

UCSF

UC San Francisco Previously Published Works

Title

Emerging Palliative Care Innovations in the ED: A Qualitative Analysis of Programmatic Elements During the COVID-19 Pandemic

Permalink

<https://escholarship.org/uc/item/9qt2j8tj>

Journal

Journal of Pain and Symptom Management, 62(1)

ISSN

0885-3924

Authors

Aaronson, Emily Loving
Daubman, Bethany-Rose
Petrillo, Laura
[et al.](#)

Publication Date

2021-07-01

DOI

10.1016/j.jpainsymman.2020.10.035

Peer reviewed



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

Original Article

Emerging Palliative Care Innovations in the ED: A Qualitative Analysis of Programmatic Elements During the COVID-19 Pandemic



Emily Loving Aaronson, MD, MPH, Bethany-Rose Daubman, MD, Laura Petrillo, MD, Jason Bowman, MD, Kei Ouchi, MD, MPH, Alexa Gips, MD, Lara Traeger, PhD, Vicki Jackson, MD, MPH, Corita Grudzen, MD, and Christine Seel Ritchie, MD, MSPH

Department of Emergency Medicine (E.L.A., J.B.), Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts; Lawrence Center for Quality and Safety (E.L.A.), Massachusetts General Hospital and Massachusetts General Physicians' Organization, Boston, Massachusetts; Division of Palliative Care and Geriatric Medicine (B.-R.D, L.P., L.T., V.J., C.S.R.), Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts; Department of Emergency Medicine (K.O.), Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts; Department of Emergency Medicine (A.G.), University of Colorado Anschutz Medical Campus, Aurora, Colorado; Palliative Care Service (A.G.), University of Colorado Anschutz Medical Campus, Aurora, Colorado; Department of Emergency Medicine (C.G.), NYU Langone Health/Bellevue Hospital Center, NYU Grossman School of Medicine, New York; and Mongan Institute (C.S.R.), Massachusetts General Hospital, Boston, Massachusetts, USA

Abstract

Context. Health systems have aspired to integrate palliative care (PC) into the emergency department (ED) to improve care quality for over a decade, yet there are very few examples of implemented models in the literature. The coronavirus disease 2019 (COVID-19) pandemic led to an increase in the volume of seriously ill patients in EDs and a consequent rapid increase in PC integration in many EDs.

Objectives. To describe the new PC-ED delivery innovations that emerged during the COVID-19 pandemic.

Methods. For this qualitative study of PC programs in EDs, semistructured interviews were conducted with ED and PC clinicians between June 30, 2020 and August 18, 2020. Participants were asked about PC-ED integration before, during, and after COVID. We conducted a two-phased rapid analysis using a rapid analysis template and consolidated matrix to identify innovations.

Results. Using purposive and snowball sampling, we interviewed 31 participants, representing 52 hospitals. Several new innovations in care delivery were identified. These included elements of fully embedded PC, the use of PC extenders, technology both within the electronic medical record and outside it, and innovations in training emergency clinicians in primary PC skills to support care delivery. Most PC efforts focused on increasing goals-of-care conversations. Institutions that implemented these programs reported that they increased PC utilization in the ED, were well received by clinicians, and changed patient's care trajectories.

Conclusion. Several new innovations in PC-ED care delivery emerged during COVID. Many innovations leveraged different types of clinicians to deliver care, an increased physical presence of PC in the ED, and used technology to enhance care delivery. These innovations may serve as a framework for institutions as they plan for evolving needs in the ED during and after COVID. Additional research is needed to evaluate the impact of these programs and understand their applicability beyond the pandemic. *J Pain Symptom Manage* 2021;62:117–124. © 2020 American Academy of Hospice and Palliative Medicine. Published by Elsevier Inc. All rights reserved.

