

# The Effect of the COVID-19 Pandemic on the Family and Community Medicine Residency Training Program: The Philippine Experience

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## ABSTRACT

**Background.** The COVID-19 pandemic had a profound impact on medical education, particularly in Family and Community Medicine training programs. This study aimed to assess the impact in the Philippines by comparing the number of cases and procedures before and during the pandemic, as well as the adaptations made by these programs.

**Objective.** The objective of this study was to determine the effect of the COVID-19 pandemic on Family and Community Medicine training in the Philippines by comparing the average number of cases and procedures done before and during the pandemic and the changes implemented by the different accredited training programs.

**Methods.** A cross-sectional study utilizing an explanatory sequential mixed methods approach was undertaken. The quantitative portion collected data on cases and procedures from the participating institutions' residents using the standardized checklist of the Philippine Academy of Family Physicians. The qualitative portion was done through a focused group discussion (FGD) following a prepared set of FGD questions. Analysis of variation (ANOVA) was used to compare the average cases seen and procedures across the four years and content analysis for the qualitative data.

**Results.** There was a significant decrease in the average number of adult and pediatric cases during the pandemic years (2020-2021) compared to before (2018-2019). Various organ systems cases such as neurology, ophthalmology, dermatology, and gastrointestinal, showed significant differences ( $p$ -value  $<0.05$ ) in the average number of pediatric cases. For adult cases, significant differences ( $p$ -value  $<0.05$ ) were found for several organ system cases when comparing the years before (2018-2019) and during the pandemic (2020-2021), including neurology, ophthalmology, ENT, dermatology, cardiology, gastrointestinal, genitourinary, reproductive health, musculoskeletal, and endocrinology cases. The trainers adjusted training activities to support the hospital's COVID-19 response and that prompted an abrupt shift to online strategies for patient consultations, teaching sessions, and examinations.

**Conclusion.** The COVID-19 pandemic led to a reduction in the variety of cases and procedures in Family and Community Medicine training, impacting the fulfillment of specialty training requirements. However, it also drove innovation through the integration of technology, including online teaching methods. These experiences underscore the importance of resilience and adaptability in medical education and offer valuable lessons for future training programs, potentially leading to improvements in training and patient care through innovative methodologies.

**Keywords:** Family and Community Medicine training, COVID-19 effect, medical education



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## INTRODUCTION

The pandemic affected most medical educational programs, especially those needing hands-on patient care. Residency training programs designed to provide learning experiences based on the variety of cases and clinical placements need to adjust their training standards. Family and community residency training that requires training strategies to cover most primary care cases, urgent and emergency conditions, and case management of secondary level cases need to recalibrate to address the challenges posed by community quarantine guidelines.

Initial publications on the adaptation strategies of training programs in other countries showed that most utilized virtual platforms to continue training sessions.<sup>1</sup> These programs reported that videos and simulations were used to provide clinical experiences to trainees. For Family and Community Medicine training that requires gathering both biomedical and psychosocial data, simulations may not be sufficient to meet the training needs.

The Philippine Academy of Family Physicians (PAFP) through the PAFP Residency Training Implementing Rules and Regulations, 2017, set a range of standards based on the quality of training sessions, case discussions, mentoring, feedback, and achievement of competencies in clinical case management and procedural skills.<sup>2</sup> The PAFP residency programs also offer two alternative paths: a hospital-based, 3-year program usually in a multi-specialty hospital, or a practice-based, 4–5-year program where the training occurs at the area of the trainee's practice coupled with exposures in the base hospital.<sup>3</sup> Both tracks have similar competency requirements which were readjusted through the PAFP interim guidelines during the pandemic in consideration of the need to refocus efforts on frontline services for COVID-19 and to lessen the mental health toll the residents were also experiencing during the pandemic.<sup>4</sup> The results of these adjustments and how the programs coped, however, needs to be explored.

## OBJECTIVES

The main goal of this study was to determine the effect of the COVID-19 pandemic on residency training in Family and Community Medicine.

Specifically, it aimed:

1. To compare the variety of cases managed by trainees before and during the pandemic
2. To compare the procedures performed by trainees before and during the pandemic
3. To explore the changes in training strategies implemented by the programs to meet the standards of training during the pandemic

The results of the study aimed at guidelines for residency training in times of crisis and reorientation for the Family

and Community Medicine training curriculum to be responsive to pandemics or disasters.

