



Interprofessional Response for Covid-19 Mass Vaccination in Nassau County

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Abstract

Purpose: To examine the interprofessional response teams, specifically the Medical Reserve Corps (MRC) in Nassau County, Florida during the COVID-19 pandemic and their impact on mass vaccination campaigns from January – May 2021. **Methods:** A retrospective review was completed using a raw data set built for NCEM's WebEOC program. Participants included MRC members who participated in 202 points of dispense (PODs) that occurred between January – May 2021. Allotted vaccine doses across 202 PODs in relation to MRC participation is the outcome. **Results:** The sample consisted of 202 Points of Dispense (PODs), between January and May 2021 with a total of 35,103 vaccine doses allotted for the entire time. Volunteer participation was close between the two groups, 50.5% yes and 49.5% no, specifically MRC participation was at 33.2% (n=67). A statistically significant difference for allotted doses of vaccine with MRC participation; $U=1328.00$, $z=-8.235$, $p<0.001$, with a large effect size of $r = 0.58$. **Conclusion:** The findings of this study were statistically significant. This added value to the literature on mass vaccination, choice of vaccination site, interprofessional relationships at the community level, and use of volunteers because it showed a real-world application during a current, and ongoing, global pandemic.

Introduction

- Nassau County, Florida interprofessional response teams included the Department of Health, Emergency Management, Board of County Commissioners, Medical Reserve Corps, Team Rubicon and Amateur Radio Emergency Services.
- United States (U.S.) emergency response system is a complex response network that crosses local, state as well as federal forms of government. Response begins at the lowest level and continues to grow as it becomes overwhelmed (Wolf-Fordham, 2020).
- Covid-19 pandemic highlighted public health weaknesses in human resources as well as preparedness competencies (Czabanowska & Kuhlmann, 2021).
- This is important because many of the plans for mass vaccination relied heavily on the existing arrangement of community-based healthcare sites which included health departments, public health clinicians, pharmacies, and clinics but it may not be sufficient to produce the amount of rapid vaccination a community may need to overcome a large-scale pandemic (Goralnick et al., 2021).

Aim

The purpose of this study was to examine the interprofessional response teams, specifically the use of the MRC, in Nassau County, Florida during the COVID-19 pandemic, and their impact on mass vaccination campaigns from January – May 2021.

Methodology

- A retrospective review was conducted for 202 vaccination Points of Dispense (POD) between January – May 2021. A raw data set was built in an IBM SPSS 27 spreadsheet using information from NCEM's WebEOC program. The dichotomous nominal independent variable was MRC participation. The scale dependent variable was allotted vaccine doses.
- Descriptive and inferential statistics were calculated using IBM SPSS Statistics (version 27) for statistical analysis.
- The variable MRC participation was tested for normality using the Shapiro-Wilk test. A Mann-Whitney U test analyzed the hypotheses: there was no difference in allotted vaccine doses in relation to MRC participation. The alpha level for all tests was set at .05, two-tailed.

Table 1

Descriptive Statistics of Covid-19 Vaccination Points of Dispense

	N = 202	
	Frequency	Percent
Vaccine Manufacturer		
Moderna	42	20.8
Pfizer	159	78.7
Johnson & Johnson	1	0.5
Volunteer Participation		
Yes	102	50.5
No	100	49.5
Location		
Yulee Clinic	71	35.1
Yulee Sports Complex	10	5.0
Callahan Fairgrounds	17	8.4
Peck Center	4	2.0
Station 30	44	21.8
Yulee Middle School	15	7.4
Closed POD	41	20.3
MRC Participation		
Yes	67	33.2
No	135	66.8
Months		
January	28	13.9
February	58	28.7
March	57	28.2
April	50	24.8
May	9	4.5

Table 2

Comparison of MRC volunteer participation by Mann-Whitney U Test

	N	Mean Rank	Sum of mean ranks	U	Z score	P value
Did not participate	135	77.84	10508.00			
Did participate	67	149.18	9995.00	1328.00	-8.235	<0.001***

Note. *** indicates statistical significance.

Results

- The sample consisted of 202 PODs between January - May 2021 with 35,103 vaccine doses allotted for that period.
- Seventy-eight percent of the doses allotted were manufactured by Pfizer with most of the PODs being held between February, 28.7%, and March, 28.2%.
- Volunteer participation was closely distributed between both groups, 50.5% yes and 49.5% no. Volunteers included Team Rubicon, Medical Reserve Corps (MRC), and Amateur Radio Emergency Services (ARES).
- Results did show a statistically significant difference for allotted doses of vaccine with MRC participation; $U=1328.00$, $z=-8.235$, $p<0.001$, with a large effect size of $r = .58$.



Discussion

Findings suggest that the use of volunteers, specifically MRC members, had an impact on the number of allotted doses that were able to be distributed during the mass vaccination events, or PODs, held as well as managed by the Nassau County Department of Health (NCDOH) and Nassau County Emergency Management (NCEM) from January 1, 2021 – May 5, 2021. Data suggested that the interprofessional response teams utilized large vaccination sites, which included schools and sports complexes, in conjunction with traditional community-based health centers which contributed to the increased use of volunteers and POD availability for the public. An unexpected outcome was that MRC volunteer attendance represented only about a third of the total PODs even though they had a statistically significant impact on administered doses.

Limitations

- Information obtained was used for the planning and staging of all the PODs
- Data was retrieved from self-reporting of ICS 214 logs which can lend itself to recall bias
- Information requested from the NCDOH was often blocked and redirected to the FDOH public affairs office in Tallahassee

Recommendations

- Host Agency:** establish the MRC as a community volunteer organization that can be utilized outside of a global pandemic by coordinating with local event planners, agencies, and businesses to supplement event activities. This is important because it keeps members involved in the organization, creates community engagement, and allows members continuing education and readiness in case of an emergency.
- Public Health Impact and Practice:** vet already existing and well-established MRC volunteers through the proper FDOH channels so they are better able to help support the NCDOH in their clinics, health departments and community functions.
- Further Research:** fund adequate peer reviewed research utilizing ASPR's current national system for registered hours, activities, locations, and fiscal impact.

Conclusion

The purpose of this study was to examine the interprofessional response teams, specifically the Medical Reserve Corps (MRC), in Nassau County, Florida during the COVID-19 pandemic, and their impact on mass vaccination campaigns from January – May 2021. The findings of this study were statistically significant, this added value to the literature on mass vaccination, choice of vaccination site, interprofessional relationships at the community level and use of volunteers because it showed a real-world application during a current, and ongoing, global pandemic.

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