Key Words

Emergency medicine, COVID, palliative care, palliative medicine, patient care planning, end-of-life care, goals of care

Address correspondence to: Emily Loving Aaronson, MD, MPH, Lawrence Center for Quality and Safety, Massachusetts General Hospital, 55 Fruit St, Bulfinch Building, Suite 280,

Boston, MA 02115, USA. E-mail: emily.aaronson@mgh.harvard.edu

Accepted for publication: October 30, 2020.

Key Message

In this qualitative study of palliative care (PC) programs in emergency departments across the U.S., innovations were identified in care delivery, staffing, technology, and primary PC education and training. The innovations in care delivery that emerged during coronavirus disease may serve as examples for ongoing integration of PC in the emergency department.

Background

Health systems have been interested in palliative care (PC)-emergency department (ED) integration for over a decade.¹ Despite this, few innovations in care delivery have emerged. To date, reported innovations have focused on increasing primary PC (the basic PC skills required of all clinicians) and increasing traditional consult volume.^{2–4}

During the early months of the coronavirus disease 2019 (COVID-19) pandemic in the U.S., there was both an increase in the volume of seriously ill patients in EDs and a recognition that EDs were playing a key role in determining patients' care trajectories. This led to a recognition of the need for increased PC-ED integration.

Although some PC-ED innovations have been reported in the literature,^{5–10} we anticipated that COVID might lead to the emergence of many more innovative models. Our primary objectives were to describe the innovations in PC-ED integration that emerged during COVID and the impacts of these innovations as perceived by clinicians who were involved in the implementation efforts.

Methods

Setting and Study Population

We conducted a national qualitative study to characterize innovations in PC delivery in the ED during COVID. This study was performed between June 30, 2020 and August 18, 2020. Participants were initially recruited using a homogeneous purposive sampling technique^{11,12} targeting areas of the country that had experienced surges in COVID and/or were known by a member of the study team to have had an increase in PC-ED integration. An electronic mail invitation was sent to institutions initially identified by members of the study team, indicating that participants should be clinicians and could have a background either in PC or emergency medicine (EM), and aimed to identify the person at the institution with the most knowledge of the PC integration efforts in the ED. We then used snowball sampling in which we asked interviewees for assistance, based on their

networks of clinical and academic colleagues, to identify sites that may have experienced increased PC-ED integration. This article adheres to the Standards for Reporting Qualitative Research.¹³ This study was approved by the Partners Healthcare Institutional Review Board.

Data Collection

An interview guide was iteratively developed with the study team, which included stakeholders from both PC and EM. The Consolidated Framework for Implementation Research was selected to inform interview guide development.¹⁴ Questions sought to elicit information about PC integration in the ED before, during, and after COVID, the process of implementation, and the perceived impact of integration on clinicians and patients. The study lead, who has previous experience leading qualitative studies, underwent focused training in rapid analysis (RA) facilitated by a PhD qualitative researcher. All study staff who were going to be involved in data collection and analysis underwent structured training in qualitative interviewing techniques and the RA technique. We conducted semistructured interviews over Zoom. Interviews were recorded and facilitated by a member of the study team.

Data Analysis

We performed a two-step RA. This method is a valid approach for analyzing information with the aim of informing ongoing implementation.¹⁵ In the first step, a nonfacilitator member of the study team watched the interview and transposed the information into a structured template that was designed based on the interview guide and meant to summarize the interview. In the second step, the facilitator reviewed the summary and consolidated the information into a matrix used to identify common categories. This matrix was then reviewed by the nonfacilitator interview attendee. Disagreements were resolved by consensus. Interviews were conducted until content saturation^{16–19} was reached.