## MATERIALS AND METHODS

### Study Design and Population

This was a cross-sectional study utilizing explanatory sequential mixed methods to measure the effect of the COVID-19 pandemic on the residency training programs in Family and Community Medicine. The study was conducted from July 2021 until September 2022. The quantitative study focused on the variety of cases and procedures done, while the qualitative study collated the strategies utilized by the training administrators in line with the results of the quantitative data.

The population for the quantitative portion was composed of resident trainees of family and community medicine from January 2018 to December 2021, both from traditional hospital-based and practice-based programs, and those who graduated from residency training from Dec 2020 to June 2022. However, resident trainees who resigned from residency during the pandemic and who graduated from training before the community quarantine was declared in the area from January to March 18, 2020, were excluded.

For the qualitative part, all Department Chairs and Residency Training Officers of training programs that were Level 2 and Level 3 accredited programs from all regions who consented to participate were included.

### Study Sites

The main study coordinating site was the University of the Philippines Manila College of Medicine and all training programs in Family and Community Medicine in the country were recruited to participate in the study.

### Sampling Procedure

The quota sampling technique for the quantitative study was employed to select residents with three or four groupings based on year level. At each year level, the number of participants (quota) to be achieved was computed based on the proportion of each year level to the whole trainee population. Afterward, this was proportionately distributed to all training programs based on the total number of resident trainees.

A purposive sampling technique for the qualitative study was used to identify respondents for the four focus groups involving educators of selected training programs in North Luzon, South Luzon, NCR, Visayas, and Mindanao. These sampling strategies were deemed appropriate due to the unavailability of a complete and updated national registry of trainers in Family and Community Medicine in the country.

Resident trainees were recruited through the training administrators (Chair and Training Officers). Consent for participation in the qualitative study using focus group discussion from the Chair and training officers was handled by the regional coordinators of this study.

## Data Collection and Study Outcomes

For the quantitative study, trainees were requested to submit the list of cases and procedures before COVID-19 and during the COVID-19 pandemic using the standard checklist required by the PAFP per year level. This checklist contains the minimum number of procedures and cases that a resident must fulfill to be promoted or to graduate from an accredited training program. It is a tool used to assess if the residents meet the competencies set by the PAFP. The main outcome measures for the quantitative portion were the average number of cases seen per year segregated per age cluster and organ system, and procedures done per 2 years by general categories before and during the pandemic.

For the qualitative study, the trainers were convened for a focus group discussion based on the preferred schedule using a secured video conferencing platform (e.g., Zoom). One of the authors facilitated the discussion and probed into unusual responses. The proceedings were recorded and transcribed. The handwritten notes taken by the investigators were incorporated into the transcription. All data and responses were collated and stored using a cloud-based encrypted environment (e.g., OneDrive).

## Data Analysis

Quantitative data were analyzed using inferential statistics. To compare differences among the variety of cases across the years before and during the pandemic, a one-way ANOVA was used. To compare differences in the procedures done before and during the pandemic, a t-test was used.

Qualitative data gathered through the FGD were transcribed and analyzed using content analysis to identify the common themes that pertain to the changes made to cope with the pandemic. Four authors did the manual coding. The first cycle coding process involved *In Vivo coding*, where the codes were generated from the actual words of the participants. The second cycle of coding was a *focused coding* process to reflect the common and frequent themes from the first cycle. At each coding cycle, the four authors compared their codes and agreed on the categories generated from the different codes. A tabular form that contains the frequencies of the categories identified was done. The top categories were considered as the common themes.

## Ethical Considerations

The study protocol was submitted to the University of the Philippines Manila Research Ethics Board where the principal investigator is affiliated and the Department of Health Single Joint Research Ethics Board for review and approval. Since the study involved other institutions outside the university, appropriate local ethics clearance was sought if necessary. Privacy and confidentiality of data was ensured, and participants were informed that they are free to withdraw from the study at any time.

