


# Learning From a Regional Approach: Integration to Scale, Spread, and Sustain Virtual Urgent Care

INQUIRY: The Journal of Health Care Organization, Provision, and Financing  
Volume 60: 1–6  
© The Author(s) 2023  
Article reuse guidelines:  
sagepub.com/journals-permissions  
DOI: 10.1177/00469580221143273  
journals.sagepub.com/home/inq



Justin N. Hall, MD, MSc, MPH, MBA<sup>1,2</sup>   
and Lucas B. Chartier, MD, CM, MPH<sup>2,3</sup>

## Abstract

While new offerings of virtual urgent care services from peer hospitals faltered after initial provincial pilot funding lapsed, our 3 regional academic health sciences centers decided to partner to enhance patient access, achieve efficiencies, and support long-term sustainability. Utilizing the Development Model for Integrated Care framework, we progressed through the 4 phases to ensure joint success and high-quality care: (1) initiative and design phase—individual parallel projects but with strong collaborations and broad stakeholder engagement; (2) experimental and execution phase—continuous quality improvement approach for governance, policies, and processes; (3) expansion and monitoring phase—weekly leadership touchpoints on key performance indicators; and (4) consolidation and transformation phase—sustainability through ongoing funding.

## Keywords

virtual urgent care, quality improvement, integrated care, emergency services, sustainability

### What do we already know about this topic?

Patients are increasingly using virtual care as a modality of choice for urgent health concerns.

### How does your research contribute to the field?

Virtual urgent care delivered regionally may enhance quality and sustainability of the service.

### What are your research's implications toward theory, practice, or policy?

Through integrated and coordinated care delivery of virtual urgent care services, patient access and patient-centeredness may be enhanced while cost-effectiveness and operational efficiencies may be achieved.

## Context and Aim

The COVID-19 pandemic has dramatically changed the way patients access healthcare. The use of virtual care has accelerated across the healthcare system yet remains underutilized in the emergency department setting.<sup>1–4</sup> For many patients during the pandemic, the emergency department offers one of the only available care pathways due to family physician office closures, inability of providers to reliably source personal protective equipment, and difficulties physically distancing in some smaller settings.<sup>5</sup> Yet, a trip to the emergency department may be an overwhelming and unsatisfying experience due to ongoing reluctance of patients to seek in-person care due to medical frailty, crowded waiting rooms, public health stay-at-home orders, and fear of virus exposure.<sup>6,7</sup>

To promote access to safe and timely urgent care, the provincial government of Ontario (14.9M inhabitants), Canada,

funded 14 virtual urgent care pilot programs in the fall of 2020 under the guidance of a provincial health agency.<sup>8,9</sup> Each pilot program was responsible for designing and implementing an emergency physician-led service to evaluate same-day urgent, but non-life-threatening, patient presentations. Three