Results

We conducted 27 interviews, with 31 individuals (Table 1). Between one and three participants were present at each interview. These interviews represented 52 institutions, as some participants oversaw integration of PC in EDs across a system and shared the experience of several institutions. The average interview length was 51 minutes. EDs represented large academic medical centers, community hospitals, county/safety net hospitals, and a rural hospital. Of the institutions interviewed, five identified no new innovations in care delivery during COVID and were only included in the analysis of the baseline models

Table 1
Characteristics of Interview Participants and Participating Institutions

Characteristic	n (%) or (SD)
Clinical practice	
PC only	12 (39)
EM only	7 (23)
PC and EM	12 (39)
Clinical roles group	
Physician	29 (94)
Nurse practitioner	1 (3)
Social worker	1 (3)
Interviewee (SD) number of years in practice	11 (8)
Mean (SD) ED annual visit volume	81,391 (50,875)
Geographic location	
Northeast	27
South	14
Midwest	4
West	7

PC = palliative care; EM = emergency medicine; ED = emergency department.

of care delivery. RA uncovered five major categories of innovation (Table 2). We present these, contextualized by the baseline models of care delivery before COVID, and alongside participant's perception of these programs' impact on clinicians and patients.

Models of Care Delivery Before COVID

Before COVID-19, two predominant models of PC delivery existed at the study sites: 1) a traditional consult model in which PC was available to consult with minimal or no education for ED staff related to PC skills and concepts; and 2) a model that provided extensive training to ED clinicians to cultivate primary PC skills. In both models, respondents reported that PC remained underused.

Dedicated ED PC. Several institutions reported social work and case management in the ED which, in addition to their routine work, had training on screening for unmet PC needs and a pathway to involve PC. One site reported a program in which a PC physician (MD) was available during the day for PC consults to the ED exclusively, three days per week. The remainder of institutions did not have a PC provider in the ED (embedded) before COVID.

Triggers and Education. Most programs reported no formal system for identifying patients who would benefit from PC consult. Among sites that did have triggers, these were used to either cue a formal PC consult or cue the EM provider to have a goals-of-care (GOC) conversation. No institution reported proactive case identification by PC.

All academic sites reported PC integration into the ED training curriculum. Several reported curriculums with lectures, case discussions, skills days, and simulations. Two programs reported a required PC rotation for all ED residents.

Types of Innovations in Care Delivery During the COVID Surge

In our analysis, innovations were identified in five categories: 1) the model of care, 2) staffing, 3) technology, 4) primary PC training and education, and 5) case identification.

Type of Innovation: Model of Care Delivery. Although not reported in the literature as a model of PC-ED delivery before COVID, a fully embedded model emerged at several institutions during the pandemic where a PC

Table 2
Summary of Innovations in PC-ED

Type of Innovation	Example of Innovation	Innovation Detail
Model of care delivery	Embedded PC clinician in the ED Strengthened ED presence Mobile PC consult service	PC clinician seated in the ED dedicated only to ED consults Achieved through daily rounding and EMR chat function Dedicated service focused on ED and ICU needs
Staffing	PC attendings with extenders PC attending with PC fellows PC extender with psychosocial partner	Residents with focused GOC or ACP training Triage cases based on complexity to appropriate clinician Pair volunteer non-PC physician with social worker or child life specialist who perform all consults together
Technology-enhanced PC-ED	Off-site tele PC Blended on-site tele PC	Centralized team of either RNs or PC physicians for all hospitals in a health system Triage patients based on their capacity to engage to either in person or tele PC
Primary PC training and education	Trainings and tools	COVID-specific conversation training; collated resources (with apps, Google Docs, and provided laminated cards)
Case identification and task stratification	Proactive case identification Formal triggers (for primary PC or specialty consult) Focused abbreviated consults Nursing-initiated consults	Remotely screen ED track board, daily rounding Automated or manual—encompassing age, marker of underlying illness, marker of acute illness Task-oriented consults focused on specific patient needs Consults to PC triggered by nursing staff using clear trigger criteria

PC = palliative care; ED = emergency department; EMR = electronic medical record; ICU = intensive care unit; GOC = goals of care; ACP = advanced care planning; RNs = registered nurses.

provider was seated in the ED and fully dedicated to this work.

Some institutions, in the absence of a radically new model of care delivery, enhanced the traditional consult model that they had available pre-COVID. PC strengthened their presence in the ED through daily rounds or making themselves more known as a resource. One program achieved this by leveraging pre-existing electronic medical record technology by starting a daily EpicChat (Epic Systems software, Epic, Verona, WI). This chat was initiated by the PC consult team with the ED providers working clinically that day, indicating that the PC was available for questions and creating a thread for case-based dialogue throughout the day.