Informed consent to participate in the study was elicited from the head of training programs, residents, and trainers

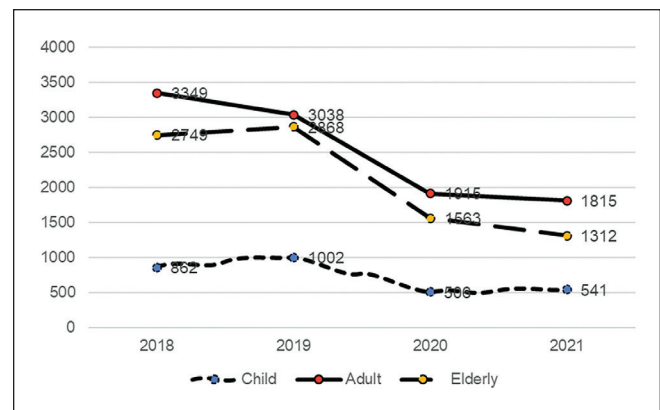
before any data collection. No remunerations were given to all participants.

## RESULTS

A total of 63 Family Medicine Residency Training Programs confirmed participation with a response rate of 91.0%. One program each in Luzon and NCR, and four programs in the Visayas were unable to respond to the call to participate. There were 295 residents who submitted portfolios with the number of cases seen and procedures done.

The number of cases seen by residents per year across the age groups showed a declining trend during the pandemic years (Figure 1). There was a significant difference in the average total pediatric cases seen (p-value of <0.05) with a lower number of cases seen during the pandemic years. The overall average number of adult cases seen per year per resident declined during the pandemic (p-value <0.05). Although the overall average number of elderly cases showed a trend to decrease during the pandemic compared to before the pandemic, the difference did not reach statistical significance (p-value of 0.11).

Pediatric neurology, ENT (otolaryngology), dermatology, gastrointestinal, genitourinary, and endocrinology average number of cases seen across the years was also significantly different with reported p-values in Table 1. To determine which specific years differed, a post-hoc analysis showed a statistically significant average number of pediatric neurologic cases between the years 2018 and 2019 (p-value of <0.001). It also showed statistically significant differences in the average number of cases seen in 2018 (before the pandemic) and 2020 (during the pandemic) for the following pediatric cases: ophthalmology (p-value of 0.04), dermatology (p-value 0.001), and gastrointestinal (p-value 0.05). The post-hoc test also showed significant differences in the average number of cases seen in 2019 and 2020 for the following pediatric cases: neurologic (p-value < 0.001), dermatology (p-value 0.05), ENT (p-value 0.008), gastrointestinal (p-value 0.01),



**Figure 1.** Comparison of average cases for the different age categories before and during the pandemic.

endocrinology (p-value 0.05), and genitourinary (p-value 0.01). Comparing 2019 and 2021, significant differences in the average number of pediatric cases were seen for neurologic cases (p-value 0.001). However, pediatric lifestyle, cardiovascular, pulmonary, musculoskeletal, infectious, immunology, hematology, toxicology, and mental health average cases seen pre and during the pandemic did not differ significantly.

In Table 2, there were no significant differences in the average number of adult cases seen per resident per year for lifestyle diseases, infectious cases, immunology cases, toxicology, and mental health cases. Post-hoc tests found significant differences in the average cases seen per resident per year between 2018 (before the pandemic) and 2020

(during the pandemic) for neurologic, ophthalmologic, ears, nose, and throat, dermatologic, cardiology, gastrointestinal, genitourinary, reproductive health, musculoskeletal, and endocrinology cases (p-value <0.05). There were also significant differences in the post-hoc analysis for 2019 (before the pandemic) and 2020 (during the pandemic) average cases seen by residents per year for ophthalmologic, ears, nose and throat, dermatologic, genitourinary, and reproductive health conditions. Lastly, a post-hoc significant difference was also seen when the average cases of musculoskeletal diseases per resident per year were compared for the years 2018 (before the pandemic) and 2021 (during the pandemic).

In Table 3, the average number of ENT, dermatology cases seen in the elderly was significantly different across