<sup>1</sup>Sunnybrook Health Sciences Centre, Toronto, ON, Canada

<sup>2</sup>University of Toronto, Toronto, ON, Canada

<sup>3</sup>University Health Network, Toronto, ON, Canada

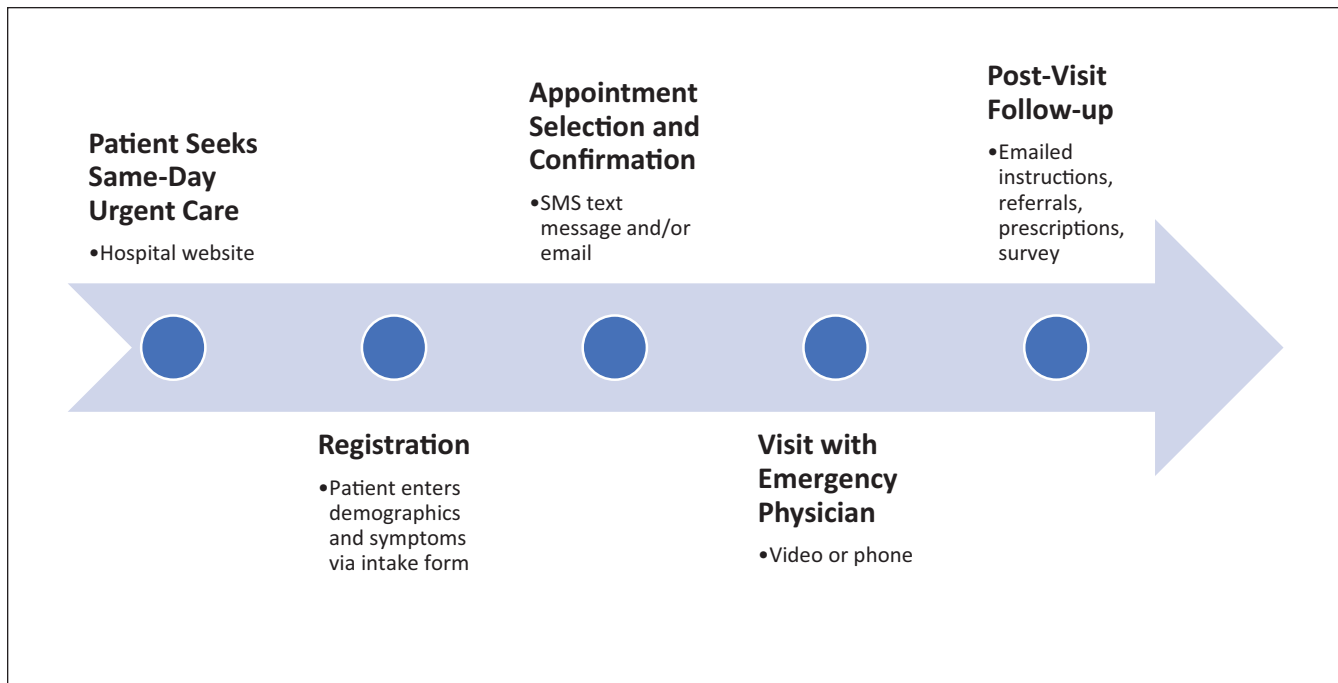
Received 18 July 2022; revised 25 September 2022; revised manuscript accepted 16 November 2022

### Corresponding Author:

Justin N. Hall, Department of Emergency Services, Sunnybrook Health Sciences Centre, 2075 Bayview Avenue, C753, Toronto, ON, M4N 3M5, Canada.

Email: justin.hall@utoronto.ca





**Figure 1.** Patient care journey.

large urban academic health sciences centers in Canada's most populous city, Toronto, collaborated and built an integrated regional service to support improved access for all. We describe here how these hospitals integrated their pilot programs to enhance quality (patient access and patient-centeredness) and sustainability (cost-effectiveness and operational efficiencies). Ethical approval was received from the Sunnybrook Health Sciences Centre Research Ethics Board and written informed consent was not required for this study.

