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Virtual Sprint Outpatient Electronic Health Record Training and Optimization Effect on Provider Burnout

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Abstract

Objectives This study aimed to develop a virtual electronic health record (EHR) training and optimization program and evaluate the impact of the virtual model on provider and staff burnout and electronic health record (EHR) experience.

Methods UCHealth created and supported a multidisciplinary EHR optimization and training program, known as the Epic Sprint Program. The Sprint Team conducted dozens of onsite Sprint events over the course of several years prior to the pandemic but transitioned to a fully virtual program and successfully "sprinted" 21 outpatient clinics from May to December 2020. Core program components of group and 1:1 training, workflow analysis, and new or adjusted EHR build were unchanged from the onsite model. Pre- and post-Sprint surveys provided detailed, objective data about EHR usability, EHR proficiency, job satisfaction, and burnout.

Results The EHR Net Promoter Score (NPS), a likelihood to recommend metric, increased by 39 points (−3 pre and 36 post; $p < 0.001$) for providers and 29 points (8 pre and 37 post; $p = 0.001$) for staff post-Sprint. Positive provider (NPS = +53) and staff (NPS = +47) NPS scores indicated a high likelihood to recommend the Sprint Program. Post-Sprint surveys also reflect an increase in providers (10%; $p = 0.04$) and staff (9%; 0.13) who indicated "no burnout" or "did not feel burned out."

Discussion The UCHealth Sprint Team transitioned this comprehensive, enterprise level initiative from an onsite model to a fully virtual EHR training and optimization program during the first few months of the novel coronavirus disease (COVID-19) pandemic. Despite this change in program delivery, survey data clearly demonstrated improved EHR satisfaction, a high likelihood to recommend a sprint to a friend or colleague, and a trend toward burnout reduction in providers and staff.

Conclusion Changing an existing on-site EHR optimization program to a purely virtual format can be successful, and this study showed improved provider and staff EHR satisfaction with reduced burnout.

Keywords
- optimization
- virtual EHR training
- sprint
- virtual training
- virtual optimization
- strategies for health IT training
- clinical informatics
- professional training
- education
- distance
- process improvement
- system improvement
- efficiency improvement
- performance improvement

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Background and Significance

In 2020, U.S. health care systems faced the unprecedented collision of health care worker (HCW) burnout[1] and the novel coronavirus disease 2019 (COVID-19; severe acute respiratory syndrome-coronavirus-2 [SARS-CoV-2]) pandemic. Uncertainty of viral transmission, limitations of physical infrastructure, and workforce shortages created new challenges but also promoted flexibility, innovation, and teamwork.[2,3] The rapid innovation in health care delivery and the electronic health record (EHR) accelerated development, training, and use of tools including tablets and remote monitors, COVID-19 treatment clinical pathways, and training for routine use of video or virtual patient encounters.[3] Health care systems faced a conundrum in growing need for EHR training and optimization in a health care workforce suffering from high rates of burnout.

Postimplementation, EHR training has been shown to improve EHR satisfaction[4–6] and burnout[7,8] when content is personalized and/or delivered elbow-to-elbow. To our knowledge, a fully virtual EHR training program has not been studied. Wellness experts have called for organizationally funded, comprehensive initiatives that role model–effective leadership, promote values alignment, and enhance communication and teamwork.[9–11] At UCHealth, we utilize our Sprint EHR Training and Optimization program for this purpose.

The Sprint Team is a multidisciplinary group of medical informaticists, project managers, EHR trainers, and EHR analysts that partner with ambulatory clinics to explore, investigate, simplify, or solve local health care delivery issues with workflow and technical solutions.[8] Core program components include group and one-to-one EHR training in addition to user-centered EHR design.[12] Our full-time Sprint Team conducts 1 to 4 weeks, clinic-specific EHR training and optimization events throughout the year. In addition, Sprint physician and nurse informaticists actively balance the needs of specific clinics against the strategic needs of the health system.

The UCHealth Sprint Team engages the entire clinic care team, including providers (physician and advanced practice providers), nurses, medical assistants, and technical and administrative staff. From 2016 to 2020, the Sprint Team conducted onsite Sprint events in >100 clinics and in March 2020, the team began to reimagine sprint events due to stay-at-home orders in Colorado. With a goal to continue to improve teamwork, increase EHR satisfaction, and reduce provider and staff burnout, The Sprint Team pivoted to a fully virtual model in May 2020 and conducted sprints in 21 ambulatory clinics from May to December 2020. We report on this experience.

Objective

This study aimed to develop a virtual EHR training and optimization program and evaluate the impact of the virtual model on provider and staff burnout and EHR experience.