Type of Innovation: Staffing. Several innovations in staffing emerged to facilitate the increased ED presence. Among embedded models, many institutions used PC-attending physicians, fellows, and/or social workers.

In addition to these traditionally trained PC providers, during COVID, a new workforce of PC extenders, non-PC-trained clinicians who worked closely with a PC clinician, also emerged to support PC efforts. At one institution, off-service psychiatry residents underwent focused training in GOC discussions and then were embedded in the ED with PC attending and fellow supervision. Another trained ophthalmology residents to collect information on health care decision makers. A third leveraged different types of off-service residents to prescreen the ED track board, preround with ED teams, and then brief the PC attending on arrival. A fourth created a mobile PC consult service that was staffed by general oncologists who proactively identified ED and intensive care unit patients.

One institution electronically mailed all physicians in the organization seeking volunteers to serve as PC extenders in the ED. More than 20 physicians, primarily internists, family physicians, and pediatricians, whose clinical demands had decreased because of COVID, completed a training leveraging the Serious Illness Conversation Guide.²⁰ These clinicians were paired with a psychosocial partner with a background in social work or child life. This dyad was fully embedded in the ED with a formal process for accessing PC physician support as needed.

At several programs where a clear PC champion existed before the pandemic (either a dual-trained ED-PC physician or PC nurse practitioner or social worker), that champion became entirely dedicated to the ED in their PC role. In these models, one PC clinician provided 24/7 support to the ED for the duration of the surge.

All programs with nontraditional staffing emphasized the importance of both structured and focused

PC education for ED-PC clinicians as well as education for ED staff about the abilities and limitations of this new workforce.

Type of Innovation: Technology-Enhanced ED-PC. During COVID, institutions leveraged phone or video technology to engage patients and families in ED GOC discussions. This was facilitated by diverse groups, including an in-house team of PC physicians, an off-site team of PC physicians within the same hospital system, and a team of nurses across a large multihospital health system.

Although one institution relied on tele ED-PC for all COVID patients in the ED, the remainder used this as an adjunct, triaging patients to either in-person PC or tele-PC. This typically depended on the patient's ability to engage for patients unable to engage, discussions were with off-site family, and used tele ED-PC.

Type of Innovation: Primary PC Training and Education for Emergency Clinicians. Almost all programs that emerged during COVID had some ED clinician education in primary PC skills (primary PC). Some organizations had a more robust foundation, and these sites chose primary PC education as the focus for innovation. At one institution, the staff had all previously completed extensive primary PC education and only added COVID-specific conversation guides. One institution also rolled out nursing-specific protocols to trigger GOC conversations. Many institutions used laminated resource cards.

Some institutions focused educational efforts on collating available tools in one place. One institution created a PaliED app¹⁰ to reinforce the education that the trainees received during lectures and provide COVID-specific conversation guides. Another created a Google Doc to warehouse all COVID-specific ED-PC educational resources.

Type of Innovation: Case Identification and Task Stratification. Several programs initiated proactive case identification in which PC either remotely screened the ED track board or engaged in frequent in-person check-ins with ED staff. Criteria used for proactive case identification were either clearly specified or informal. Formal trigger criteria often included age and a marker of potential COVID illness severity. Only one program had an automated trigger during COVID, using an electronic medical record autocalculated mSOFA score.²¹ In addition, one program enabled nurses to place consults directly to PC.

Similarly, several sites that focused on primary PC instituted illness severity triggers to trigger a GOC conversation by the ED clinician rather than specialty-level PC consultation. One institution created a new Risk

Scoring Tool, which, once calculated, populated an algorithm that helped advise ED clinicians to engage in specific activities (Fig. 1).

