlets using theories focused primarily on organizing *or* organizations is also  
43 problematic, largely because these two orientations are potentially quite complementary. For  
44 example, while HC examines the outcomes of the use of teams, OS research examines the  
45 processes by which teamwork practices are enacted and improved. Consequently, together these  
46 insights could generate a robust understanding of teams and a valuable set of recommendations  
47 for improving their use in health care organizations. Yet, this accumulation of knowledge is  
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3 unlikely to emerge if one were to read only (or primarily) in OS *or* HC journals, as we posit is  
4 likely based on the results of our citation analysis reported earlier. Although this challenge could,  
5 in part, be rectified by reading and citing more broadly (or through systematic reviews that  
6 integrate across domains, as we aim to do here), this cross-domain integration seems to be more  
7 the exception than the rule (as we demonstrated). Moreover, to truly adopt an organizing *and*  
8 organizations approach would mean to investigate cross-level effects (e.g., Coleman, 1990;  
9 House et al., 1995) and the interplay of agency and structure, yet current investigations tend to  
10 focus on either micro-dynamics *or* organizational phenomena, and either agency *or* structure,  
11 such that even reading broadly will not be sufficient.  
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24 Notwithstanding these trends, we did observe a small number of papers in both OS and  
25 HC exploring cross-level effects, such as the impact of *subgroup* communication on *group*  
26 performance (Compagni et al., 2019) or the effects of an individual's creative personality on  
27 team innovation in primary care (Somech & Drach-Zahavy, 2013). Similarly, we observed  
28 instances of a combined agentic and structural view. For example, although teams research  
29 published in HC outlets has continued to ask a structural question of whether to use teams, and  
30 OS research has focused more on the organizing processes of how teams can behave more  
31 effectively, some of the most impactful work (as indicated by citations) has examined both, for  
32 example, by exploring how "meso-level structures" affect coordination processes (Valentine &  
33 Edmondson, 2015). Similarly, Bucher and Langley's (2016) research demonstrates the value of  
34 blending the two by examining the agentic ways in which individuals can change the structure of  
35 routines. Though it may not be possible to incorporate multiple levels-of-analysis or both agency  
36 and structure in every single research endeavor, OSHC scholars are well-positioned to draw on  
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3 methods and perspectives from more traditional OS or HC approaches to adopt this more multi-  
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5 faceted perspective to organizational research in health care settings.  
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### 7 **Future Directions for OSHC Research**

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10 We propose a range of directions for research in the field of OSHC, including research  
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12 addressing gaps in the field revealed by our review that suggest promising avenues, as well as  
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14 opportunities to apply an OS *and* HC perspective to inform future research questions and  
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16 methods.  
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19 *Addressing research gaps.* Most directly, our mapping of the OSHC landscape reveals  
20  
21 several key gaps and overlooked topics of research that deserve more attention in order to  
22  
23 develop a broader understanding of the functioning of health care organizations. For example,  
24  
25 building from the observation that teams, cooperation, and communication are fairly frequently  
26  
27 studied topics, we note the relative absence of research on negotiations and conflict. Just as the  
28  
29 broad organizational research – spanning industries – on teams and negotiations can be  
30  
31 integrated to develop new insights (Beersma & De Dreu, 2005), we suggest the same is likely  
32  
33 true in health care, where there are common within-unit negotiations to divide up tasks and  
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35 cross-unit negotiations related to a variety of matters such as the acceptance of, or agreement to  
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37 consult on, a patient. Moreover, delivery of care is often a negotiated process between the patient  
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39 and care providers, rife with the kinds of misunderstandings, miscommunications, or biased  
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41 perceptions that negotiation and conflict management scholars have studied for decades. Though  
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43 individuals may not know they are negotiating in these processes, they most likely are doing just  
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45 that, and conducting research on these negotiation practices in health care could be beneficial to  
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47 the field’s contextualized understanding of health care coordination, as well as to a more  
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49 generalized understanding of negotiation.  
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3 As another example, we find that there is scant research on the topics of networks and  
4 interdependence, particularly within health care organizations (c.f., research on cross-  
5 organization networks, Brewster, Yuan, et al., 2019). This is, in some ways, surprising. Given  
6 the increasing specialization and dispersion of work within and among health care organizations,  
7 it follows that there should be a related need to understand how those component parts are then  
8 integrated to facilitate the broader system's functioning, which may benefit from more attention  
9 to both networks and emergent interdependence (e.g., see Humphrey & Aime, 2014).