Methods

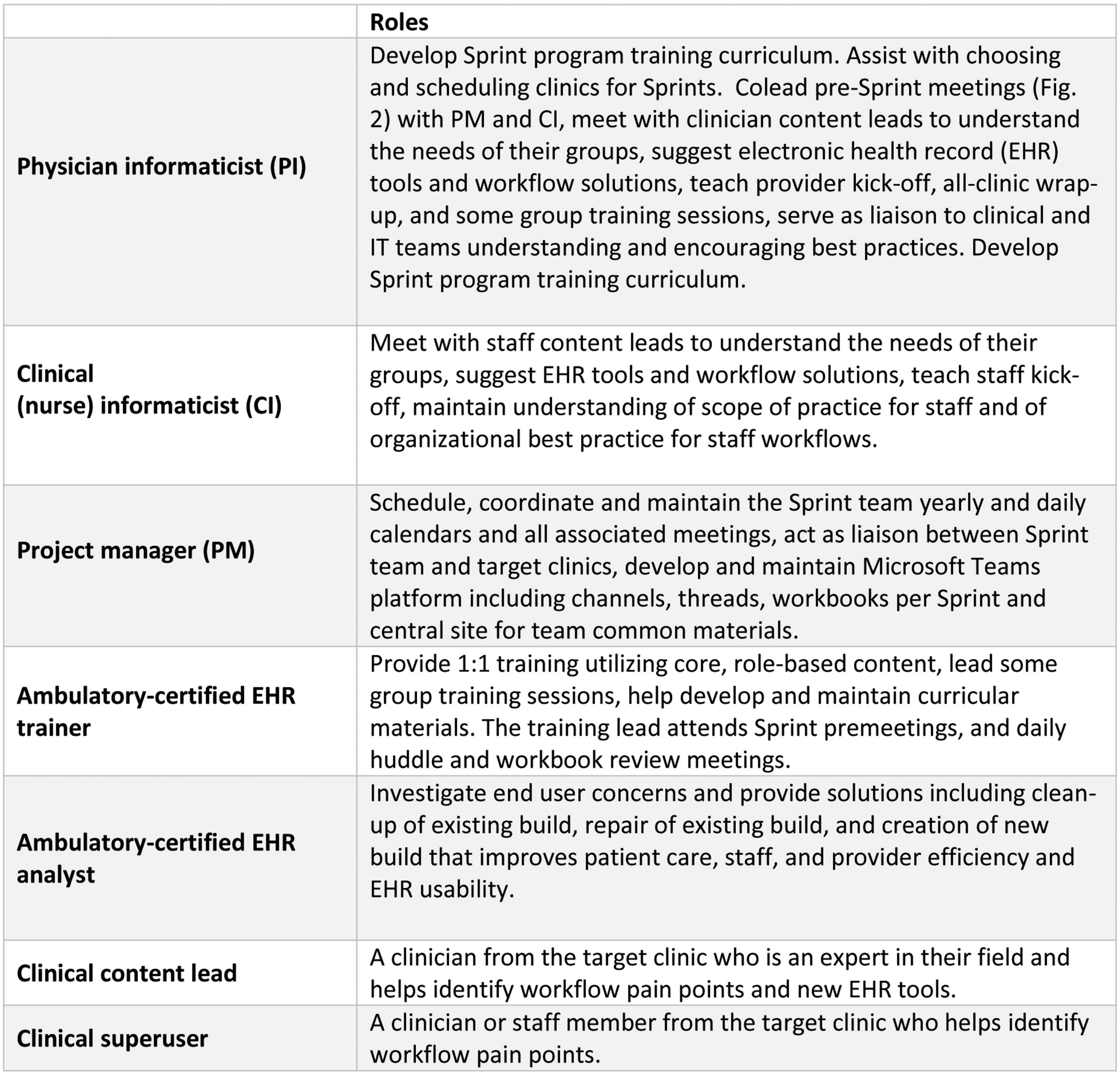
Sprints at UCHealth

The UCHealth system funded a 20-person Sprint Team that was responsible for clinic-based Epic EHR (version 2020, Epic Systems) training and optimization for the organization. The Sprint Team was subdivided equally into two smaller teams which concomitantly ran two separate Sprint events. The team for each Sprint event includes a full-time project manager (PM), a clinical informaticist (CI), a physician informaticist (PI), four ambulatory-certified EHR trainers, and three ambulatory-certified EHR analysts. ►Fig. 1 elucidates roles of each Sprint Team member.

Prior to March 2020, all members of the Sprint Team except the analysts were colocated onsite in target clinics from 8 a.m. to 5 p.m. The number of providers in each clinic determines Sprint duration were typically 1 to 4 weeks (e.g., 20 providers = 1-week Sprint, 40 providers = 2-week Sprint, and so on). Small clinics sometimes combine with other clinics to ensure full utilization of the Sprint Team resource. Sprint-Team leaders selected clinics based on interest, engagement, and strong leadership whenever possible. Clinics block provider schedules, so most providers and staff do not have clinical responsibilities during training, but providers do not receive reimbursement for loss of clinical revenue. Twenty-one clinics participated in Sprints from May to December 2020 but only 19 clinics received the same pre- and postsurvey. Pre- and postsurvey responses are anonymous and do not reveal the identity of the participants. ►Table 1 lists clinic participants who participated in virtual Sprints from May to December 2020.