Even as many programs tried to more systematically identify potential PC patients, they differed in the types of patients on whom they focused. Some programs focused PC efforts exclusively on the middle-acuity patients who were stable but at high risk of decompensating in the coming days. Others focused efforts on peri-intubation patients and patients who were unstable.

Scope of PC Consultation

When asked about the type of work that PC was doing in the ED, all subjects described engaging in advanced care planning. Only three subjects cited work related to symptom management as well. All programs stated that the most valuable contribution of PC in the ED during COVID was advance care planning, not symptom management. Many sites noted that the complexity and depth of this varied by patients. Several institutions noted that, rather than a traditional all-encompassing PC consult for every patient, they matched their intervention to the patient's clinical severity, that is, identifying health care decision makers for low-acuity patients, having value-based GOC conversations for middle-acuity patients, addressing code status for peri-intubation patients, and providing support for patients who had already been intubated.

PC Utilization

All programs with new models of care reported that utilization increased. The five programs that reported no changes during COVID reported no change in PC utilization.

Program Perception

ED Clinicians. The programs with innovations in care delivery consistently reported a positive reception from ED providers, reporting that the ED found the presence of PC to be helpful, and that ED teams expressed gratitude and relief. In addition, several

programs reported that the increased integration lead to a new appreciation among ED staff for the importance of PC-ED integration. Several programs perceived a cultural shift and a new understanding that PC was a core component of high-quality care in the ED. Only one program reported a concern from ED providers, which was that PC presence may increase ED lengths of stay.

PC Clinicians. The perception of the PC providers doing work in the ED was largely positive. Several programs noted the meaningfulness of playing an impactful role in the pandemic and felt it was gratifying to be so warmly welcomed by the ED. Programs reported that being in the ED both showed the PC team gaps in care and rewarded them as they filled those unmet needs. Relatedly, they appreciated being involved more upstream.

Challenges for the PC providers doing this work included the solitude of the work (working alone rather than in a typical interdisciplinary PC team) and the pressure of implicit expectations that PC involvement would result in limitations on life-sustaining treatment independent of patient goals.

Perceptions of Patient Impact. All the programs that experienced some degree of increased PC-ED integration felt their work impacted patient care. Several programs highlighted nuanced and time-intensive conversations that could not have occurred without their presence. Many reported that this, in turn, facilitated more goal-concordant care. Specific examples included avoiding invasive procedures or admissions to higher levels of care when these were not aligned with patients' wishes. One program reflected on the impact their conversations had on the remainder of the hospitalization even without an acute change in the ED itself, such as identifying a surrogate decision maker that mitigated subsequent family conflict and giving patients an opportunity to articulate goals that families could refer to when they subsequently could no longer speak for themselves.

Several interviewees reported that the presence of PC in the ED enabled ED patients to have their emotions attended to in a way that they suspected otherwise may not have happened. Two programs that integrated case managers into the embedded PC team in the ED noted that they were able to redirect ED patients back to hospice or connect them with initial hospice placement, which they suspected otherwise may have been challenging without their presence.

Models of Care Delivery After the COVID Surge

None of the new models of care delivery persisted unaltered after the COVID surge. Instead, these

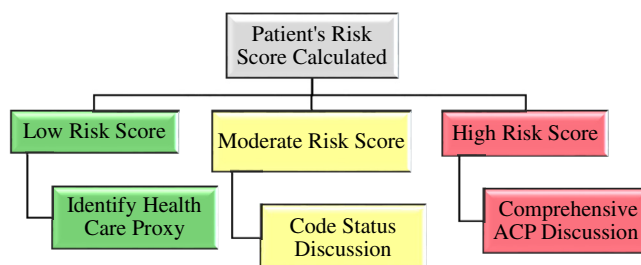


Fig. 1. Example of using an algorithm for task stratification. ACP = advanced care planning.

models were operational for the weeks to months of the peak surge and subsequently deconstructed. Although some institutions reported new and less resource-intensive models emerging after the surge, many reported returning to pre-COVID models of PC in the ED. Almost all sites reported increased ED interest in PC with increased consult volumes, a new appreciation of PC, and heightened interest in primary PC skill attainment.