19 In addition to overlooking certain topics, our review suggests that extant OSHC research  
20 may be focused narrowly on particular communities, professions, or geographic locations, at the  
21 expense of broader, cross-boundary studies. For instance, we coded only a single study that  
22 focused on the topic of "cross-cultural" organizational dynamics, and the vast majority of  
23 samples in the papers we reviewed on the five prominent topics consisted of US or European  
24 settings (though this was no doubt influenced, at least in part, by our journal search strategy, as  
25 highly regarded journals often feature more western-centric samples; see Rad et al., 2018).  
26 Indeed, we acknowledge that our own orientation and framing of this manuscript was highly US-  
27 centric (e.g., in our choice to focus on the past decade due to the impact of the Patient Protection  
28 and Affordable Care Act on US health care, or in our assumptions regarding the organization and  
29 funding of health care organizations, which we based on typical practices in the US). We note  
30 this as a limitation in our perspective, and encourage further review efforts of OSHC in other  
31 geographic and socio-political environments, in addition to further primary research exploring  
32 organizational topics in these different health care settings.

51 Moreover, we observe that certain professional populations (e.g., nurses, physicians) tend  
52 to be studied more than others in the health care setting, and these differences may intersect with  
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3 different topics of research. For instance, research on the topics of turnover and burnout was  
4 largely conducted among nurses, relative to other health care professions, suggesting that future  
5 research among other professions might be particularly relevant for uncovering potential  
6 professional variation within health care on this key topic. Indeed, the topic of turnover  
7 demonstrated a high level of centrality in our network analysis of the topics in the OSHC  
8 landscape (higher than even some of the more frequently studied topics), indicating that it is  
9 studied with many other topics of OSHC research, and thus likely has important implications for  
10 a wide range of professional populations and organizational challenges in health care.  
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21 *Applying an OS and HC perspective.* Beyond this need for exploring new topics or  
22 targets of OSHC research, the OS *and* HC perspective we advance here can also inspire new  
23 promising directions for research on commonly-studied topics within OSHC, with implications  
24 for the nature of questions scholars should be asking and the types of studies that should be  
25 designed in pursuit of these questions.  
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33 First, scholars could consider both organizing *and* organizations in understanding the  
34 dynamics of health care by asking more meso-level research questions and harnessing the  
35 influence of both organization- and individual-level theories (as well as the cross-level analytical  
36 tools to test them). Returning to the example of the cluster of research on stress/strain, culture,  
37 and safety given earlier, if stress/strain and culture/safety are two sides of the same coin (or at  
38 least related domains, as our clustering analysis seems to suggest), future research might benefit  
39 from exploring the interplay of organizational safety protocols and espoused culture and their  
40 individual- and unit-level enactment (e.g., Singer & Vogus, 2013; Vogus et al., 2010), or the  
41 cross-level effects of organizational safety culture and individual stress/strain on both individual  
42 and organizational outcomes (e.g., McClelland & Vogus, 2014; Vogus et al., 2014) . As evidence  
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3 of the potential of such endeavors, Kuntz, Mennicken, & Scholtes' (2015) examination of how  
4 individual *stress* from high workloads affects an organization's *safety* outcomes (in terms of  
5 hospital mortality rates) is the 27<sup>th</sup> most cited OS article in our 10-year review (out of 158 OS  
6 articles; it is the 5<sup>th</sup> most cited OS article, out of 87 articles published in 2015 or later in our set).  
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12 Earlier we noted how the organizing vs. organizations distinction aligns with prior  
13 perspectives of organizations as natural vs. rational systems (Scott, 1981). Yet, Scott (1981) also  
14 discusses an open systems perspective, suggesting that both rational and natural systems can be  
15 closed or open, with research on the latter emphasizing the influence of the external environment  
16 on organizational behavior (a perspective emerging more recently in the history of organizational  
17 science). In the domain of OSHC, this recognition invites scholars to think about the role of the  
18 broader eco-system of health care organizations, such as the influence of hospitals' physical  
19 structures and resource-use decisions on environmental (and patient care) outcomes (e.g.,  
20 Johnson et al., 2021), the impact of retail health clinics' emergence (as part of the broader health  
21 care ecosystem) on the boundaries and tensions between physician and nursing professions (e.g.,  
22 Galperin, 2020), or the relations between healthcare and academia over time (Dunn & Jones,  
23 2010). Historically, health care has tended to be studied as a closed system (Weick, 2009), but  
24 these recent articles highlight the value of attending to the broader environment surrounding  
25 health care organizations (e.g., the natural, social, political, or competitive environment) in order  
26 to develop a more robust view of health care eco-systems in future OSHC research.  
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47 Additionally, our review suggests a need to examine the interplay of structures and  
48 processes *over time* given the critically dynamic nature of organizational work in health care  
49 settings. In the work we reviewed, we find little work that theorizes about and studies  
50 phenomena over time (c.f., Christianson, 2019; Nembhard & Tucker, 2011a). Future work will  
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3 likely benefit from incorporating a temporal lens to their theorizing and research designs,  
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5 employing, for example, qualitative methods, as well as quantitative longitudinal studies, and the  
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7 collection, even unobtrusively, of rich process data (e.g., Knight, 2018).  
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10           Second, beyond these efforts to think about varying forms of organizations and  
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12 organizing practices, future research will benefit from more nuanced contextualization of  
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14 research (Johns, 2006) and considering generalizability in more gradational terms. For instance,  
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16 research appearing in OS outlets that does discuss generalization often jumps from the specific  
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18 health care context to very broad considerations of generalizability, such as to any knowledge-  
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20 based work (e.g., Lockett et al., 2014), to the service economy (Vashdi et al., 2013), or to other  
21  
22 “high-risk environments” (Kolbe et al., 2014). At the same time however, research in HC outlets  
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24 has tended to center questions of generalizability on highly focused extensions to other health  
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26 care settings of precisely the same nature (e.g., from one primary care practice to other primary  
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28 care practices; Wise et al., 2011). When compared side-by-side, there is a conspicuous gap  
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30 between these very wide and very narrow (respectively) approaches that might invite  
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32 reconceptualizing what is meant by “generalizability” in OSHC scholarship. More specifically,  
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34 we suggest considering the generalizability of OSHC research findings within and across the  
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36 range of health care settings, rather than bounding them to only the context studied (as seen in  
37  
38 much HC research) or immediately abstracting outside of the health care industry to more distant  
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40 settings (as often seen in OS research). Settings within the health care industry are incredibly  
41  
42 varied in their designs, and so as the OSHC field grows, scholars’ abilities to appreciate which  
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44 dimensions of their research settings are meaningful for the generalization of their findings to  
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46 other settings within the health care industry would allow for a more meaningful progression of  
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48 research. Indeed, this mid-range approach of “bounded generalizability” could help avoid  
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3 unnecessary redundancies that arise from conducting essentially similar studies in all of the  
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5 various sub-domains of health care, while also giving necessary attention to health care industry-  
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7 specific influences and boundaries for particular findings, without making untenable assumptions  
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9 of their universality across industries.  
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### 11 12 **Broader Implications for Shaping the Landscape of OSHC** 13

