The background features a photograph of a building entrance with a large, arched doorway. The words "DODD CHAUX HALL" are visible above the entrance. A large, dark silhouette of a hand is overlaid on the left side of the image, with the fingers pointing towards the building. The right side of the image is a solid dark green color.

Assessing Health System Preparedness and Screening Process/Workflow during the COVID-19 Pandemic

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DNP Project Poster Presentation

Introduction

- ▶ The latest COVID-19 clinical management guidelines by the WHO (2021) and CDC (2021) recommended that COVID-19 care pathways be established at all local, state, and national levels
- ▶ Despite the advancement in modern medicine, hospitals, clinics, and healthcare systems in the United States (US) were not prepared to be able to rapidly identify and treat the COVID-19 virus (Hick & Biddinger, 2020).
 - The CDC (2021) called for the need for a strict standard operating procedure (SOP)
 - Tennessee, with more than 7.4 million COVID-19 tests completed, and over 840,000 positive cases to date (TN Department of Health, 2021).



Introduction

- ▶ Major health complications that are commonly seen with those infected with COVID-19
 - World Health Organization (WHO) (2021) recommends that samples be collected as soon as possible and tested using polymerase chain reaction (PCR) to initiate a rapid result
- ▶ The project outcome focuses on the ability to assess the reliability, validity, and clinical significance of the literature findings, and provide applicability to the COVID-19 assessment clinic



Problem Statement

- ▶ Difficult to standardize processes for screening within the COVID-19 assessment clinic
- ▶ ***Clinical problem:*** understanding flow of the clinic process
 - Staffing, communication, patient flow
- ▶ The Centers for Disease Control and Prevention (2021) and World Health Organization (2021) recommended a *formalized clinic process*
- ▶ Parameters of the problem: affected staff, patient volume, and COVID-19 assessment clinic flow



Purpose and Objectives

- ▶ **Purpose:** evaluate the flow of the clinic process at the COVID-19 assessment clinic.
- ▶ **Aim:** analyze current data
 - Literature synthesis
- ▶ **Objectives:**
 1. Collect high quality research data on previous clinic processes developed from prior pandemics and/or epidemic outbreaks and analyze their clinic process.
 2. Assess the current clinic process (i.e. staff, communication, patient flow).
 3. Provide up-to-date recommendations for future pandemic and/or epidemic clinic preparedness at VUMC.



Methods

▶ **Project Design- Qualitative, retrospective study**

- *McLaughlin & Jordan's (1999) Logic Model for Program Evaluation*
 - Response material exploration of monthly clinic visit data, provider schedule data, medical center email communications and medical center COVID-19 Strategic Planning Response
 - Time period- months of October 2020, December 2020, April 2021

▶ **Setting**

- Walk-in COVID-19 assessment clinic at Vanderbilt University Medical Center (VUMC), a level-one trauma hospital, located in Nashville, Tennessee.
 - Time period: March of 2020 to July of 2021
 - symptomatic and asymptomatic employees and patients of all ages

▶ **Participants**

- Full time and PRN nurse practitioners and physician assistants
 - Full-time VUMC employee, fully licensed and credentialed in state of TN, graduate of accredited school of nursing/physician assistant, with or without clinical experience



Methods (cont.)

► Inclusion criteria:

- Provider: nurse practitioner or physician assistant
- Full-time VUMC employee or PRN status
- Fully licensed in the state of Tennessee + credentialed by VUMC
- Graduate of an accredited school of nursing/physician assistant, with or without clinical experience
- Male or Female

► Exclusion criteria:

- Medical doctors (MD, DO, residents, fellows, medical students in any field of medicine)
- Nursing students (baccalaureate or master's)



Methods (cont.)

- ▶ **Plan for Implementation:** McLaughlin & Jordan's (1999) Logic Model for Program Evaluation Framework
 - Engagement of Stakeholders
 - Description of the Program
 - Evaluation Design
 - Gathering Credible Evidence
 - Excel spreadsheet
 - Number of patients seen by each provider that month
 - Daily + weekly emails sent out during each of the 3 implementation months
 - COVID-19 Strategic Planning Response Materials
 - Usability/Feasibility



Data Collection

- ▶ ***Time period- October 2020, December 2020, April 2021***
 - Review excel spreadsheet- # of providers scheduled for each day during that particular month
 - Review of hospital's COVID-19 communication emails + COVID-19 Strategic Planning Response Material Box on clinical guidelines/recommendations
 - Materials box: daily command center report summary-
 - Count how many changes were made with every communication email regarding COVID-19 guidelines and staffing
 - Number of changes to clinical, testing, treatment and follow-up guidelines
 - Number of team huddles
 - Number of communications that were implemented
 - Review of clinic patient visits for each month
 - Plan for submission to IRB