Discussion

In this qualitative study, we describe innovations in PC delivery that emerged during COVID across diverse medical institutions around the country. In doing so, we also explored the pre-COVID landscape of PC in the ED. This article is the first to describe how several institutions attempted PC-ED integration during COVID and identifies five distinct areas for innovation.

Two previous case studies have reported on individual programs that emerged during COVID in detail,^{6–8} and a third study outlined a comprehensive hospital-wide strategy including ED plans, which ultimately was not activated.⁶ Our study adds a more comprehensive look at the breadth of new models and innovations.

During a pandemic that required restrictions on family presence in hospitals, the innovations in technology-enhanced PC provide a model for how this work can be conducted if these circumstances recur. In keeping with the literature from other care areas,^{22–24} here several models emerged that suggest the feasibility of doing this work in some EDs.

Interestingly, these innovations were reportedly uniformly well received by the ED clinicians. This builds on prior single site data suggesting that ED clinicians find increased PC presence better for both their patients and their own well-being.²⁵ Our study further suggests that the experience of the PC clinicians was also largely positive. It is important to note that one site raised a theoretical concern related to PC involvement in the ED resulting in increased ED lengths of stay. Understanding the importance of ED throughput and the evidence that ties overcrowding to poor quality outcomes,²⁶ it will be critical for future work evaluating the impact of integrating PC in the ED to assess this as a balancing measure.

One of the nuanced challenges that was raised related to the pressure PC teams felt to advance goals quickly. This was reported by several sites as an implicit expectation that PC involvement would result in limitations on life-sustaining treatment independent of patient goals. To this end, part of continued ED education in PC should include foundational training in

goal-concordant care. It will be critical that the involvement of PC in the ED does not get conflated with prerationing or crisis standards of care, which are unrelated to the function and mission of PC.

In the setting of a rapid increase in ED acuity, the importance of diversifying the ED workforce to ensure high-quality care is critical. In several models, a variety of providers were brought into the ED to facilitate GOC conversations while allowing ED providers to prioritize their other duties. Previous work has reported on ED providers interest in being freed from this time-intensive task during COVID,²⁵ and embedding non-ED clinicians in the ED to have these conversations may hold promise.

Just as ED provider capacity was stretched, so, too, was PC team capacity. The models that emerged leveraging both off-service providers with focused training and advanced practice providers may prove promising. The concept of level loading, or balancing work within a system, seems well applied here: taking services that had less work than normal during the pandemic and redeploying them to areas with more. If these programs are scaled, it will be important to identify the necessary training for these clinicians and to ensure a well-defined scope of practice.

Identifying the right types of clinicians for these roles is also important. One possible lesson comes from the program that used volunteer PC extenders, which felt clinicians self-selected for strong communication skills or interest in PC. Some specialties also may be particularly well suited to this work; the programs that leveraged psychiatrists reflected on their strong communication training, and those that leveraged pediatricians reflected on their experience with multigenerational decision making.

Interestingly, two of the institutions that developed models of fully embedded PC did so with a single dedicated provider in the ED. At one site, it was reported that this person worked for more than 60 days uninterrupted. Although there are many examples of heroics during the pandemic,²⁷ for models to be scalable, they will likely have to be based on sustainable staffing models that can be stood up in the absence of an individual champion.

Our study found that sites reported GOC conversations as the primary work of PC in the ED. It is not clear if this is a reflection of the comfort of ED clinicians with symptom management or if this would be different in a different patient population. For example, understanding that COVID is a primarily respiratory disease, it may have been that symptoms were primarily related to dyspnea, which ED clinicians were more comfortable managing and this would not be the case with a population with more pain symptoms. More research is needed to understand the generalizability and implications of this finding.

As EDs grapple with the challenges associated with integrating PC,¹ some elements of the models identified here may provide inspiration. In addition to leveraging PC extenders, such as social workers who are already available in many EDs, the idea of targeted tasks matched to patient acuity may offer promise. Although ED clinicians have endorsed challenges related to limited time to have complete GOC conversations in the ED, several programs we spoke with innovated an algorithmic approach to task matching that may be useful outside COVID.