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15 As we consider how to move forward with a more integrative OS *and* HC orientation,  
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17 adopting the future research directions above will be a necessary, but insufficient, step towards  
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19 building a coherent body of OSHC scholarship that could be used as valid, reliable, replicable  
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21 evidence to guide practice. Achieving this goal will require additional changes at the field-level,  
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23 beyond the research undertaken by any one study or scholar, including both a re-evaluation of  
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25 where OSHC work is published and what kind of work is considered valuable as evidence in the  
26  
27 study of organizational topics in health care.  
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31 First, in terms of where OSHC work is published, we noted above the stark fragmentation  
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33 in citation patterns, in addition to differing research orientations, across OS and HC journals.  
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35 This may be, in part, a consequence of differing publishing practices, academic incentives, and  
36  
37 professional norms across the OSHC sub-domains. In their consideration of top journals,  
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39 organizational scholars rank – and thereby reward reading, citing, and contributing to – journals  
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41 focused generally on organizational work, and they largely ignore outlets specific to health care  
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43 (e.g., Ormans, 2016). This aligns with the tendency in organizational science to emphasize  
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45 general theory. In contrast, health scholars identify journals specific to health care as top quality  
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47 for publishing, and they rarely consider general organizational science journals in their rankings  
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49 (Borkowski et al., 2018; Brooks et al., 1991; Williams et al., 2002), suggesting that health care  
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51 may be perceived as its own contextualized domain of scholarship to which theory from other  
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3 domains will not automatically apply. These disciplinary differences in publishing norms and  
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5 rewards may thus underlie and reinforce the disconnect between OS and HC research through a  
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7 lack of attention and awareness of research outside of one's "home" field, leading to fragmented  
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9 idea development. This raises the question of where to publish multidisciplinary OSHC work,  
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11 particularly given its importance for scholars' career advancement. To achieve the future  
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13 directions for which we advocate, we may also need structural changes to publishing incentives –  
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15 and what "counts" toward promotion – to allow for the reward of multidisciplinary, OS *and* HC  
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17 approaches. Just as other disciplines, such as economics, reward publication in field journals, so  
18  
19 too should business schools begin recognizing the "field journals" of OSHC, while schools of  
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21 public health, nursing, medicine, and other health professions should recognize the more general,  
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23 "mainstream" management journals as valuable outlets for publishing OSHC work.  
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29 Second, in addition to differing disciplinary publishing norms, it is worth noting general  
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31 discipline-based differences in what is thought to constitute "evidence," which could have  
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33 serious implications for the ability to coherently advance OSHC research. In the context of  
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35 health care research, we note that a "cornerstone of [evidence-based medicine] is the hierarchical  
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37 system of classifying evidence" (Burns et al., 2011). In this ranking, the "gold-standard" is a  
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39 randomized-control trial (RCT) conducted across multiple sites, or better yet, a meta-analysis of  
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41 such studies, while qualitative research tends to be considered among the least strong evidence,  
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43 above only expert opinions (Daly, 2005). Health care is often criticized for its "methodological  
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45 monism" – the idea that valid knowledge can only be achieved by using positivist-based  
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47 quantitative methods (particularly a randomly assigned and controlled trial, see Daly, 2005;  
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49 Mowat et al., 2018; Wears & Sutcliffe, 2019). Although recent work has suggested that this  
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51 emphasis on RCTs is waning (Barends et al., 2012), we note that the articles we reviewed in  
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3 what are widely considered to be the top medical journals – the *New England Journal of*  
4 *Medicine* and *JAMA* – tended to report RCTs rather than research using other methodologies,  
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6 suggesting a continued and lasting influence of the hierarchical ranking of evidence.  
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9  
10 Yet “evidence” may mean something different in the context of organizational science.  
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12 Organizational scholars tend to embrace a methodological fit perspective, suggesting that the  
13  
14 state of the literature drives when to use qualitative, quantitative, or mixed methods (Edmondson  
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16 & McManus, 2007). This framework suggests that qualitative research that can help to develop a  
17  
18 rich understanding of phenomena is particularly well suited for nascent areas of scholarship.  
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20 Indeed, there is demonstrable value in the use of qualitative research in health care. For example,  
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22 great advances in safety research and practice were spawned by qualitative research (e.g., event  
23  
24 analysis, process tracing) in anesthesiology (Wears & Sutcliffe, 2019). Similarly, many of the  
