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## Advancing Opportunities for Clinical Inquiry and Professional Development During a Pandemic

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### ABSTRACT

A notable challenge faced by pediatric hospitals during the COVID-19 pandemic included the need to decrease inpatient census and socially distant non-clinical hospital employees to alternative work arrangements. In doing so, nurses and other clinical care services employees were reassigned to new roles, while others continue to work from home. This paper aims to describe how during the COVID-19 pandemic, a pediatric hospital-based center for nursing research and evidence-based practice used this opportunity to virtually engage staff across the department in topics of clinical inquiry through education sessions, office hours, and individualized/team consultation. Therefore, elevating and increasing the presence of nursing research and evidence-based practice while providing opportunities for the continued professional development of nurses, respiratory therapists, clinical dietitians, child life specialists and employees in neurodiagnostics.

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### Introduction

The impact of COVID-19 to children's hospitals differed greatly from adult health care settings and within Children's Hospital of Philadelphia (CHOP) Department of Nursing & Clinical Care Services (NCCS), some of the focus was on lowering census and reassigning staff to alternative work arrangements (Meier et al., 2020; Wolfson, 2020). Although clinical care needs decreased dramatically, the need to be productive for all staff remains a constant. CHOP's Center for Pediatric Nursing Research & Evidence-Based Practice (hereafter, "the Center") is driven to instill engagement of clinical inquiry while maintaining the quality of practice based on evidence. Given the sudden need for many staff to work from home, the Center looked to this as an opportunity to invigorate clinical inquiry within the environment. The multiprofessional Center team, consisting of nurse scientists, medical librarians, data manager, and evidence-based practice (EBP) specialists, rapidly devised virtual engagement opportunities including education, office hours, and individualized consultation. This paper aims to describe the Center's processes to engage staff in clinical inquiry during a time of change while continuing the Center's mission: to ensure children and families receive care that reflects CHOP's leadership in inquiry, innovation and the implementation of best practices.

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### Virtual education

To best support NCCS employees' professional development, the Center team is working strategically to design and rapidly implement virtual education offerings. The Center offers two standing virtual education sessions per week spanning topics of EBP, clinical inquiry, utilization of resources, and dissemination. The communication of the virtual education sessions was coordinated by the Center in partnership with the NCCS Professional Development team in the form of weekly flyers, internal web postings, and calendar invitations to key stakeholders.

In the months prior to the COVID-19 pandemic, the NCCS Department, led by the Center, was focusing on increasing the capacity and confidence of our employees' use of EBP in the clinical environment. To continue this work, the Center offers a series of learning sessions focused on rapid critical appraisal. In addition, the Center selected key areas of learning that were of frequent request in the year prior. Some of these topics include: searching the literature and reference management, using Research Electronic Data Capture (REDCap), (3) disseminating your project or research (abstracts/posters/oral presentations/manuscripts), and (4) engaging in a virtual journal club.

### Rapid critical appraisal

The Center aims to ensure all NCCS employees are making clinical decisions informed by, and based in, the highest quality evidence. To meet this aim, the practicing clinician must be able to rapidly appraise

a body of evidence and determine if the evidence can be applied to practice. One strategy the Center team is using to build clinician capacity in this area is offering virtual education sessions on rapid critical appraisal of nursing/healthcare literature. These virtual, real-time, rapid appraisal sessions include the appraisal of evidence related to a variety of topics including COVID-19 (for example: infection control, use of personal protective equipment and mental health during a pandemic). During the rapid appraisal sessions, participants are introduced to the particular study type or design and then asked to read the selected article. Once all participants have finished reading, the moderator, utilizing validated appraisal forms, prompts a discussion related to the quality, reliability and strength of the study. Participants then discuss the applicability of the study to practice.