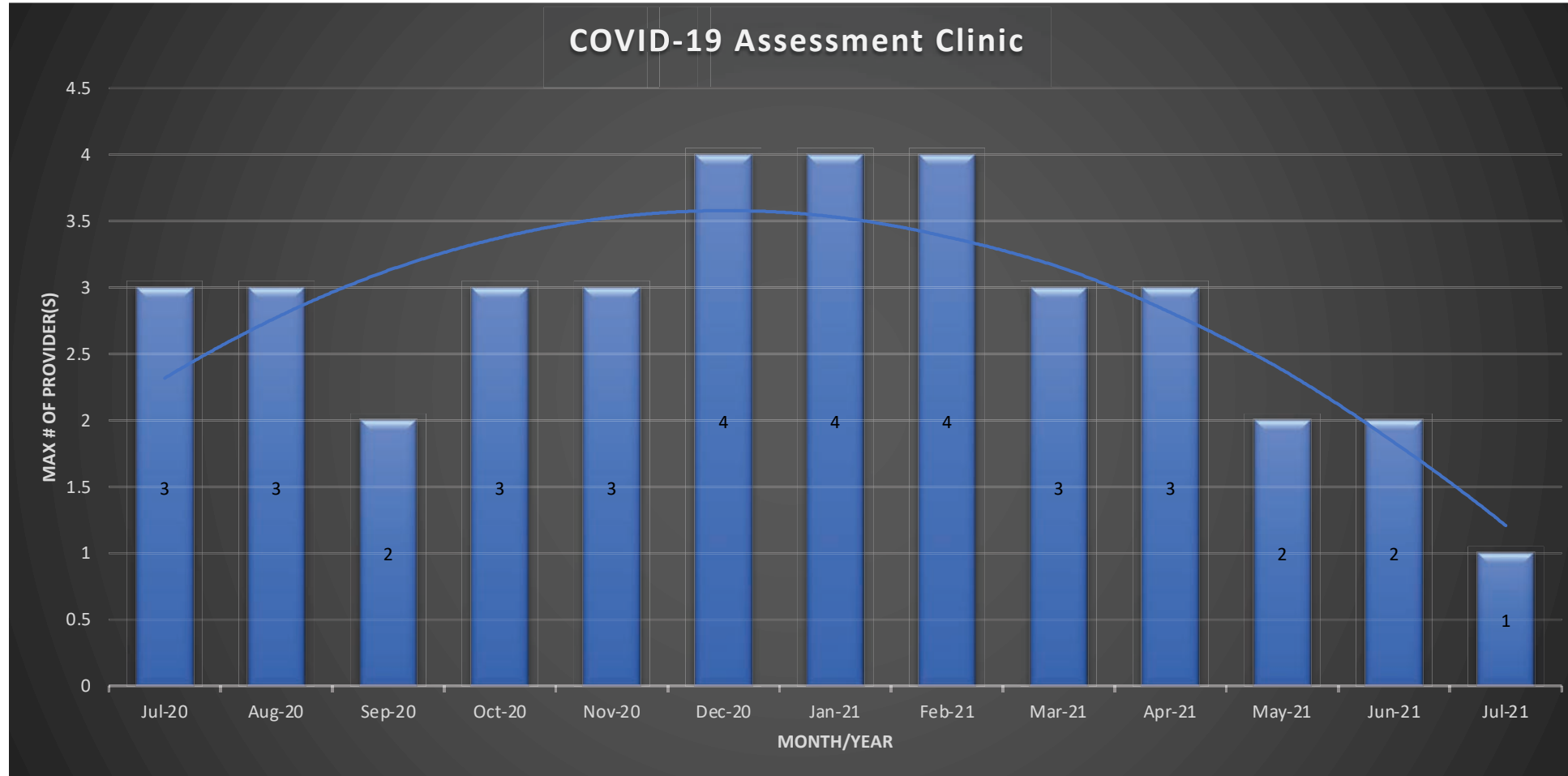


Analysis of Data

- ▶ Microsoft Excel spreadsheet: *Analyzing*
 - # of providers
 - # of monthly patient visits
 - # of communication emails, updated Covid-19 guidelines discussed in each
- ▶ Descriptive Statistics: measure central tendency (mean, median, mode) of data collection
- ▶ Communication emails: will be exemplified through a qualitative data approach using identification, examination, and interpretation of patterns and themes and how these lined up with the staffing, patient flow, and clinic processes