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26 insights gleaned in our review of OSHC research came from qualitative research. At the same  
27  
28 time, the methodological fit perspective acknowledges that when there is more extant research on  
29  
30 a phenomenon, there is great value in shifting to quantitative methods, including correlational  
31  
32 studies and experiments in both field and lab settings (Edmondson & McManus, 2007).  
33  
34 Accounting for a more complete range of methods, organization scholars have called broadly for  
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36 “evidence-based management,” whereby the evidence derived from studies using multiple  
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38 methods is combined and translated for implementation in practice (Rousseau, 2006). In this  
39  
40 way, while this perspective is built on the model of evidence-based medicine, this push for  
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42 evidence-based management also calls for avoiding the methodological monism of medicine  
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44 (Barends et al., 2012).  
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51 If the OSHC field, and the organizational scholars working within it, aim to both have  
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53 impact and systematically advance scientific knowledge, we suggest that the field will likely  
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3 need to wrestle with these different frameworks for assessing the value of different types of  
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5 evidence, perhaps developing a clear sense of what would count as evidence in “evidence-based  
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7 health care management.” To this end, we encourage OSHC scholars to once again consider a  
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9 “both-and” approach. By taking the best of both “evidence-based medicine” and “evidence-based  
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11 management” perspectives, we might reconsider the role of different methodologies and what  
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13 constitutes reliable findings that would underlie effective prescriptions for practice. To adopt this  
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15 “both-and” approach, it may be helpful to build on the idea of full-cycle research, wherein  
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17 different methods are employed in a cyclical approach to move back and forth between discovery  
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19 and testing (Chatman & Flynn, 2005). The “evidence-based medicine” emphasis on RCTs,  
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21 coupled with the importance of application and informing practice, might lead to an emphasis on  
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23 testing the impacts of new interventions or specific organization structures. Yet, drawing on the  
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25 idea of full-cycle research, we posit that if scholars avoid jumping straight into experimental  
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27 testing, they could pursue deeper theoretical exploration and development that would inform  
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29 more precise, effective interventions. Ultimately, this could even enable a more efficient use of  
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31 scarce research resources and accelerate the development of scientific knowledge related to these  
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33 organizational concepts in health care.  
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40 Additionally, an over-emphasis on RCTs might constrain insights in some ways by this  
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42 method’s implicit emphasis on linear models. If we take seriously that work in health care  
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44 settings is dynamic, and if we strive to account for the interplay of organization structures and  
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46 organizing processes, then there is an important role not only for experimental quantitative  
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48 methods, but also for rich quantitative process data (see examples in Christianson, 2019; Kolbe  
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50 et al., 2014), longitudinal methods, natural language processing, simulations, and qualitative  
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52 methods, which could offer rich insights into the dynamics characteristic to health care  
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3 (Kerrissey et al., 2020). Overall, we suggest there is reason to question the treatment of RCTs as  
4 the gold standard; there is a clear need for additional methods, as discussed, and we would also  
5 argue that a significant body of knowledge built on research utilizing methods other than RCTs  
6 (methods that are, of course, applied rigorously) should be worthy of informing practice.  
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12 At the same time, we can use the notion of full-cycle research to revisit “evidence-based  
13 management” prescriptions. For example, as highlighted in the methodological fit perspective,  
14 qualitative methods can be particularly apt when studying less well-understood phenomenon.  
15 Yet, tying into our suggestion for more bounded generalizing, a methodological fit perspective  
16 implies that we should avoid “starting from scratch” with qualitative work in each new setting,  
17 which could lead to recreating the wheel. Rather, we need to theorize and develop hypotheses  
18 based on a consideration of how work in other health care settings may (not) apply in the setting  
19 under study, and allow these findings to guide the choice of appropriate method. This entails  
20 thinking carefully about when it is time to move to more quantitative testing (i.e., if there is a  
21 significant body of insight from related health care settings that can guide a quantitative  
22 examination), while being willing to cycle back to more qualitative and inductive methods when  
23 needed (i.e., when a truly novel or unique process or issue is uncovered).  
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40 In sum, we encourage OSHC scholars to continue to weigh what should constitute an  
41 “evidence-based health care management” perspective, and where this perspective should be  
42 published to both advance researchers’ careers and develop coherent, integrated  
43 recommendations for practice. We suggest that this should entail making choices about the  
44 research questions and designs to pursue with a strong awareness of the OSHC’s field’s goals of  
45 both advancing scientific knowledge and having impact, which will require scholars to give  
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3 careful thought to how best to move through cycles of discovery and testing as they pursue future  
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5 streams of research on organizational concepts in health care.  
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## 7 8 **CONCLUSION**