Microsoft Teams

UCHealth was in the process of adopting Microsoft Teams (Microsoft Inc., Redmond, Washington, United States, Teams version 1.0) as the preferred virtual platform at the start of the pandemic. This comprehensive platform provided tools for video meetings, recording capability, individual and group messaging, discreet event channels, document and screen sharing, and a shared wiki page. As a team, we developed and iterated the Sprint program with various Teams tools (channels, folders, threads, posts, chat, and video) to replicate key Sprint processes. Perhaps the most widely appreciated was video streaming to maintain interpersonal connection within the Sprint Team and with clinics. Other examples included the consistent use of posts, notifications to maintain closed loop communication, and specific emojis, for example, a thumbs up to indicate a new request would be tracked. For the target clinic, the PM sent a Teams video and tips with training session invitations, and trainers were available before, during, and after all meetings to assist. Video use facilitated communication during huddles, in the virtual conference room, and in workflow sessions. Teams and e-mail communication to virtual Sprint participants included schedules sent before the Sprint begins and included just-in-time education on Microsoft Teams.



	Roles
Physician informaticist (PI)	Develop Sprint program training curriculum. Assist with choosing and scheduling clinics for Sprints. Colead pre-Sprint meetings (Fig. 2) with PM and CI, meet with clinician content leads to understand the needs of their groups, suggest electronic health record (EHR) tools and workflow solutions, teach provider kick-off, all-clinic wrap-up, and some group training sessions, serve as liaison to clinical and IT teams understanding and encouraging best practices. Develop Sprint program training curriculum.
Clinical (nurse) informaticist (CI)	Meet with staff content leads to understand the needs of their groups, suggest EHR tools and workflow solutions, teach staff kick-off, maintain understanding of scope of practice for staff and of organizational best practice for staff workflows.
Project manager (PM)	Schedule, coordinate and maintain the Sprint team yearly and daily calendars and all associated meetings, act as liaison between Sprint team and target clinics, develop and maintain Microsoft Teams platform including channels, threads, workbooks per Sprint and central site for team common materials.
Ambulatory-certified EHR trainer	Provide 1:1 training utilizing core, role-based content, lead some group training sessions, help develop and maintain curricular materials. The training lead attends Sprint premeetings, and daily huddle and workbook review meetings.
Ambulatory-certified EHR analyst	Investigate end user concerns and provide solutions including clean-up of existing build, repair of existing build, and creation of new build that improves patient care, staff, and provider efficiency and EHR usability.
Clinical content lead	A clinician from the target clinic who is an expert in their field and helps identify workflow pain points and new EHR tools.
Clinical superuser	A clinician or staff member from the target clinic who helps identify workflow pain points.

Fig. 1 Sprint and clinical team roles and responsibilities.

Virtual Sprint Conversion

The basic structure of Sprints remained intact during the transition to a virtual model (►**Fig. 2**). Pre-Sprint meetings needed for planning, blocking schedules, and setting expectations with clinics remained unchanged. These meetings had been and continued to be conducted virtually due to geographic variability in work locations of the Sprint Team and the clinical teams. ►**Fig. 3** details all modifications made from the on site to the virtual model.

Standard all-clinic training sessions, kick off (EHR personalization) and wrap up (new tool and solidified workflow

Table 1 Participants by role in virtual sprint events from May 2020 to December 2020

Providers		Staff	
Role	Number	Role	Number
Physician	177		
Advanced practice provider	110	Nurse, medical assistant	344
Resident	24	Front office staff	82
Speech, physical, occupational therapist	126	Clinic manager	49
Other	56	Other	62
Total	493	Total	538