Methodologically, we chose to use RA techniques to complete this study. Although this did not result in an in-depth content analysis of participants' comments or inclusion of participants' quotes, this method is a valid approach for analyzing information with the aim of informing ongoing implementation.¹⁵ In addition, this method has been shown to much more rapidly produce results. As surges of COVID continue, this method proved an effective way to quickly analyze a large volume of information and provide the programmatic level of detail that were in keeping with our aims.

Limitations

This analysis is not intended to be a representative sample of EDs across the U.S. Instead, we aimed to identify and describe particularly innovative models of care delivery with the aim of disseminating these programmatic designs to aid other institutions as they face similar situations.

In addition, it is important to note that these models of care delivery were developed and deployed during COVID. As such, it is not clear which, if any, of the elements would be well received in the absence of a pandemic. For example, although study participants reported unanimous support from the ED for the presence of PC, we do not know if their presence would be similarly received in less exceptional circumstances.

The generalizability of these findings is limited by the study sample. In an effort to identify new models of care delivery, we purposefully worked to identify institutions where innovation had occurred. As such, the models that we describe often rely on access to PC-trained clinicians and may be difficult to adapt to all care settings. Similarly, many of the participating sites had access to technology that may not be uniform across all institutions. In identifying interview participants, we aimed to speak with the person at the institution with the most knowledge of the PC integration efforts in the ED. Our study sample was heavily weighted toward physicians. In a specialty that is inherently interdisciplinary, it is possible that important perspectives were missed by not including a more diverse set of role groups in our interviews.

Our study describes the structure and function of these programs but did not aim to assess their efficacy. Although we were able to gain insight into how the programs were received by both ED and PC physicians, this was as reported by the program's champion. More work is needed to determine how effective these were and their associated outcomes. In addition, we did not explore the business models associated with these models, and the sustainability of these models may also be related to the local reimbursement environment.

Conclusions

After the initial wave of the COVID pandemic, there was a recognition of the need to accelerate integration of PC in the ED. Several important innovations in care delivery emerged from this.

Overall, the content of these integrated teams' work was primarily around GOC conversations. In general, ED-PC integration efforts were reportedly well received by both ED and PC providers and, anecdotally, may have resulted in improved patient care. However, more work is needed to objectively evaluate the impact of these models of care delivery on patient outcomes and to understand their potential applicability and value beyond the pandemic.

Disclosures and Acknowledgments

This research received no specific funding/grant from any funding agency in the public, commercial, or not-for-profit sectors. The authors declare no conflicts of interest. We would like to acknowledge and thank Sandra Zeng for her contributions to data collection.

References

1. Grudzen CR, Stone SC, Morrison RS. The palliative care model for emergency department patients with advanced illness. *J Palliat Med* 2011;14:945–950.
2. Grudzen CR, Richardson LD, Johnson PN, et al. Emergency department-initiated palliative care in advanced cancer a randomized clinical trial. *JAMA Oncol* 2016;2:591–598.
3. Boyle S. Integrating palliative care in the emergency department: a paradigm shift. CAPC: Clinical Care. 2019. Available from <https://www.capc.org/blog/palliative-pulse-the-palliative-pulse-december-2018-integrating-palliative-care-in-the-emergency-department-a-paradigm-shift/>. Accessed August 12, 2020.
4. Grudzen CR, Brody AA, Chung FR, et al. Primary palliative care for emergency medicine (PRIM-ER): protocol for a pragmatic, cluster-randomised, stepped wedge design to test the effectiveness of primary palliative care education,

