



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.

patients who met criteria for eradication but grew *P. aeruginosa* within 3 years of eradication was successfully eradicated a second time.

Conclusions: We successfully implemented a multistep protocol for PSA eradication at our center, leading to a consistent approach. Our eradication success was consistent with the Blanchard paper but in a real-world setting. Primary barriers to protocol adherence were inadequate follow-up cultures and refusal of intravenous therapies for eradication. Prospective studies are needed to determine the most effective eradication strategy.

References

- [1] Mogayzel PJ Jr, Naureckas ET, Robinson KA, Brady C, Guill M, Lahiri T, et al., Cystic Fibrosis Foundation Pulmonary Clinical Practice Guidelines Committee. Cystic Fibrosis Foundation pulmonary guideline: Pharmacologic approaches to prevention and eradication of initial *Pseudomonas aeruginosa* infection. *Ann Am Thorac Soc* 2014;11(10):1640–50.
- [2] Blanchard AC, Horton E, Stanojevic S, Taylor L, Waters V, Ratjen F. Effectiveness of a stepwise *Pseudomonas aeruginosa* eradication protocol in children with cystic fibrosis. *J Cyst Fibros* 2017;16(3):395–400.

67

Implementation of a health screening process for cystic fibrosis care during the COVID-19 pandemic

B. Evangelista¹, R. Murray¹, R. List¹, D. Albon¹, H. Bruschein², M. Compton¹, D. Jennings¹, R. Turner¹, L. Somerville¹. ¹Division of Pulmonary and Critical Care, University of Virginia Health System, Charlottesville, VA; ²Department of Psychiatry and Neurobehavioral Sciences, University of Virginia Health System, Charlottesville, VA

Background: Cystic fibrosis (CF) is associated with complications such as CF-related diabetes (CFRD) and bone disease. The Cystic Fibrosis Foundation advises routine screenings as the standard of care for early identification and treatment of these complications. Specifically, the foundation recommends annual completion of an oral glucose tolerance test (OGTT) and a dual-energy X-ray absorptiometry (DEXA) bone density scan at least every 5 years. In 2019, 55% of eligible patients completed an OGTT, and 68% completed a DEXA scan at UVA Health System (UVAHS). Transition of in-person clinic visits to telemedicine during 2020 and 2021 decreased completion of health screenings. The UVAHS team used quality improvement tools to design a process to maintain and increase OGTT and DEXA completion rates with the new hybrid nature of clinical care. The aim of this project is to define a replicable, reliable process for obtaining health screenings in the setting of hybrid patient care.

Methods: Quality improvement tools highlighted in the Model for Improvement methodology guided production of a simplified failure mode effects analysis (sFMEA) to identify areas for intervention. A process was developed to track patient eligibility and completion of screenings and adapted through iterative plan-do-study-act (PDSA) cycles. CF registered dietitians (RDs) documented completion of OGTTs and DEXAs in a secure Excel spreadsheet coded to flag patients due for each health screening. Two weeks before clinic, both RDs referenced the spreadsheet to determine patients due for health screenings. All identified patients were contacted to inform them of the health screenings due. Patients and RDs then co-produced a plan for completion of the health screenings at an in-person visit, at a local lab, or in conjunction with a non-CF health care appointment. Regardless of the plan, patients were provided outpatient lab order requisitions. To ensure communication with other care team members, patients contacted about and scheduled for their screenings were denoted in the shared Health Insurance Portability and Accountability Act-compliant clinic tracking platform. Clinic nurses received outside lab results via fax and all in-house results through the electronic medical record system. Once lab results were reviewed and communicated to the patient, the health screening spreadsheet was updated.

Results: In 2020 and 2021, 39% of eligible patients completed an OGTT, and 76% of eligible patients completed a DEXA scan. Of those who completed an OGTT in 2020 and 2021, 68% and 74%, respectively, indicated abnormal results consistent with impaired fasting glucose tolerance or CF-related

diabetes. Most patients with up-to-date DEXA scans by the end of 2021 were positive for osteopenia or osteoporosis (53%).

Conclusions: Through the creation of a standardized protocol using iterative PDSA cycles, patients continued to sustain routine health screenings despite reduced in-person clinic visits, allowing for identification and intervention for many patients regarding diabetes and bone health. Continuation of this protocol will enhance our ability to collect patient health screenings while providing the same high-quality care via telemedicine that we provide with in-person visits.

68

Increasing care coordination between the primary cystic fibrosis team and gastroenterology in a pediatric cystic fibrosis care center using the model of improvement

K. Trieschmann¹, B. McCullar², S. Deal², P. Rose², Z. Orcutt², M. Johnson², C. Saxton², L. Deveaux³, M. Weil², S. Dykes², M. Powers². ¹Division of Gastroenterology, Doernbecher Cystic Fibrosis Center, Department of Pediatrics, Oregon Health & Science University, Portland, OR; ²Doernbecher Cystic Fibrosis Center, Department of Pediatrics, Oregon Health & Science University, Portland, OR; ³Doernbecher Cystic Fibrosis Center, Oregon Health & Science University, Portland, OR

Background: Our cystic fibrosis (CF) quality improvement (QI) team comprises multidisciplinary team members and engaged patient and family partners. Our patient and family partners expressed a desire for intentional care coordination processes that ensure that people with CF (PwCF) have seamless access to personalized timely care. During a transition period in which a new CF gastroenterology (CF-GI) provider onboarded, it became evident that CF-GI appointments were not being scheduled consistently or being coordinated between the CF team and CF-GI. Our global aim for this project was to improve the scheduling coordination process for CF-GI patients to optimize coordinated patient care and reduce travel and time burdens on PwCF.

Methods: We used the model of improvement to guide our improvement efforts. Our first step was to organize our plans by creating a project charter, and our second step was to measure current care coordination between CF-GI and the CF team. In addition, a robust scheduling process map was created to clarify the scheduling steps and barriers to scheduling and to identify stakeholders. A simplified failure mode effects analysis (sFMEA) was used to list the current process, barriers (failure mode), and potential interventions. We defined measures and set goals using a specific, measurable, applicable, realistic, timely goal: increase the percentage of PwCF who have coordinated CF team and GI appointments from 56% to 90% by December 31, 2021. A key driver diagram (KDD) helped us develop our theory of improvement (drivers) to achieve our goal. The sFMEA tool was helpful in selecting interventions in the KDD (changes) to test in a plan-do-study-act framework. Interventions included CF clinic schedulers schedule all coordinated CF and CF-GI appointments, CF clinic schedulers have access to GI schedule template, practitioners and clinic registered nurses identify need for care coordination in real time before patient leaves CF clinic, and coordinated follow-up appointments scheduled before patients leave CF clinic.

Results: Clinic visits that were deemed appropriate for care coordination between the primary CF team and the CF-GI provider were measured over 31 weeks for a total 77 encounters. A centerline of 60% coordinated visits was documented through week 14. During weeks 14 to 18, new clinic schedulers were onboarded and trained on the coordinated scheduling process. A new centerline of more than 90% coordinated visits was documented after week 16. Seventy-one percent of coordinated clinic visits were scheduled before the patient left the previous clinic visit. A communication process between clinic registered nurses and clinic schedulers ensured that the vast majority of PwCF obtained scheduled coordinated clinic visits.

Conclusions: A multidisciplinary CF QI team was able to incorporate a new CF-GI provider into our improvement team and listen to patient and family partners to identify an area for improved clinical care. By using the QI tools for improvement, clinic coordination of CF-GI patients was improved from 56% to more than 90%. These results demonstrate how tools for improvement combined with relationship building and better