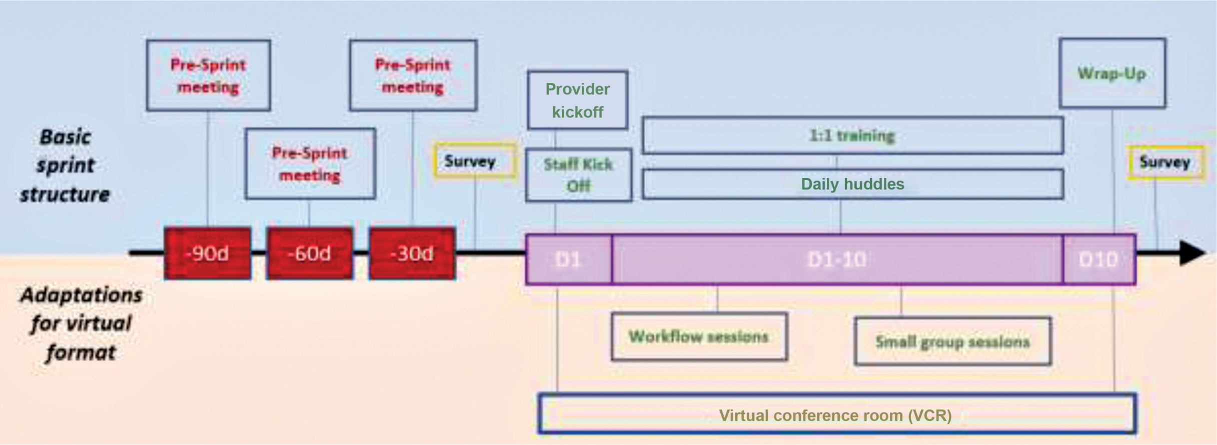
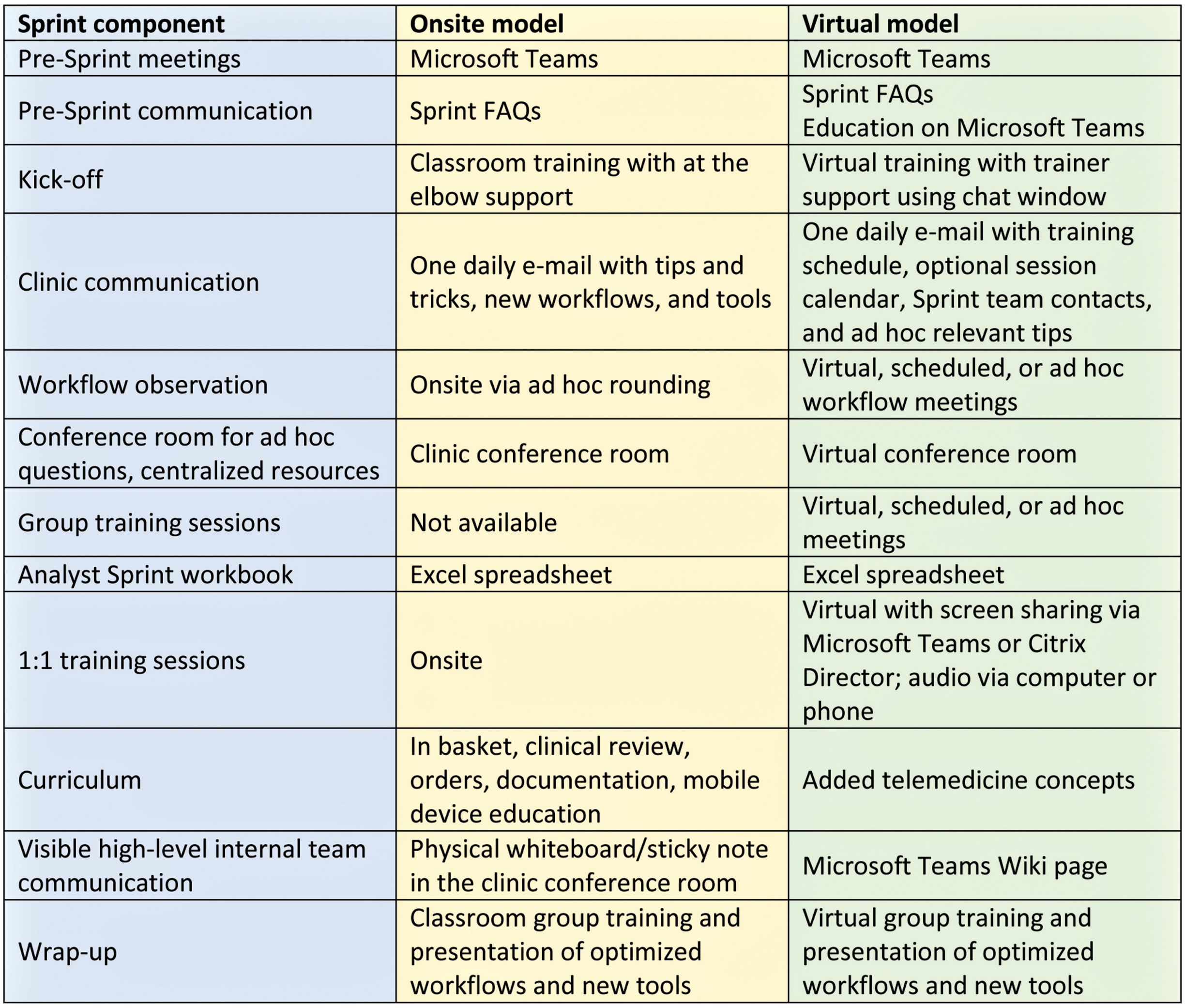

Basic sprint structure
Adaptations for virtual format
Pre-Sprint meeting
Pre-Sprint meeting
Pre-Sprint meeting
Survey
Provider kickoff
Staff Kick Off
1:1 training
Daily huddles
Wrap-Up
Survey
-90d
-60d
-30d
D1
D1-10
D10
Workflow sessions
Small group sessions
Virtual conference room (VCR)

Fig. 2 Standard Sprint program with virtual adaptations.

presentation) changed to a virtual format through Teams. The curriculum content and informaticist session leaders did not change. The project managers and Sprint trainers remained available prior to and throughout group sessions to help participants utilize Teams and to assist with end-user questions. Session leaders made proactive suggestions that participants keep a list of items they wanted to investigate further in their 1:1 training sessions.

To compensate for the lack of direct workflow observation in clinical areas, the Sprint Team developed virtual workflow group sessions. These sessions, facilitated by the CI and PI, held early in the Sprint, included integral members of the



Sprint component	Onsite model	Virtual model
Pre-Sprint meetings	Microsoft Teams	Microsoft Teams
Pre-Sprint communication	Sprint FAQs	Sprint FAQs Education on Microsoft Teams
Kick-off	Classroom training with at the elbow support	Virtual training with trainer support using chat window
Clinic communication	One daily e-mail with tips and tricks, new workflows, and tools	One daily e-mail with training schedule, optional session calendar, Sprint team contacts, and ad hoc relevant tips
Workflow observation	Onsite via ad hoc rounding	Virtual, scheduled, or ad hoc workflow meetings
Conference room for ad hoc questions, centralized resources	Clinic conference room	Virtual conference room
Group training sessions	Not available	Virtual, scheduled, or ad hoc meetings
Analyst Sprint workbook	Excel spreadsheet	Excel spreadsheet
1:1 training sessions	Onsite	Virtual with screen sharing via Microsoft Teams or Citrix Director; audio via computer or phone
Curriculum	In basket, clinical review, orders, documentation, mobile device education	Added telemedicine concepts
Visible high-level internal team communication	Physical whiteboard/sticky note in the clinic conference room	Microsoft Teams Wiki page
Wrap-up	Classroom group training and presentation of optimized workflows and new tools	Virtual group training and presentation of optimized workflows and new tools

