Relationship-Centered Care in a Novel Dual-Visit Model COVID Nursery Follow-Up Clinic

Minna Saslaw, MD1,2, Melissa E Glassman, MD, MPH, IBCLC1,2, M Kathleen Keown, MD1,2, Jordan Orange, MD, PhD3, and Melissa S Stockwell, MD, MPH1,2,4

Abstract
The COVID Nursery Follow-Up Clinic at our academic medical center in New York City was established during the COVID-19 pandemic to provide care to infants born to SARS-CoV-2 positive mothers. We describe a novel dual-visit model utilizing telehealth and an in-person visit to provide timely, inclusive and relationship-centered care to the mother/infant couplet in a situation where the mother was unable to come to a traditional in-person visit, but the infant needed medically necessary in-person evaluation.

Keywords
newborn, COVID-19, telehealth, telemedicine, relationship-centered communication

Introduction
The COVID Nursery Follow-Up Clinic was established at our academic medical center in New York City to provide timely and relationship-centered care in the first week of life for infants born to SARS-CoV-2 positive mothers. On March 23, 2020, our hospital system started universal SARS-CoV-2 testing of all mothers admitted to our Labor and Delivery service. An infant born to a SARS-CoV-2 positive mother was considered a “person under investigation” (PUI) for the first 14 days of life based on CDC guidelines for isolation after exposure to SARS-CoV-2 (1). It was a challenge to obtain early outpatient follow-up for PUIs within the first 3 to 5 days of life and within 48 to 72 hours after hospital discharge recommended by the American Academy of Pediatrics (2,3) since mothers of these infants were still within their own quarantine period post-discharge, and many community pediatricians either closed completely or lacked personal protective equipment (PPE) to see these infants safely. To provide timely follow-up, relationship-centered care, and COVID-19 education, in a COVID-safe outpatient setting, a novel clinic at our institution in Northern Manhattan.

Description
The COVID Nursery Follow-Up Clinic was created by modifying an existing in-person Newborn Clinic framework and was physically located in our children’s hospital separate from our hospital-affiliated, community-based primary care sites (4). Clinic personnel consisted of a front office staff person, a medical assistant, and 2 pediatricians dedicated to this clinic. A third pediatrician was cross-trained for staffing sustainability in case of absence due to illness.

We created a dual-visit model consisting of a telehealth visit followed the next day by an in-person visit (Figure 1). Both visits were conducted by the same provider for continuity. The telehealth visit was performed through the hospital’s patient portal with mothers contacted telephonically by a dedicated team to help with the activation process prior to hospital discharge. A third pediatrician was cross-trained for staffing sustainability in case of absence due to illness.

Corresponding Author:
Minna Saslaw, Division of Child and Adolescent Health, Dept. of Pediatrics, CUIMC, 622 West 168th Street, VC 4, New York, NY 10032, USA.
Email: mms20@cumc.columbia.edu
concerns prior to the in-person visit, and engage in shared decision-making regarding future referrals and SARS-CoV-2 testing of the infant. Along with breastfeeding support and general anticipatory guidance, education was provided on SARS-CoV-2 and reducing transmission risk to the infant and family members. Telehealth enabled the family to see the provider without PPE, which allowed for ease of rapport setting. It also enabled the provider to assess infection control adherence to mask usage around the infant in real time, observe breastfeeding, and visualize the infant and his or her home environment prior to the in-person visit. Prior to hospital discharge, SARS-CoV-2 positive mothers were formally screened by hospital social workers for food insecurity, mental health concerns, domestic violence, and housing insecurity. The telehealth visit allowed the provider to follow up on any concerns previously identified by the hospital social worker and also to screen for postpartum depression using the PHQ 2 questionnaire.