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10 Reviewing 10 years of work published in the field of organizational science and health  
11 care, we have provided a “map” of this multidisciplinary field, identifying the field’s broad  
12 contours, prominent features, and unexplored domains. Within this broad mapping, we have also  
13 reviewed five prominent bodies of OSHC research to identify core insights and revelations about  
14 change, learning, coordination, teaming, and performance in health care; and we have integrated  
15 across these domains to take stock of the state of the field – both identifying emergent themes, as  
16 well as uncovering problematic points of divergence and fragmentation of the field. Drawing on  
17 this three-part review, we have offered several suggestions for future directions and a path  
18 forward toward a more integrative perspective that attends to both organizational science *and*  
19 health care in OSHC research, with implications for not only the pursuit of novel research ideas,  
20 but also for the field’s determination of where that research should be published and how to  
21 evaluate it when considering the state of “evidence” in the field. In doing so, this work highlights  
22 how scholars can more systematically advance the OSHC field – a field ripe with opportunity for  
23 organizational scholars to meet the goal of conducting rigorous research that both has  
24 meaningful impact and develops valuable theory.  
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**TABLE 1: Journals included in literature search**

<b>Domain</b>	<b>Journals</b>
Organizational Science	<i>Academy of Management Journal, Administrative Science Quarterly, Journal of Applied Psychology, Journal of Management, Journal of Organizational Behavior, Management Science, Organizational Behavior and Human Decision Processes, and Organization Science</i>
Health Care	<i>Health Affairs, Health Care Management Review, Health Services Research, JAMA: The Journal of the American Medical Association, Medical Care, Medical Care Research and Review, Milbank Quarterly, and New England Journal of Medicine</i>