Fig. 3 Modifications of key sprint components in a virtual model.

clinical care team. The clinical team members would share their screens during this exercise, so the Sprint team members could better understand the workflows, and clinic members could share pain points and ideas for improvement in workflow.

To foster communication during onsite Sprints, the PM, CI, and PI colocated in a clinic conference room. Providers or staff could drop in with questions, EHR optimization ideas, or extra training session requests. To create this atmosphere in a virtual model, the Sprint Team hosted a Virtual Conference Room (VCR), an all-day Teams meeting scheduled from 8 a.m. to 5 p.m. All Sprint participants received daily meeting invitations from the PM via Microsoft Outlook prior to the start of Sprint.

New with virtual Sprints, we introduced the concept of ad hoc group teaching sessions taught by the PI or CI. In onsite Sprints, opportunities for trainer assistance included 1:1 training and clinic rounding. In virtual Sprints, clinic participants chat or joined the VCR with questions. To provide ample opportunity for training on basic topics such as in basket, documentation, clinical review, ordering, and mobile/telemedicine tools, we added optional virtual group training sessions to supplement 1:1 training. During these sessions, the PI or CI spent 10 to 20 minutes covering a topic, followed by staff and/or provider discussion of how the tool applies to their clinic workflows. Most topics were determined and scheduled during pre-Sprint meetings, but others could be added as needs arise during Sprint. Group sessions were offered twice to accommodate various schedules. To encourage participation in the group sessions, workflow sessions, and the VCR, a daily e-mail from the PM provided hyperlinks to the day's events.

Data Collection

All Sprint participants received an e-mail with a survey link from the Sprint PM 1 to 2 weeks prior to Sprint and, again, a few days before the Sprint. Post-Sprint surveys were distributed similarly on the last day of Sprint and again 1 week after Sprint. Staff and providers received separate survey links as some sections of the survey differed including barriers to participation and specific roles. The surveys asked questions about EHR usability and proficiency, job satisfaction, and burnout.[13] Satisfaction with the EHR and with the Sprint itself were measured using the Net Promoter Score (NPS), a likelihood to recommend tool.[14] The NPS asked "How likely is it you would recommend X to a friend or colleague," on a scale of 0 to 10. Scores 9 to 10 are considered promoters, 7 to 8 are considered passive, and 0 to 6 are considered detractors. The percentage of detractors is subtracted from the percentage of promoters to arrive at the NPS. A score of +50 or above is considered excellent.[14] Informal staff and provider quotes were collected throughout the Sprint event and were also extracted from our postsurvey comments.

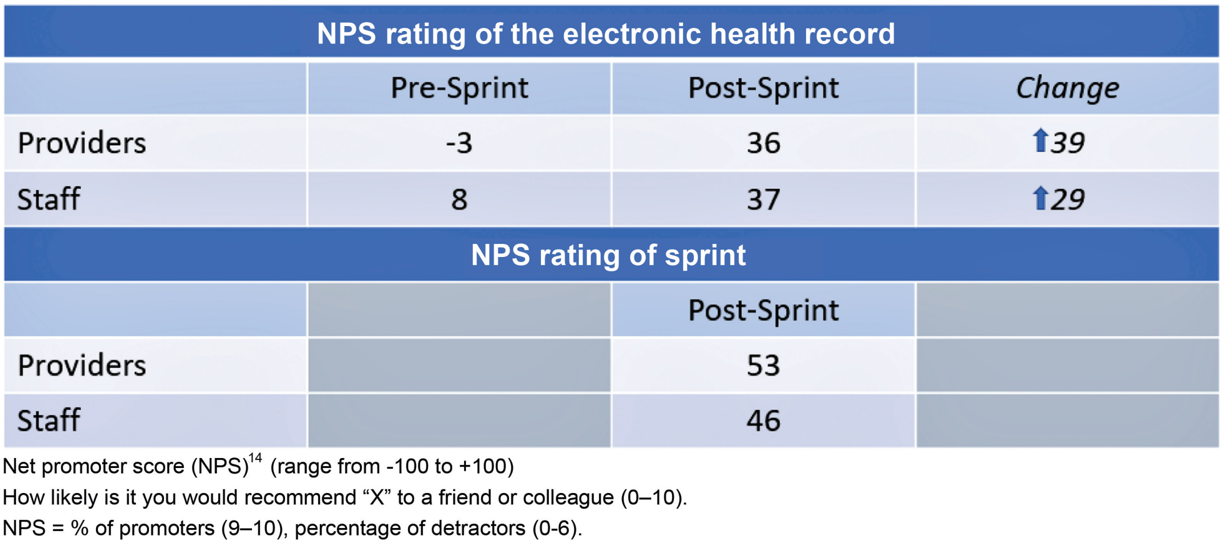
Statistical Analysis

Descriptive statistics were used to summarize survey responses. The provider and staff survey responses were dichotomized and compared pre- and post-Sprint using tests of proportions. The distribution of promoters, passives, and detractors from the NPS were compared using Chi-square tests. All analyses were performed using R software (v4.04).