#### *Searching the literature and reference management*

As part of the Center's efforts to increase departmental confidence and use of EBP, two librarians joined the Center staff in mid-2019. In addition to expanding virtual library offerings through acquisitions and licensing, they had begun a program of instruction (finding, accessing and using information resources) and consultation. Existing efforts such as participation in CHOP's Nurse Residency and Advanced Practice Provider programs moved seamlessly into the virtual space at the start of the COVID-19 pandemic. Sensing an opportunity for departmental staff to raise their literature searching skills and confidence, the librarians developed a two-part "Accessing the Literature" virtual offering. Offered live, the librarians have structured these one-hour sessions so that the first half is spent going through a set of PowerPoint slides and the second half is 'live' demonstration of the material covered in the presentation. The first session focuses on the basics of accessing CHOP's virtual library, an orientation to the databases, the basics of executing a search and linking to full-text of interesting search results. The second session, advertised as "advanced", discusses the use of controlled vocabulary, field searching, and use of search history. Database tools, accessed through individual accounts, and Boolean search techniques round out the advanced searching offering. Specialized resources such as systematic reviews and clinical guidelines are covered in both sessions given their relevance to EBP.

The librarians also moved EndNote instruction into the virtual space. EndNote, a bibliographic management tool, is helpful for NCCS staff working on extensive EBP and research projects. The librarians developed a two-part series: the first session focusing on the basics of EndNote, how to create a library, capturing citations and full text, and organizing citations in EndNote libraries. The second session focuses on EndNote's features for marking-up pdfs and annotating citations, searching within EndNote libraries, and using EndNote's Cite-While-You-Write functionality.

#### *Using Research Electronic Data Capture (REDCap)*

Prior to the pandemic, the Center has been working to provide support and education with regards to REDCap (Vanderbilt University, Nashville, Tennessee). REDCap is a secure, web-based system for building and maintaining online databases and surveys. At current state, CHOP has a team of three REDCap administrators that offer education and consultation. However, to meet the needs of NCCS employees, the Center's data coordinator, who is very experienced in using REDCap, has developed additional educational tools to use in small groups.

The Center offers two learning sessions for REDCap: "REDCap for the New User" and "REDCap: Introduction to Surveys." Both sessions use a "show and tell" presentation style with the facilitator screen-casting REDCap to all session participants. The first session, "REDCap for the New User" is a basic introduction to the web-based application intended to familiarize a user to the program. Taught by the Center's data coordinator, this session provides a brief tour and overview of the program including: orientation, terminology, user rights, forms, data exports and

the differences between 'development' and 'production' modes. The second REDCap session, "REDCap: Introduction to Surveys" is also designed for the novice user. This session is intended to give the learner a brief introduction on how to create, implement and disseminate surveys within REDCap. During this session, the difference between a REDCap data collection form and a survey is discussed and demonstrated. Session participants, in real time, learn how to implement the use of surveys in a REDCap project, how to enable data collection forms as surveys and finally, the different ways in which REDCap surveys can be disseminated.

#### *Disseminating your project or research*

Supporting dissemination of evidence-based projects, research and clinical inquiry is of utmost importance to the Center. And supporting NCCS employees in dissemination is a frequent ask of Center team members. Thus, participants of this series of sessions learn how to write an abstract, to develop a poster for presentation, to write a manuscript for publication and to give an oral or podium presentation. The facilitator of the sessions uses a combination of didactic presentation and demonstration to guide participants, in real-time, to internal and external dissemination resources. Participants of these sessions learn how the Center can support their efforts while sharing best practices to achieve optimal dissemination outcomes.

#### *Engaging in a virtual journal club*

At the request of the Chief Nurse Officer, the Center launched a virtual journal club open to all NCCS staff. Every two weeks a Center nurse scientist and librarian partner to post an article on a designated area of CHOP's intranet. Participants, who sign up in advance, are required to read the article prior to the virtual gathering. Articles have focused on research in current areas of interest, such as PPE use by nurses, efficacy of various types of face masks, mental health of health care workers in pandemics, and building and sustaining EBP competency. In each one-hour virtual meeting the nurse scientist leads a structured discussion about the articles, focusing on the research aspects and outcomes.

#### **Virtual office hours**

Ensuring NCCS employees have access to a member of the Center team every day is a key priority for the Center. In March we opened standing virtual office hours and are sustaining the schedule to date. To accommodate the needs of the diverse NCCS Department, the Center team created a standing schedule of virtual office hours that extends five days a week and offers various one-hour blocks of consultation between 0700 and 2100. The virtual office hours are publicized internally with the help of the NCCS Professional Development Team through departmental newsletters and the Center maintains a calendar on their internal webpage. This calendar itemizes the open virtual office hours by the name and role of the consultant (nurse scientist, EBP specialist, librarian, REDCap specialist) and the web link for the virtual meeting.