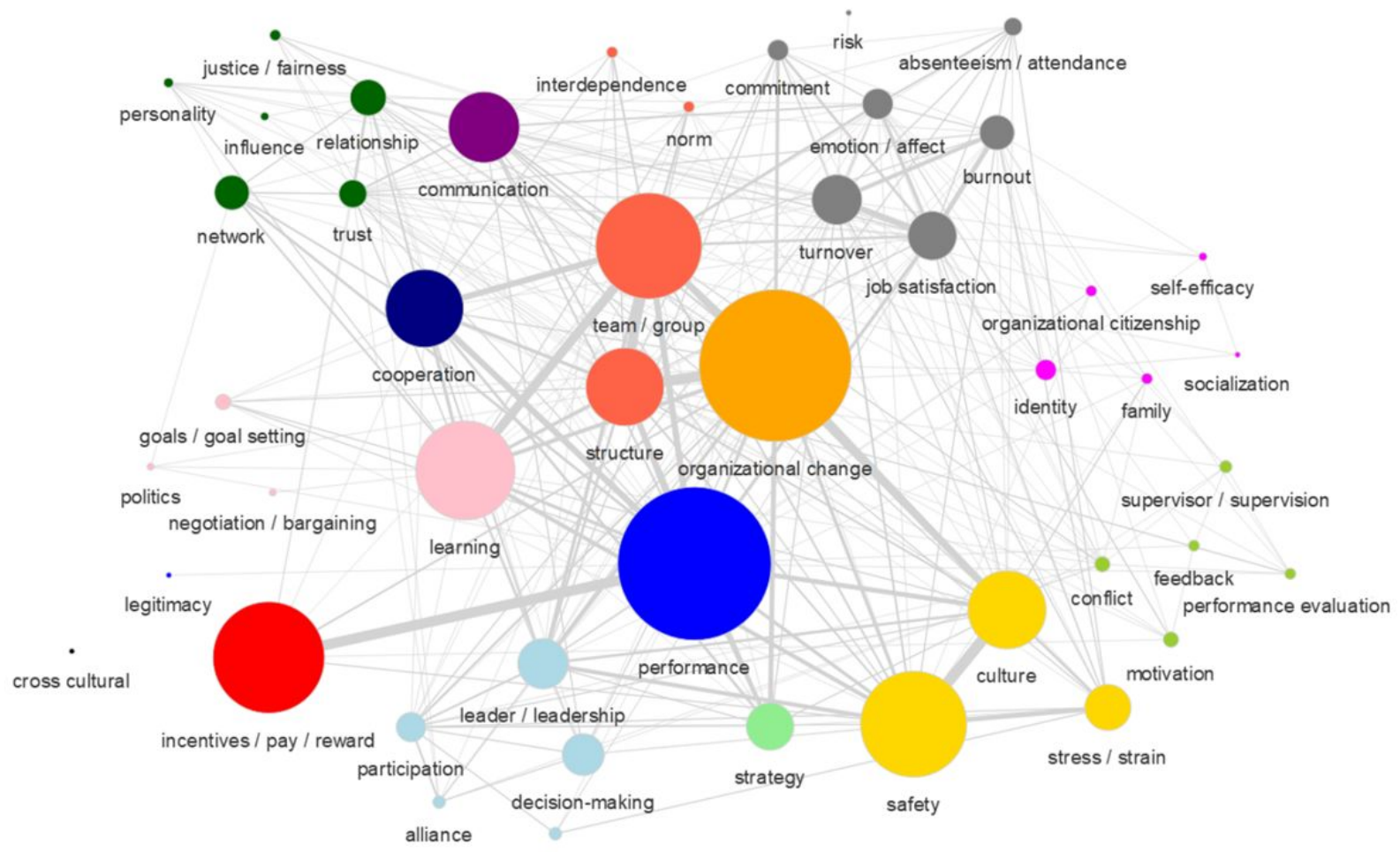
**TABLE 2: Occurrence of all topics in articles, by outlet domain (OS and HC)**