Results

The response rate for pre-Sprint and post-Sprint provider surveys was 52 (257/493) and 40% (195/493), respectively. The response rate for pre-Sprint and post-Sprint staff surveys was 29 (156/538) and 31% (169/538). The EHR NPS score, likelihood to recommend the Epic EHR, increased by 39 points (−3 pre and 36 post; $p < 0.001$) for providers and 29 points (8 pre and 37 post; $p = 0.001$) for staff after the Sprint intervention. Providers (NPS = +53) and staff (NPS = +47) also indicated a high likelihood to recommend the Sprint to their colleagues (►Fig. 4).

There was a trend toward improved EHR usability and proficiency in all domains pre-to-post-Sprint for both staff (differences of 2–13%) and providers (differences of 6–17%; ►Table 2). Respondents agreed slightly or strongly that improvements in EHR-facilitated communication with providers outside of UCHealth: a 17% improvement



NPS rating of the electronic health record			
	Pre-Sprint	Post-Sprint	*Change*
Providers	-3	36	⬆*39*
Staff	8	37	⬆*29*

NPS rating of sprint			
		Post-Sprint	
Providers		53	
Staff		46	

Net promoter score (NPS)[14] (range from -100 to +100)
How likely is it you would recommend "X" to a friend or colleague (0–10).
NPS = % of promoters (9–10), percentage of detractors (0-6).

Fig. 4 Net promoter score (NPS) for 21 clinics undergoing virtual sprints.

Table 2 Survey responses

Survey question	Provider responses			Staff responses		
	Pre-Sprint (*n* = 257) (%)	Post-Sprint (*n* = 195) (%)	Delta % (*p*-Value)	Pre-Sprint (*n* = 156) (%)	Post-Sprint (*n* = 169) (%)	Delta (%) (*p*-Value)
The Epic EHR facilitates communication about patients with members of my clinic. Agree slightly/strongly	218 (85)	182 (94)	+9 (0.003)	133 (87)	156 (93)	+6 (0.08)
The Epic EHR facilitates communication about patients with UCHealth colleagues. Agree slightly/strongly	182 (71)	156 (81)	+10 (0.02)	97 (63)	125 (75)	+11 (0.04)
The Epic EHR facilitates communication about patients with non-UCHealth clinicians. Agree slightly/strongly	55 (21)	74 (38)	+17 (<0.001)	49 (32)	75 (45)	+13 (0.02)
The Epic EHR facilitates communication about patients with patients themselves. Agree slightly/strongly	200 (78)	173 (90)	+12 (0.002)	118 (77)	136 (82)	+5 (0.36)
The amount of time I spend on the electronic medical record (EMR) at home is: minimal/none	123 (48)	105 (54)	+6 (0.26)	123 (79)	135 (81)	+2 (0.76)
My proficiency with EMR use is: good/optimal	108 (42)	101 (52)	+9 (0.06)	93 (60)	109 (64)	+4 (0.47)
Overall, I am satisfied with my current job. Agree slightly/strongly	217 (85)	171 (88)	+2 (0.58)	132 (85)	154 (92)	+7 (0.07)
I feel a great deal of stress because of my job. Disagree slightly/strongly	75 (29)	59 (30)	+1 (0.88)	48 (31)	45 (27)	-4 (0.50)
Using your definition of "burnout," please choose one of the answers below: no burnout/do not feel burned out	150 (59)	133 (69)	+10 (0.04)	89 (57)	110 (66)	+9 (0.13)
My control over my workload is: good/optimal	68 (26)	73 (37)	+11 (0.02)	65 (42)	81 (48)	+6 (0.36)
Sufficiency of time for documentation is: good/optimal	43 (17)	62 (32)	+15 (<0.001)	68 (44)	84 (51)	+7 (0.23)
Which number best describes the atmosphere in your primary work area? Calm/in between	45 (18)	30 (15)	−2 (0.58)	49 (32)	50 (30)	−2 (0.84)
My professional values are well aligned with those of my	176 (69)	144 (75)	+6 (0.23)	105 (69)	124 (75)	+7 (0.24)

(*Continued*)

Table 2 (*Continued*)

Survey question	Provider responses			Staff responses		
	Pre-Sprint ($n = 257$) (%)	Post-Sprint ($n = 195$) (%)	Delta % (p-Value)	Pre-Sprint ($n = 156$) (%)	Post-Sprint ($n = 169$) (%)	Delta (%) (p-Value)
department leaders. Agree slightly/strongly						
The degree to which my care team works efficiently together is: good/optimal	155 (61)	135 (69)	+8 (0.09)	109 (70)	125 (75)	+5 (0.43)

($p < 0.001$) for providers and 13% improvement ($p = 0.02$) for staff. The EHR was also found to facilitate communication with colleagues, affiliates, and patients and these measures improved after the Sprint. A trend toward an increase in providers who indicated no/did not feel burnout was achieved post-Sprint for providers (10%; $p = 0.04$) and staff (9%; $p = 0.13$; ►**Table 2**). Regarding job satisfaction and teamwork, results were more variable (►**Table 2**). Post-Sprint, for providers, there was a trend toward improvement in control over workload (11%; $p = 0.02$), sufficiency of time for documentation (15%; $p < 0.001$), and care team efficiency (8%; $p = 0.09$). For staff, improvements were smaller but present for control over workload (6%; $p = 0.36$), sufficiency of time for documentation (7%; $p = 0.23$), and care team efficiency (5%; $p = 0.43$).