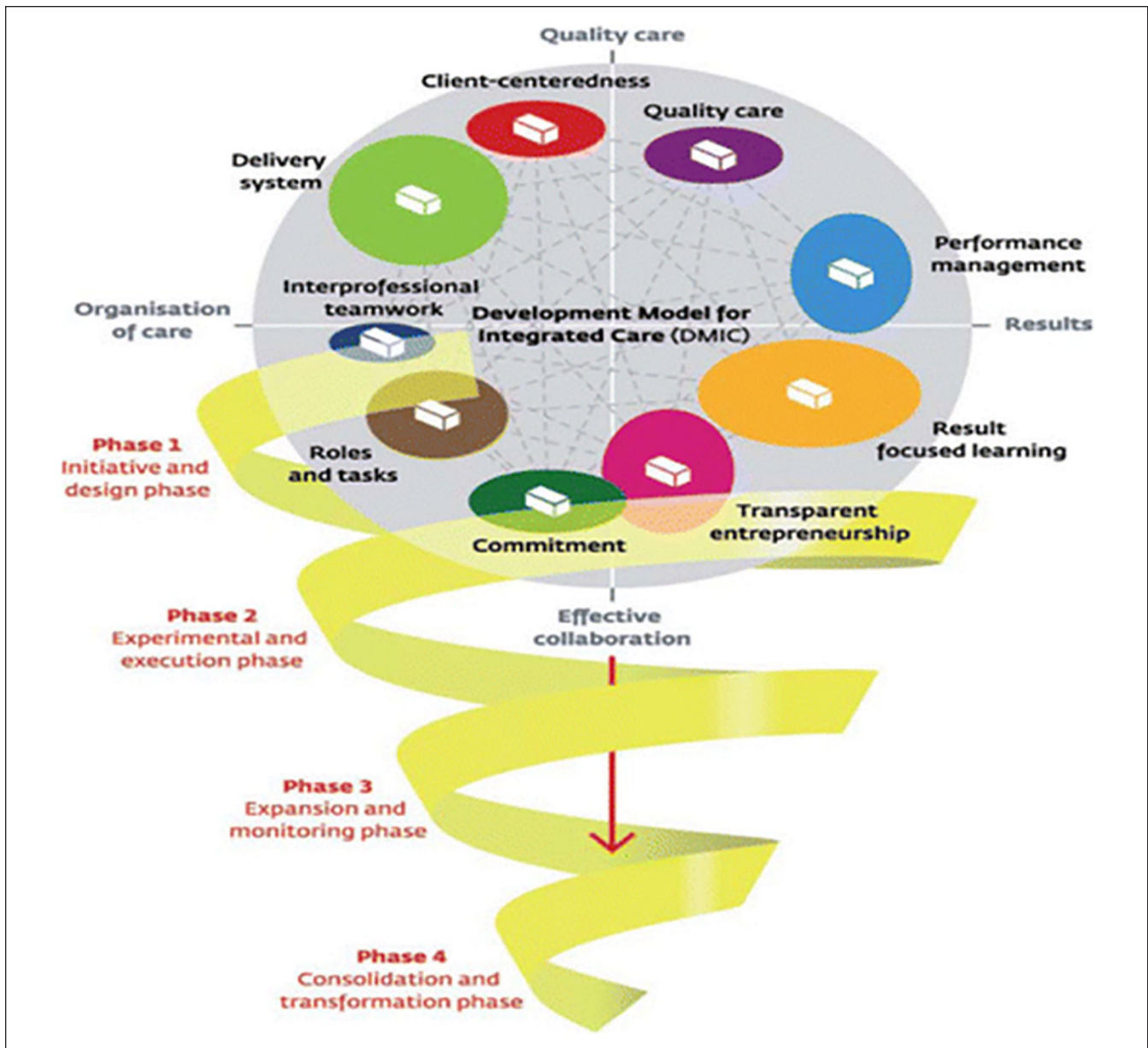
## Description of Innovation

While virtual urgent care services in Ontario were originally conceived as a way of helping manage emergency department pandemic volumes, support physical distancing, and improve access to care, they have additionally served as a catalyst for optimizing care pathways to reduce siloed care and support integration. As illustrated in Figure 1, the patient care journey starts with a patient seeking care at one of the partner hospital's websites, entering their demographic and basic symptom information via an intake form for registration, selecting an appointment time, and receiving confirmation by SMS text message and/or email. Patients then visit with the emergency physician via video service or phone, receive post-encounter follow-up instructions via email related to specialist referrals, prescriptions, or test/imaging requisitions, and are asked to complete a brief survey about their experience. At the end of the appointment, the physician might recommend patients go to their local emergency

department, follow up with their family physician or specialist, or may manage the issue completely with no follow up needed. An administrative assistant is available to support patient bookings, complete the hospital registration process, and assist patients and physicians with post-discharge care. To promote continuity of care, physician encounter notes are shared with patients and their circle of care through online provincial health record systems. The integrated model offered several improvements compared to the initial pilots, including a common digital front door, a single set of patient presentation criteria, expanded hours of coverage, shared marketing and communication messaging, new referral pathways, and common evaluation metrics.

## Discussion and Reflection

Pilot projects are generally cost-effective and efficient means to test the validity and generalizability of new initiatives, yet many pilot projects fail to be sustained, replicated, or scaled to have meaningful impact due to political, bureaucratic, or financial reasons.<sup>10-13</sup> Unfortunately, several of the pilot sites that were part of this provincial program shuttered their services after the minimum operational requirements had been met due to lack of uptake, staffing difficulties, inappropriate patient presentations for virtual consultations, and sustainability concerns around funding. While similar challenges were experienced by our 3 regional partner hospitals, patient and provider feedback was highly supportive of service continuation and both our program physician leads and our senior hospital administrators recognized the potential value



**Figure 2.** Development model for integrated care  
 Source. Reproduced from Minkman et al.<sup>17</sup>

of this service to our local patient populations. The physician leads for the virtual urgent care programs are innovators with expertise in quality improvement and change management, which was critical in bringing together these 3 independent organizations. Rather than ending their pilot programs, our partner hospitals therefore strengthened our academic partnership to create an integrated service offering. Bringing together 3 independent tertiary care hospital organizations to support a coordinated regional virtual urgent care program presented myriad opportunities and challenges, as described below.