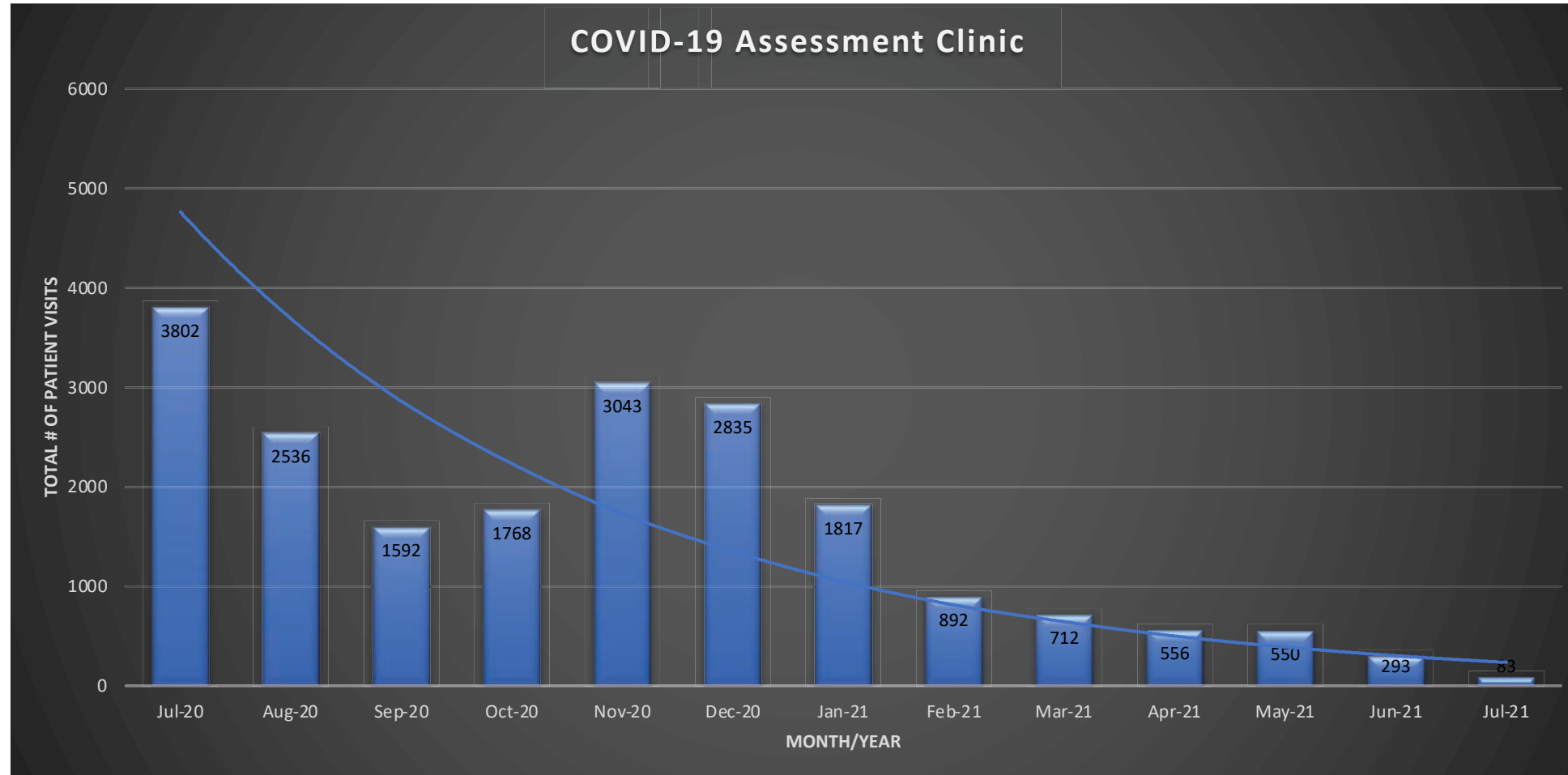
Results (figure 1)



Month/Year	# of Providers
Jul-20	3
Aug-20	3
Sep-20	2
Oct-20	3
Nov-20	3
Dec-20	4
Jan-21	4
Feb-21	4
Mar-21	3
Apr-21	3
May-21	2
Jun-21	2
Jul-21	1



Results (figure 2)



Month/Year	Total Visits
Jul-20	3802
Aug-20	2536
Sep-20	1592
Oct-20	1768
Nov-20	3043
Dec-20	2835
Jan-21	1817
Feb-21	892
Mar-21	712
Apr-21	556
May-21	550
Jun-21	293
Jul-21	83



Results (cont.)

*Communications:	
Weekly email(s) sent in month of October 2020:	1
number of changes to clinical/testing guidelines:	0
number of changes to treatment guidelines:	6
number of changes to follow up guidelines:	0
Weekly email(s) sent in month of December 2020:	2
number of changes to clinical/testing guidelines:	3
number of changes to treatment guidelines:	7
number of changes to follow up guidelines:	0
Weekly email(s) sent in month of April 2021:	1
number of changes to clinical/testing guidelines:	3
number of changes to treatment guidelines:	10
number of changes to follow up guidelines:	4

Strategic Planning Box Month of October 2020	
number of team huddles:	4
number of communication implemenations:	19
Strategic Planning Box Month of December 2020	
number of team huddles:	19
number of communication implemenations:	45
Strategic Planning Box Month of April 2021	
number of team huddles:	5
number of communication implemenations:	14



Implications for Practice

- ▶ The results of the project reflected the current data collected from the literature synthesis regarding staffing, communication, and clinic/patient flow.
- ▶ The **staffing** result showed that proper staffing is critical
- ▶ Weekly **communication** emails allowed employees to stay educated
- ▶ Strength and Limitation of the project



Conclusion

- ▶ In conclusion, adequate staffing and proper communication methods reflected the current literature data regarding the preparedness, effectiveness, and efficiency of the testing center. Although there are other aspects to a formalized clinic process, emphasis on staffing and communication helped build smooth patient flow and created a safe and effective clinic process. These findings can further provide evidence-based recommendations for future pandemic and/or epidemic clinic preparedness at Vanderbilt University Medical Center.



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