One illustrative survey comment stated, "This Sprint training is the most productive event I ever had at UCHealth." One provider sent this message to the Sprint Team a few weeks after her clinic Sprint, "I wanted to let you know that I am finally not spending hours on weekends on Epic!"

Discussion

he COVID-19 pandemic has created unimaginable challenges for health care teams and society at large, but it has also led to creativity and innovation.[15,16] The UCHealth Sprint Team rapidly transitioned an onsite Sprint EHR optimization and training program to a virtual program without significantly altering cadence, team composition, number of participants, or curricular content. Despite changes to the program, the Sprint Team maintained high levels of Sprint and EHR satisfaction and a trend toward decreased staff and provider burnout.

After virtual Sprint events, EHR satisfaction increased considerably for providers (increase in NPS of 39) and staff (increase in NPS of 29). Both groups reported improved EHR proficiency, easier care team communication, and increased sufficiency of time for documentation. To our knowledge, this is the first study of a fully virtual EHR training and optimization program. Similar to Kaiser's Pathway to Proficiency onsite program,[4,5] Sprint PI leads conduct peer-to-peer training during kick off, wrap up, and small group sessions using the Microsoft Teams platform. Unique to our program, Sprint trainers deliver core, role-based EHR education to all members of the target clinic. We view user data to help personalize content, like Stanford's Home4-Dinner program,[17] but in Sprints, we also use PI and CI knowledge of EHR tools and clinical workflows to construct core competencies and teach best practice.

Most EHR efficiency programs encourage EHR personalization, but ours is unique in that Sprint EHR analysts optimize EHR tools during the Sprint event.[12] Analysts work directly with clinical experts and informaticist leaders to clean-up, repair, and create new build. Sprint events create a sense of urgency due to relatively short timelines, and as a result, we have a captive audience to test, iterate and approve specialty-specific EHR tools and workflows leading to true user-centered design.

EHR training and tool design rely on HCW engagement, the antithesis of burnout.[9] It is imperative that we continue to study the impact of interventions on HCW burnout given its prevalence. Like our onsite program,[8] less burnout was reported post-Sprint compared with pre-Sprint for providers and staff despite the pandemic. Control over workload, job stress, and workplace atmosphere have been shown to correlate with staff and provider burnout.[18] While there is a trend toward increased control over workload post-Sprint, we are unable to demonstrate improvement in job stress and workplace atmosphere. We suspect that the pandemic played a role in these metrics in several ways including changes in physical workspaces to accommodate infection control measures, fear of COVID-19 infection, increase in telemedicine visits, altered work–life balance (schools closed and work from home), and limited staffing due to inpatient and vaccine staffing/redeployment. Some Sprint participants report feeling overwhelmed by the amount of new EHR knowledge which could contribute negatively to job stress. For onsite Sprints, stress can be induced by the physical presence of a large team, while during virtual events, a higher volume of e-mail communication might lead to perceived increased workload. To fully understand how virtual Sprint events may impact overall job stress and workplace atmosphere, we will continue to study Sprints as clinics resume standard operations.

Virtual Transition Challenges and Lessons Learned

Many key Sprint program components, such as daily huddles, request prioritization, and wrap-up sessions, translated easily to a virtual format, while components such as workflow observation and group training have proven more difficult to replicate. We began to schedule multidisciplinary workflow meetings at our 60-day pre-Sprint meeting. Conducted early in the Sprint, workflow meetings can be subspecialty-based (i.e., pre–liver transplant team), role based (i.e., physical therapists), or task based (i.e., scanning documents to orders and anticoagulation tracking). Interestingly, we observed increased participation and faster time to consensus and decision-making with virtual workflow meetings than we did with direct observation during onsite Sprints. We attribute this success to pre-Sprint scheduling, end user screen sharing during discussion, and the ability for staff and providers to participate remotely. Workflow sessions also facilitated introductions and personal connections and helped the Sprint Team identify clinical workflow experts to tap for knowledge during the Sprint.

Our new online-only, topic-specific (medication reconciliation, in basket, problem-based charting) group training sessions proved to be well received. Sprint informaticists, trainers, and attendees collaboratively discussed how tips applied to their specialty. Often, we observed that EHR-proficient end users would support the use of a particular EHR tool or workflow, augmenting the Sprint team message and contributing to the success of the session.