The Development Model for Integrated Care (DMIC) is a helpful framework to understand the process that these sites

underwent.<sup>14-18</sup> This 4-phase model (initiative and design phase, experimental and execution phase, expansion and monitoring phase, and consolidation and transformation phase) helps organizations assess their current state operations and identify opportunities to enhance integrated care practice by examining the 4 dimensions of organization of care, quality care, effective collaboration, and results (see Figure 2; Minkman et al<sup>16</sup> and Minkman<sup>18</sup>).

### *Initiative and Design*

To promote continuity of care for our patients, we continued to operate our pilot projects independently while we

simultaneously entered the initiative and design phase. We established a new collaborative leadership team with clinical and project management representatives across the 3 sites and the provincial health agency (funder). This team met regularly to define the scope, objectives, operating principles, and implementation approach for the shared service using consensus-based decision-making. Patient and family partner feedback was sought and incorporated throughout all phases by collaborating with our existing hospital patient engagement committees in addition to sending a brief electronic survey to all patients using the service at the conclusion of their visit. Other hospital team members including decision support, information services, privacy, risk management, legal, finance, hospital executives, frontline providers along with local community healthcare organizations, municipal and provincial government agencies, and paramedic services were engaged at various points. A marketing and communications team with local site representation met regularly and guided the “go-live” and ongoing efforts to socialize this service within the community.

### *Experimental and Execution*

In the experimental and execution phase, we used our individual pilot programs to test different approaches to patient screening, registration platforms, data capture and tracking, hours of operation, care pathways, program promotion and advertising, and evaluation methodologies. We adopted a joint continuous quality improvement approach to understand the pain points experienced by patients and learn from each other as we iterated and refined the shared service prior to launch. In response to patient feedback, a common digital front door was designed to access the service, a single set of patient presentation criteria were adopted (ie, what can be seen virtually and what is best for an in-person visit), and hours of coverage were optimized to provide greater flexibility including evenings, weekends, and holidays. Additionally, shared marketing and communications materials were developed, referral pathways with the provincial telehealth system, community healthcare organizations, and municipal affairs were implemented, and common evaluation metrics were established. We sought opportunities to share administrative, clinical, information technology, and communications resources whenever possible to reduce duplication of effort and lean our operations.<sup>19</sup> We simultaneously pursued continuation funding as a unified program through the provincial health agency, emphasizing economies of scale and improved joint service. To receive continuation funding from the provincial health agency, each program was required to provide standardized monthly reporting metrics (related to patient presentations, access to primary care, use of the emergency department without this service, and patient and provider experience/satisfaction ratings), achieve patient volume targets, and share lessons learned from the initial pilot program.

### *Expansion and Monitoring*

After receiving confirmation of provincial integration funding combined with ongoing hospital support, we entered the third phase of expansion and monitoring. We officially launched our digital front door with a shared traditional and digital/social media campaign coupled with enhanced analytics to follow website traffic, user demographics and reasons for use, volumes, and patient experience and satisfaction scores. Data is monitored continuously and discussed at weekly regional program leadership meetings with a focus on quality care, patient-centeredness, and result-focused learning. The brief electronic survey that patients complete at the conclusion of their visit asks 6 questions about their overall rating of their virtual consultation compared to in-person care, whether their concern was addressed at the visit, if they would have attended the ED in person without this service, if the virtual service was more or less convenient than coming in person, the ease of use of technology, and whether the patient would recommend the service to their family/friends. Overall program results show very high patient satisfaction and recommendation rates (>95%), ease of using the technology (97%), no adverse outcomes related to morbidity or mortality, and decreased costs by approximately 40% from the initial individual pilot programs. The program continues to serve as an exemplar for other jurisdictions.