- training and Technical support for emergency medicine. *BMJ Open* 2019;9:e030099.
5. Quest T, Herr S, Lamba S, Weissman D. Demonstrations of clinical initiatives to improve palliative care in the emergency department: a report from the IPAL-EM initiative. *Ann Emerg Med* 2013;61:661–667.
 6. Fausto J, Hirano L, Lam D, et al. Creating a palliative care inpatient response plan for COVID-19—the UW medicine experience. *J Pain Symptom Manage* 2020;60:e21–e26.
 7. Shalev D, Nakagawa S, Stroeh OM, et al. The creation of a psychiatry-palliative care Liaison team: using psychiatrists to extend palliative care delivery and access during the COVID-19 crisis. *J Pain Symptom Manage* 2020;60:e12–e16.
 8. Lee J, Abrukin L, Flores S, et al. Early intervention of palliative care in the emergency department during the COVID-19 pandemic. *JAMA Intern Med* 2020;46:8–10.
 9. Stoltenberg M, Jacobsen J, Wilson E, et al. Emergency department-based palliative care during COVID. *J Palliat Med* 2020;23:1151–1152.
 10. Lai L, Sato R, He S, et al. Usage patterns of a web-based palliative care content platform (PalliCOVID) during the COVID-19 pandemic. *J Pain Symptom Manage* 2020;60:e20–e27.
 11. Qualitative Sampling Methods. Center for innovation in research and teaching. Available from https://cirt.gcu.edu/research/develop/research_ready/qualitative/6. Accessed May 2, 2020.
 12. Coyne IT. Sampling in qualitative research. Purposeful and theoretical sampling; merging or clear boundaries? *J Adv Nurs* 1997;26:623–630.
 13. O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. *Acad Med* 2014;89:1245–1251.
 14. Damschroder LJ, Aron DC, Keith RE, Kirsh SR, Alexander JA, Lowery JC. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implement Sci* 2009;4:50.
 15. Gale RC, Wu J, Erhardt T, et al. Comparison of rapid vs in-depth qualitative analytic methods from a process evaluation of academic detailing in the Veterans Health Administration. *Implement Sci* 2019;14:11.
 16. Morse JM. The significance of saturation. *Qual Health Res* 1995;5:147–149.
 17. Guest G, Bunce A, Johnson L. How many interviews are enough? An experiment with data saturation and variability. *Field Methods* 2006;18:59–82.
 18. Trotter RT. Qualitative research sample design and sample size: resolving and unresolved issues and inferential imperatives. *Prev Med (Baltim)* 2012;55:398–400.
 19. Cleary M, Horsfall J, Hater M. Data collection and sampling in qualitative research: does size matter? *J Adv Nurs* 2014;70:473–475.
 20. Paladino J, Kilpatrick L, O'Connor N, et al. Training clinicians in serious illness communication using a structured guide: evaluation of a training program in three health systems. *J Palliat Med* 2020;23:337–345.
 21. Grissom CK, Brown SM, Kuttler KG, et al. A modified sequential organ failure assessment score for critical care triage. *Disaster Med Public Health Prep* 2010;4:277–284.
 22. Steindal SA, Nes AAG, Godskesen TE, et al. Patients' experiences of telehealth in palliative home care: scoping review. *J Med Internet Res* 2020;22:e16218.
 23. Kidd L, Cayless S, Johnston B, Wengstrom Y. Telehealth in palliative care in the UK: a review of the evidence. *J Telemed Telecare* 2010;16:394–402.
 24. Chi N-C, Demiris G. A systematic review of telehealth tools and interventions to support family caregivers. *J Telemed Telecare* 2015;21:37–44.
 25. Aaronson EL, Petrillo L, Stoltenberg M, et al. The experience of emergency department providers with embedded palliative care during COVID. *J Pain Symptom Manage* 2020;60:e35–e43.
 26. Trzeciak S, Rivers EP. Emergency department overcrowding in the United States: an emerging threat to patient safety and public health. *Emerg Med J* 2003;20:402–405.
 27. Bauchner H, Easley TJ, Network on behalf of the entire editorial and publishing staff of JAMA and the JAMA Network. Health Care Heroes of the COVID-19 Pandemic. *JAMA* 2020;323:2021.