Heath & Sitkin (2001) Terms with Added, Related Terms	OS Articles	% OS Articles	HC Articles	% HC Articles
performance	29	18.4%	79	14.9%
organizational change, change, implementation	21	13.3%	85	16.1%
incentives / pay / reward	3	1.9%	74	14.0%
safety	6	3.8%	67	12.7%
team / group	21	13.3%	51	9.6%
learning, innovation, adapt, knowledge transfer, knowledge sharing	33	20.9%	35	6.6%
culture, climate	6	3.8%	47	8.9%
structure, routine, role, specialization, diversity, status, power, hierarchy, standardization	21	13.3%	32	6.0%
cooperation, coordination, collaboration, boundary-spanning	14	8.9%	39	7.4%
communication / communicate, voice, speak up	4	2.5%	43	8.1%
turnover, retention	7	4.4%	26	4.9%
job satisfaction	7	4.4%	25	4.7%
stress / strain, workload	9	5.7%	21	4.0%
leader / leadership	4	2.5%	29	5.5%
strategy / strategic / strategies	4	2.5%	26	4.9%
decision-making / decision	12	7.6%	15	2.8%
relationship	6	3.8%	17	3.2%
network	7	4.4%	15	2.8%
burnout	4	2.5%	18	3.4%
emotion / affect	14	8.9%	5	0.9%
participation, engagement	1	0.6%	17	3.2%
trust	6	3.8%	11	2.1%
identity, identification	10	6.3%	2	0.4%
commitment	1	0.6%	11	2.1%
absenteeism / attendance	6	3.8%	4	0.8%
motivation	3	1.9%	5	0.9%
goals / goal setting	3	1.9%	5	0.9%
conflict	7	4.4%	1	0.2%
control	4	2.5%	2	0.4%
supervisor / supervision	4	2.5%	2	0.4%
alliance	1	0.6%	5	0.9%
performance evaluation	3	1.9%	2	0.4%
interdependence	1	0.6%	4	0.8%
norm	2	1.3%	3	0.6%
organizational citizenship	4	2.5%	1	0.2%
family	4	2.5%	1	0.2%
justice / fairness	3	1.9%	2	0.4%
feedback	2	1.3%	3	0.6%
personality	3	1.9%	1	0.2%
self-efficacy	1	0.6%	2	0.4%
influence	0	0.0%	3	0.6%
negotiation / bargaining	1	0.6%	1	0.2%
politics	2	1.3%	0	0.0%
risk	0	0.0%	1	0.2%
cross cultural	0	0.0%	1	0.2%
socialization	1	0.6%	0	0.0%
legitimacy	1	0.6%	0	0.0%
psychological contract	0	0.0%	0	0.0%
(over-)confidence	0	0.0%	0	0.0%