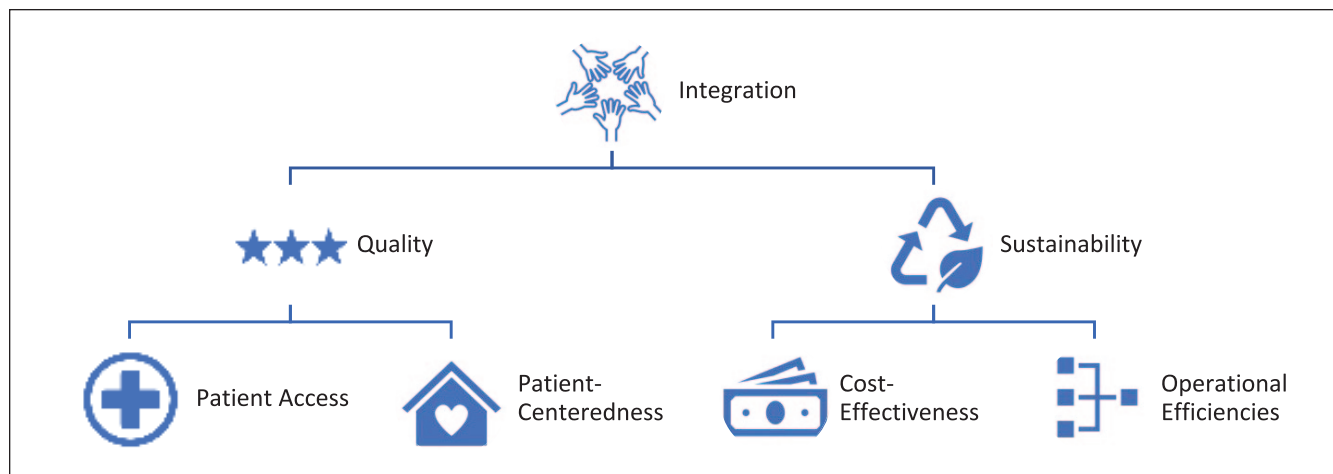
### *Consolidation and Transformation*

Finally, we are actively preparing for the consolidation and transformation phase which seeks to sustain and embed this service as a permanently funded regional program. To achieve this goal, we remain focused on enhancing quality—both patient access and patient-centeredness, and sustainability—through operational efficiencies and cost-effectiveness strategies (see Figure 3). We actively seek and share learnings beyond our programs to determine best practices, including improvements to the patient-centeredness of our care pathways and anchoring staff scheduling into operating practices with our in-person emergency departments. Finally, we remain engaged in funding discussions and negotiations at multiple jurisdictional and organizational levels to achieve pie-growing rather than only pie-sharing gains.

### **Lessons Learned**

While many lessons have been learned throughout this process, a few are worth highlighting. First, consistent and open communication are critical to building trust, challenging norms, and making timely decisions. As part of this communication, it is essential to identify an overall clinical lead who ensures the patient voice remains central to decision making and bridges the gap with administrative, project management, and funding agency staff. To illustrate, while





**Figure 3.** Regional integration outcomes.

the decision to implement a new common digital front door was readily agreed by all parties, the clinical lead ensured that user experience design incorporated patient feedback through multiple rounds of review and iterative improvements in advance of going live rather than being implemented solely based on internal feedback. Second, disparate information technology systems across organizations present intra-operability challenges that are costly, time-consuming, and hinder integration efforts. The ability to secure and navigate a single unified platform is foundational for integrated programs and a seamless patient experience. For example, when our pilot programs initially launched, each hospital had a different booking process and platform for patients to navigate. The introduction of the common digital front door supported a seamless and consistent patient experience by connecting directly with individual hospital's information technology systems and serving as a catalyst for alignment of patient presentation criteria across the system. Finally, the time, effort, and patience required to coordinate project approvals at multiple organizations cannot be underestimated. Legal, privacy and risk management, information technology, and funder approvals require teams to work in parallel (often with incomplete information) and to go “at risk” to keep integration projects moving forward.

### Conclusion and Recommendations

By creating a network of hospitals with a common vision, collaborative leadership, and shared resources, we have improved the quality and sustainability of virtual urgent care services across the region. Improved patient access and enhanced patient experience have been achieved by coordinating care around patient needs, adopting shared values and program objectives, decreasing fragmentation in care delivery through harmonized processes and care pathways, and understanding and detangling the complexities of local care delivery and health information systems.

Our priorities looking ahead are to develop dedicated regional care pathways for pediatrics and mental health, strengthen our partnership with paramedic and existing telehealth services, scale with involvement of primary care providers to ensure geographic representation across the entire metropolitan region, and advocate for base operational funding to sustain the program. To achieve the best value possible, we envision a unified provincial program with a common digital front door and comprised of regional centers of excellence that support local patients and providers (ie, hub-and-spoke model). Challenges to scaling at the provincial level include lack of a single provincial electronic health record and sufficient financial investment to support digital infrastructure and provider remuneration sustainably. None of these challenges are insurmountable; our patients are counting on us to build the healthcare system of the future and we intend to deliver.

### Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

### ORCID iD

Justin N. Hall  <https://orcid.org/0000-0002-6211-9336>

### References

1. CMA. Virtual Care: Recommendations for Scaling Up Virtual Medical Services. Canadian Medical Association, College of Family Physicians of Canada, and Royal College of Physicians and Surgeons of Canada. 2020. Accessed March 19, 2022. <https://www.cma.ca/sites/default/files/pdf/virtual-care/ReportoftheVirtualCareTaskForce.pdf>

2. Hamm JM, Greene C, Sweeney M, et al. Telemedicine in the emergency department in the era of COVID-19: front-line experience from 2 institutions. *J Am Coll Emerg Physicians Open*. 2020;1(6):1630-1636.
3. Zachrisson KS, Boggs KM, Hayden EM, Espinola JA, Carmago Jr CA. Understanding barriers to telemedicine implementation in rural emergency departments. *Ann Emerg Med*. 2020;75(3):392-399.
4. Masood S, Chartier LB. Letter to the editor: enhanced virtual care in the emergency department as a strategy to safely manage the COVID-19 surge. *CJEM*. 2020;22(6):E15.
5. Glazier RH, Green ME, Wu FC, Frymire E, Kopp A, Kiran T. Shifts in office and virtual primary care during the early COVID-19 pandemic in Ontario, Canada. *CMAJ*. 2021;193(6):E200-E210.
6. CIHI. COVID-19's Impact on Emergency Departments. CIHI. 2021. Accessed March 25, 2022. <https://www.cihi.ca/en/covid-19-resources/impact-of-covid-19-on-canadas-health-care-systems/emergency-departments>
7. Lee DD, Jung H, Lou W, et al. The impact of COVID-19 on a large, Canadian community emergency department. *West J Emerg Med*. 2021;22(3):572-579.
8. Hall JN, Ackery AD, Dainty KN, et al. Designs, facilitators, barriers, and lessons learned during the implementation of emergency department led virtual urgent care programs in Ontario, Canada. *Front Digit Health*. 2022;4:946734.
9. McLeod SL, Mondoux S, Hall JN, et al. Demographic characteristics, outcomes and experience of patients using virtual urgent care services from 14 emergency department led sites in Ontario. *CJEM*. 2022;1-9. <https://doi.org/10.1007/s43678-022-00407-9>
10. Zbrodoff S. *Pilot Projects: Making Innovations and New Concepts Fly*. Pilot Project International Inc; 2010.
11. Bégin M, Eggertson L, Macdonald N. A country of perpetual pilot projects. *CMAJ*. 2009;180(12):1185.
12. Ashkenas R, Matta N. How to Scale a Successful Pilot Project. HBR. 2021. Accessed March 25, 2022. <https://hbr.org/2021/01/how-to-scale-a-successful-pilot-project>
13. Chartier LB, Vaillancourt S, Cheng AHY, Stang AS. Quality improvement primer part 3: evaluating and sustaining a quality improvement project in the emergency department. *CJEM*. 2019;21(2):261-268.
14. Minkman MMN. Developing integrated care. Towards a development model for integrated care. *Int J Integr Care*. 2012;12:e197. Accessed March 25, 2022. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3601512/>
15. Minkman MM, Ahaus KT, Huijsman R. A four phase developmental model for integrated care services in the Netherlands. *BMC Health Serv Res*. 2009;9:42.
16. Minkman MM, Vermeulen RP, Ahaus KT, Huijsman R. The implementation of integrated care: the empirical validation of the Development Model for Integrated Care. *BMC Health Serv Res*. 2011;11:177.
17. Minkman MM, Vermeulen RP, Ahaus KT, Huijsman R. A survey study to validate a four phases development model for integrated care in the Netherlands. *BMC Health Serv Res*. 2013;13:214.
18. Minkman M. The development model for integrated care: a validated tool for evaluation and development. *J Integr Care*. 2016;24(1):38-52.
19. Hurley B, Hnat J III, O'Connor P, et al. *Lean Six Sigma for Good: Lessons from the Gemba (Volume 1): Real-life stories and experiences written by Lean and Six Sigma volunteers working with not-for-profit organizations*. B. Hurley; 2019.