For the in-person visit, the infant was brought by an asymptomatic caregiver wearing a mask. This caregiver was identified and screened for symptoms during the telehealth visit. The infant and caregiver were taken directly to an
examination room where measurements including the weight and transcutaneous bilirubin were obtained and a physical examination performed. Further SARS-CoV-2 testing of the infant was offered to the family starting October 4, 2020, when PCR swabs were more readily available at our institution for nonacute reasons. Additional follow-up care prior to the end of the 14-day PUI period was arranged in our clinic as needed for weight checks, bilirubin rechecks, and hospital discharge follow-up for infants readmitted to our hospital or after emergency department visits. An appointment for the subsequent visit at the infant’s future medical home was also scheduled after 14 days of age at the end of the PUI period.

**Results**

From March 23, 2020 to July 2, 2020, 117 infants had an initial evaluation in our COVID Nursery Follow-Up clinic; 108 infants were from our 2 well-baby nurseries and 9 infants were from our neonatal intensive care unit (NICU). Nearly all (97%, 114/117) had an initial negative SARS-CoV-2 test in the nursery prior to discharge; 2 infants had indeterminate results. One was not retested and the other retested negative prior to discharge. One infant had a “positive” initial result, retesting negative 5 hours later and again prior to discharge, as well as testing negative at the COVID Nursery Follow-Up Clinic visit. Overall 15% (18 of 117) of the infants with an initial visit required an additional visit for follow-up for weight checks, hyperbilirubinemia, emergency department visits, or hospitalization. There additional visits were all in-person visits.

Nearly all (88%, 103 of 117) of telehealth visits were able to be conducted via video, with the remaining converting to a telephonic visit due to technical issues. The show rate for the initial video visit and initial in-person visits was 100%, and 94% for subsequent in-person follow-up visits for other medical reasons identified during or after the initial visit.

All telehealth visits were conducted with the mother, except for one with the father due to the mother’s readmission; 53% (62/117) of the mothers were Spanish speaking and the rest spoke English. No urgent medical issues were identified in the telehealth exam of the infants; however, multiple times there were crib safety issues or infection control issues such as mask adherence that needed to be addressed.

Nearly two-thirds (60%; 70 of 117) infants were brought by the father to the initial in-person visit, 4 by mothers no longer in their quarantine period due to positive testing at different times prior to delivery but not at delivery, 2 by family friends, and the rest by other nonparent family members. One NICU infant was not seen in-person as the family and infant had been seen by their community pediatrician prior to the telehealth visit and thus another in-person visit was not thought to be necessary.

The average age of infants from the well-baby nurseries was between 5 and 6 days of life, and from the NICU at 8 days of life. The in-person visit was on average between 2 and 3 days from the discharge date. Infants between 34 weeks gestational age (GA) to 41 weeks GA were seen, 18 infants were younger than 38 weeks GA. Most (92%) of infants were publicly insured or did not have insurance information entered into their chart, and the rest had commercial insurance. When more widespread testing became available, parents were offered repeat SARS-CoV-2 testing of their infant. Parents of 64 of the 89 infants offered testing chose testing in our clinic and all tested negative during the in-person visit. Overall, 25 mother/infant couplets were referred for telehealth breastfeeding support with a lactation consultant. Other referrals included urology for circumcisions and community programs for parenting and mental health support.

**Lessons Learned/Discussion**

As New York City became the first epicenter for SARS-Cov-2 in the United States, we needed to utilize existing resources quickly and effectively in order to provide medical care to infants born to SARS-CoV-2 positive mothers. As the number of these infants rapidly increased in March and April 2020 with a subsequent decrease mirroring the slowing of new cases in NYC, this model was able to be adapted to both a surge period and the period after. Institutional and departmental support allowed for us to quickly find staffing, space and all necessary equipment and PPE for the clinic. The electronic medical record used by our institution allowed for telehealth visits via the patient portal and having a team dedicated to enrolling the mothers and infants into this platform prior to discharge from the well-baby nursery was crucial to the success of this model.

The dual-visit model utilizing telehealth followed by in-person visits allowed inclusive, relationship-centered care in a situation where the mother was unable to come to a traditional in-person visit. The telehealth visit allowed for a non-PPE encumbered setting to establish rapport, explore maternal concerns, use and notice nonverbal communication while providing anticipatory guidance, and provide direct observation of the home environment. Direct observation of mask use, breastfeeding, and hand hygiene and a chance to discuss care goals with the mother who would be unable to accompany the infant to a traditional in-person only visit were also a benefit of this model.