**TABLE 3: Prominent topics, by domain**

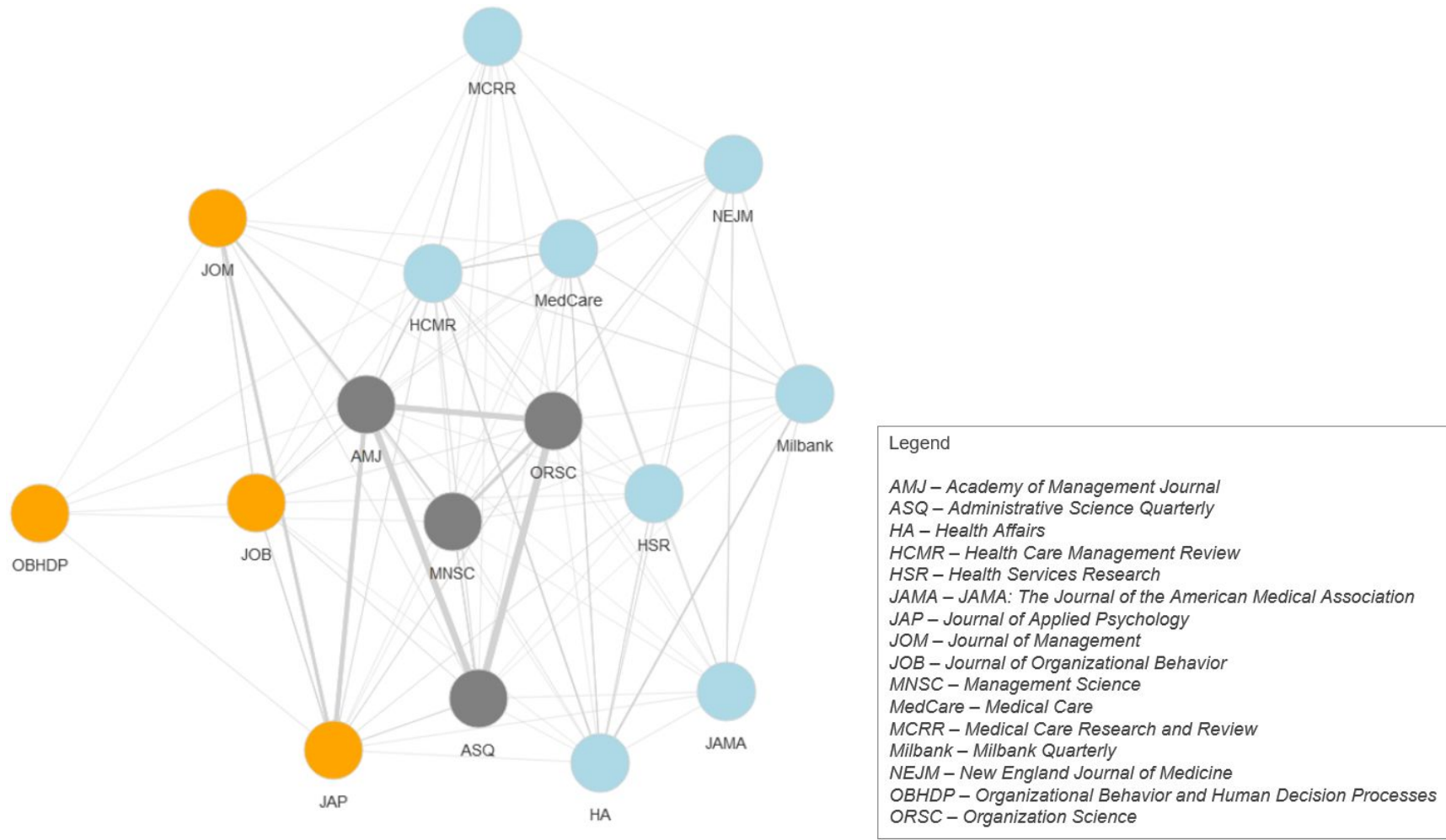
Topic	Rank in OS <sup>a</sup>	% of OS Articles <sup>b</sup>	Rank in HC <sup>a</sup>	% of HC Articles <sup>b</sup>
Performance <sup>c</sup>	2	18.4%	2	14.9%
Organizational Change (includes change, implementation) <sup>c</sup>	3	13.3%	1	16.1%
Learning <sup>c</sup>	1	20.9%	9	6.6%
Team / group <sup>c</sup>	3	13.3%	5	9.6%
Structure (includes routine, role, specialization, diversity, status, power, hierarchy) <sup>c</sup>	3	13.3%	10	6.0%
Cooperation (includes coordination, collaboration, boundary-spanning) <sup>c</sup>	6	8.9%	8	7.4%
Incentives / pay / reward	26	1.9%	3	14.0%
Safety	12	3.8%	4	12.7%
Culture	12	3.8%	6	8.9%
Communication	20	2.5%	7	8.1%
Emotion	6	8.9%	23	0.9%
Decision making	8	7.6%	19	2.8%
Identity	9	6.3%	32	0.4%
Stress / strain	10	5.7%	15	4.0%

The table lists only the topics that were among the top-10 most studied topics in either OS outlets or HC outlets. <sup>a</sup>Rankings of most to least studied topics in OS and in HC outlets; <sup>b</sup>percent of articles in the domain that study the topic; <sup>c</sup>top 10 in both areas; these 6 are also the only topics covered by more than 5% of articles in both areas.



**FIGURE 1: Map of the OSHC Field**

Topics are represented as circles. Circle size reflects the number of articles in which the topic was studied (includes topics from 685 articles published between 2010-2019). Ties between circles reflect co-occurrence of topics studied in the same article; tie width reflects the strength of the tie (i.e., number of co-occurrences). Colors reflect clusters (clustering done using R, with the function *cluster\_optimal* in the package *igraph*). Note that node positions do not necessarily reflect their centrality and the layout has been edited to help highlight the clustering of topics.



**FIGURE 2: Journal Citation Network**

Undirected graph. Clusters depicting sets of journals likely to cite each other are identified by distinct colors.

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19 how organizations can be designed to be more reliable and resilient.  
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