Not only do the virtual office hours meet the needs of NCCS employees outside of the Center; internally, Center team members use the open office hours for consultation with one another. This was not an original intention of the virtual office hours. However, we have found it to be of great benefit to extend our own opportunities for collaboration and consultation while our team is physically separated from one another.

#### *Virtual individualized or team consultation*

Prior to the changes in the clinical environment related to COVID-19, the Center operated in-person consultation services for individuals and teams requesting support. However, with social distancing requirements and alternative work arrangements, the Center team pivoted

and immediately transitioned to offering individualized consultation virtually by appointment.

With the assistance of the Center's senior resource coordinator, Center members are able to hold initial consultations, as well as follow-up consultations, virtually on hospital-supported web-based meeting platforms (BlueJeans, Skype, and WebEx). Although there are numerous benefits to in-person meetings, the Center team has found virtual consultations to be of equal standard. By conducting our consultations virtually, we are able to be flexible to the needs and schedules of NCCS employees. Additionally, if team members are spread across the inpatient and ambulatory clinical environments, virtual meetings enable stronger group participation as we are not limited by the need for physical travel, space and presence. Lastly, if a member of the project team is unavailable, the consultants are able to record meetings (if applicable) and then share the meetings with the individuals absent. This ability to record the meetings ensures all team members are on the same page and the projects can continue to move ahead.

## Discussion

The challenges of a clinical environment laser focused on a pandemic presented an immediate engagement obstacle for the Center and the individuals and teams they support across the NCCS department. Due to the limitations of social distancing and a rapidly evolving clinical environment, the Center team needed to quickly evolve and work to creatively extend opportunities for those pursuing their clinical inquiry and professional development.

In regard to the virtual education sessions, the earlier descriptions represent only a portion of the sessions offered by the Center team. Some examples of other virtual education sessions include: "Differentiating Evidence-Based Practice, Research and Quality Improvement," "Let's Talk EBP Implementation," and "How to Start a DNP Project at CHOP: A Panel Discussion." To date (6/12/2020), the Center staff have provided 27 live-virtual education sessions for the NCCS Department. And all of the sessions have been recorded and are posted on the Center's internal webpage for 24/7 access (of note, one limitation of the chosen platform is the lack of user-demographic access data). Initially, the Center team anticipated a decrease in new requests for direct consultations but this was not the case. Throughout the last three months, the Center's consultation service has been more prominent than ever. All across the Enterprise, NCCS employees are continuing to engage in clinical inquiry and thus, building the pool of evidence that supports clinical practice.

Exploring virtual opportunities to engage with staff is proving to be rewarding and in many cases optimizing our Center's usual practice. Virtual engagement allows the Center to connect to staff in real-time and simultaneously build a broad virtual education library of the

recorded sessions. To date (6/12/20), the Center is already using the recorded education sessions, as applicable, to enhance our individual and small group consultations. For example, if a nurse is reviewing articles for an EBP project, but does not remember how to appraise a qualitative research study, the Center's consultant can now offer the recorded session from the virtual education library in addition to individual consultation (if needed).

## Conclusions

Despite a rapidly changing clinical environment, centers of nursing research and EBP have the ability to continue inquiry focused professional development and build presence while supporting staff in an efficient and effective way. During the COVID-19 pandemic, the Center's multiprofessional team flexed to support each other to best leverage virtual engagement with staff to educate and consult on areas of clinical inquiry.

As we continue to navigate the dynamic clinical environment, the Center is sustaining the opportunities described and expanding content and services to meet the needs of those working across the NCCS department. Hospital-based centers of nursing research and EBP can capitalize on their expertise, and push beyond the pre-COVID-19 paradigm, to creatively engage clinical staff in inquiry-related learning and consultation. Providing these opportunities directly benefits the productivity of centers of nursing research and EBP while simultaneously increasing the competence and confidence of staff's use of inquiry-related practices and their professional development.

## Author statement

All authors contributed in the original drafting of the manuscript, the refinement of the manuscript, and provided final approval of the manuscript.

## Declaration of Competing Interest

None

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