The success of this dual-visit telehealth with in-person visit model can be adapted to other specialties where in-person visit time may need to be minimized to help with social distancing in the waiting room or where the primary caregiver is unable to accompany the patient to the visit.

**Acknowledgments**

The authors would like to thank Ambulatory Operations in the Department of Pediatrics at Columbia University Irving Medical Center and the NYP Department of Population and Community Health including James Savage, Janna Long, Anita Patel, Oana...
Leric, Maria Burke, Emelin Martinez, Fiordaliz Cabral, and Yohaida Matos.

**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) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by funding from Hyundai Motor America and Hope on Wheels.

**ORCID iD**
Minna Saslaw, MD [https://orcid.org/0000-0002-0229-8571](https://orcid.org/0000-0002-0229-8571)

**References**
1. Centers for Disease Control and Prevention. Evaluation and management considerations for neonates at risk for COVID-19. 2020. Accessed November 12, 2020. www.cdc.gov/coronavirus/2019-ncov/hcp/caring-for-newborns.html
2. American Academy of Pediatrics Subcommittee on Neonatal Hyperbilirubinemia. Management of hyperbilirubinemia in the newborn infant 35 or more weeks of gestation. Pediatrics. 2004;114:297-316. doi:10.1542/peds.114.1.297
3. Hagan JF, Shaw JS, Duncan PM. Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents. 4th ed. American Academy of Pediatrics; 2017.
4. Glassman ME, Diamond R, Won SK, Johal J, Sirota DR. Newborn clinic: a novel model to provide timely, comprehensive care to newborns following nursery discharge. Clin Pediatr (Phila). 2020;59(14):1233-1239. doi: 10.1177/0009922820944400

**Author Biographies**
Minna Saslaw is an assistant professor of Pediatrics at Columbia University Irving Medical Center. She is focused on improving the patient experience through her work as the Co-Director of the NewYork-Presbyterian Relationship Centered Communications Skills Workshops. She also participated in the creation of and oversaw the operations of the COVID Nursery Follow-up clinic during the surge period for COVID-19 in New York City until the program’s transfer to the NewYork-Presbyterian’s Ambulatory Care Network’s Newborn Clinic.

Melissa Glassman is an assistant professor of Pediatrics at Columbia University Irving Medical Center. She is the founder and medical director of NewYork-Presbyterian’s Ambulatory Care Network’s Newborn Clinic and the Ambulatory Care Network’s Breastfeeding Support Program at Newborn Clinic. She participated in the creation of the COVID Nursery Follow-up Clinic and currently has been in charge of its operations since July 2020.

M. Kathleen Keown is a general pediatrician, assistant professor of Pediatrics at Columbia University Irving Medical Center, and associate director for Columbia Community Pediatrics. She is the chair for the American Academy of Pediatrics’ Committee on Underserved Children and a member of the steering committee for the New York State Pediatric Advocacy Coalition. During the COVID-19 pandemic, she cared for newborns of Sars-CoV-2 positive mothers in the COVID Nursery Follow-up Clinic.

Jordan Orange is the chair of pediatrics at Columbia University College of Physicians and Surgeons and pediatrician-in-chief of NewYork-Presbyterian/Morgan Stanley Children’s Hospital. He is a member of the American Society for Clinical Investigation and the American Pediatric Society and was a recipient of the E. Mead Johnson Award for research accomplishment in pediatrics from the Society for Pediatric Research.

Melissa Stockwell is chief of the Division of Child and Adolescent Health and an associate professor of Pediatrics (Vagelos College of Physicians and Surgeons) and Population and Family Health (Mailman School of Public Health). She is founding director of the Department of Pediatrics’ Center for Children’s Digital Health Research. She is the associate director of the American Academy of Pediatrics (AAP) Pediatric Research in Office Settings (PROS) practice-based research network, and a member of the American Pediatric Society.