Challenges with the virtual format included communication and driving engagement. It can be difficult to communicate and garner trust in the value of Sprints. On Sprint Days 1 and 2, there is often a start-up delay, whereafter engagement quickly increases. The Sprint program managers anticipated that this issue would grow with virtual Sprints and made several changes to their communication methods. They creatively used subject lines ("OPTIONAL" vs. "MANDATORY" sessions), visual cues (picture of calendar day with live link in the body of the e-mail), succinct communication, and specific fonts and colors to highlight important messages for end users. They also restricted communication to one e-mail per day from the Sprint team which included the daily schedule and other high yield tips or messages from the previous day.

During the pandemic, we took a less stringent approach to engagement. With on-site Sprints, participants were strongly encouraged to attend events in person, and there were not options for remote participation. The Sprint team is a big investment for our organization, and the clinic was expected to directly engage to maximize the resource by showing up in person. During the pandemic, our primary goal became "meet the clinic where they are." Clinics needed to maintain visit volumes and support their staff and providers. While also considering the health and wellbeing of our Sprint team, we practiced empathy and flexibility. We encouraged clinic participants to join events remotely, we repeated or shifted group session times, and we adjusted training as often as needed. In rare cases, we found less participation as clinics responded to the pandemic, but more commonly, we had increased participation due to the ability for remote participation and an increased institutional focus on wellness. At UCHealth, the EHR Sprint Team has been recognized as one of our strongest organizational wellness initiatives to support providers and staff.

Notably, there were additional benefits to virtual Sprint. There is a high cost to run an onsite Sprint program that supports clinics across a large geographic region. The virtual programming decreased Sprint Team travel expenses and overtime. Virtual Sprints also increased access to training and participation for providers and staff who were working primarily through telehealth at home or who might want to join Sprint activities during administrative or research time. Interestingly, daily huddle conversations are now more robust and easier to follow. Since all participants are remote, those who call-in no longer struggle to hear or understand in-person conference room dialogue. Internal Sprint Team communication and accountability is also maximized with the virtual format.

Limitations

Our data were collected during a global pandemic, and this alone could affect survey responses and response rate. To avoid precipitating burnout with recurrent e-mails, we did not send surveys more than two times. The statistical analyses of these survey responses should be interpreted in the context of some limitations. Nonrespondents may have different experiences and views than respondents. Pre- and postsurvey responses were not linked within a particular individual, and adjusted analyses were not performed. Since this is an exploratory study, we avoid making claims of statistical significance, and thus no corrections for multiple comparisons were performed.

Additionally, we do not resurvey end users over time. We lack a research budget and during the pandemic, we did not want to add to HCW burnout. In our recent time-saving studies,[19] we hypothesize that Sprints likely need to be repeated annually due to EHR upgrades, as well as changes in clinical practice. KLAS Arch Collaborative data also support at least 3 hours of provider training annually. More study will be required to determine if a second or third Sprint event will require the same number of resources per number of participants to maintain EHR satisfaction and reduced levels of HCW burnout over time.

As a comprehensive training and optimization program, we are unable to separately measure the impact of training versus that of EHR optimization. Longhurst et al[6] demonstrated a clear benefit of EHR personalization on end-user EHR satisfaction, but the impact of user-centered design and software optimization is unknown. Despite this limitation in our study, we observe benefits to IT teams and clinical users from EHR clean up, reconfiguration, and new tool build, while we have the attention of clinical users during Sprint events.

Conclusion

While physician burnout was unacceptably high prior to March 2020, the COVID-19 pandemic has added uncertainty and workplace chaos to health care.[20] More than ever, it is time to rise to the challenges we face with empathy, innovation, and teamwork. Clinical informatics teams are in a unique and advantageous position to implement and showcase high-performing, multidisciplinary teams who can meet clinics where they are and move them forward with education, training, and EHR optimization. The Sprint program successfully transformed an onsite EHR optimization and training program to a virtual program that continues to improve EHR satisfaction and teamwork, while reducing burnout in ambulatory clinics. We would encourage other organizations to view their EHR optimization and training programs as key wellness initiatives that support and foster communication and teamwork in uncertain times.

Clinical Relevance Statement

Ongoing electronic health record training and optimization is a struggle for many organizations. This paper offers a fully virtual solution, with data supporting its effectiveness. The solution described herein can be used at organizations of any size or composition, as long as the size of the Sprint team is adjusted accordingly.

Multiple Choice Questions

1. What does the UCH Sprint team do that is unique from other EHR efficiency programs?
   a. Trains staff and providers
   b. Focuses on one clinic for 4 months
   c. Personalized training
   d. Specialists-training-specialists

   Correct Answer: The correct answer is option a. The UCH Sprint Team is unique in that it consistently offers training to all clinic staff, not just providers. On average, we spend 2 weeks with each clinic. We do look at signal data and personalize the training to some extent, but there is also standard training. Specialists-training-specialists is not part of the Sprint format.

2. What was added to the Sprint program with the transition from onsite to virtual, to accommodate for the lack of in person contact?
   a. Occasional on-site support
   b. Workflow and group sessions
   c. Kick offs
   d. Extra training sessions

   Correct Answer: The correct answer is option b. We elected not to offer any on-site support, so everything was 100% virtual. We did add workflow and group sessions to replace missed training opportunities caused by the virtual format. Kick offs were always part of Sprints and were continued virtually. We did not change the number of training sessions offered in our conversion to virtual.

Protection of Human and Animal Subjects

There were no human subjects involved in the project.

Conflict of Interest

None declared.

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