**Table 1.** Number of Pediatric Cases Seen per Resident per Year per Broad Illness Category from 2018 to 2021

Illness Categories	2018 Average per Resident per Year N=142	2019 Average per Resident per Year N=161	2020 Average per Resident per Year N=119	2021 Average per Resident per Year N=45	p-value
All Cases for Children	862 ± 1123.6	1002 ± 1241.7	506 ± 568.5	541 ± 509.7	<0.05
Lifestyle Diseases	146 ± 348	139 ± 219.9	85 ± 106.9	96 ± 102	0.13
Neurologic Cases	32 ± 56.5	112 ± 198.3	18 ± 31.3	22 ± 38.8	<0.05
Ophthalmologic Cases	49 ± 99.8	41 ± 87.6	17 ± 48.8	29 ± 79.1	0.01
ENT Cases	121 ± 190.7	134 ± 221.6	66 ± 96.2	54 ± 64.7	<0.05
Dermatologic Cases	55 ± 54	56 ± 71.7	29 ± 38.7	36 ± 38	<0.05
Cardiovascular Cases	9 ± 22.9	10 ± 23.6	5 ± 9.6	15 ± 46.4	0.09
Pulmonary Cases	83 ± 123.3	92 ± 117.4	49 ± 65.9	44 ± 57.8	0.10
Gastrointestinal Cases	98 ± 126.7	104 ± 150.3	59 ± 75.7	60 ± 82.6	<0.05
Genitourinary Cases	54 ± 73.6	59 ± 87.2	33 ± 46.3	29 ± 28	<0.05
Musculoskeletal Cases	30 ± 55.8	36 ± 85.7	17 ± 26.2	24 ± 30.3	0.07
Endocrinology Cases	29 ± 82.6	36 ± 101.5	16 ± 32.6	13 ± 17	<0.05

\*p-value computed using one-way ANOVA

**Table 2.** Comparison of Average Number of Adult Cases Seen per Resident per Year per Broad Illness Category

Disease Categories	Average per Resident per Year (±SD)				P-value*
	2018 N=142	2019 N=161	2020 N=120	2021 N=44	
All Adult Cases	3349 ± 4231.8	3038 ± 4076.8	1915 ± 2096.1	1815 ± 2089.1	<0.05
Lifestyle Diseases	424 ± 676.9	421 ± 716.4	282 ± 423.7	298 ± 492	0.16
Neurologic Cases	247 ± 335.6	218 ± 295.8	149 ± 216.3	137 ± 182.6	0.01
Ophthalmologic Cases	113 ± 236.9	87 ± 174	38 ± 55.9	47 ± 77.5	<0.05
ENT Cases	205 ± 255.4	191 ± 242.1	108 ± 109.2	93 ± 91.9	<0.05
Dermatologic Cases	130 ± 136.4	112 ± 126.6	59 ± 62.5	88 ± 171.5	<0.05
Cardiovascular Cases	410 ± 771.4	324 ± 513.3	210 ± 308.1	200 ± 303.7	0.02
Pulmonary Cases	337 ± 512.5	311 ± 566.5	230 ± 321.8	164 ± 259	0.08
Gastrointestinal Cases	364 ± 572.8	358 ± 676.5	203 ± 284.9	172 ± 251.8	0.02
Genitourinary Cases	149 ± 173.9	131 ± 159.5	84 ± 114.3	78 ± 111.7	<0.05
Reproductive Health Cases	64 ± 73.8	50 ± 65.3	30 ± 32.5	40 ± 47	<0.05
Musculoskeletal Cases	221 ± 332.6	187 ± 283.6	109 ± 137.8	99 ± 118.9	<0.05
Endocrinology Cases	403 ± 669.2	350 ± 621.1	213 ± 277	208 ± 307.8	0.02
Infectious Cases	222 ± 306.1	235 ± 417	150 ± 172.3	152 ± 181	0.08
Immunology Cases	18 ± 35	17 ± 33.8	12 ± 24.4	13 ± 32.6	0.40
Toxicology Cases	6 ± 17	8 ± 22.4	6 ± 14.7	4 ± 8.9	0.54
Mental Health Cases	36 ± 51.1	37 ± 94.5	31 ± 44.9	23 ± 33.5	0.60

\*p-value computed using one-way ANOVA

the years (p-value <0.05). Post-hoc analysis for ENT cases revealed that a significant decrease was seen between 2018 and the first two years (2020-2021) of the pandemic (p-values 0.004 and 0.01); for dermatologic cases, it was between 2018 and the first year of the pandemic (p-value 0.001)

Procedural skills performed in children, adults, and the elderly; women's reproductive health; out-patient surgical skills; communication and counseling skills; and completion of the family case and community-oriented primary care (COPC) reports 2-year average per resident significantly declined during the pandemic years as presented in Table 4.

The qualitative data yielded common themes for the changes that training programs implemented. These are the shift of learning activities to online learning, clinical exposure is limited to cases related to COVID-19 management, canceled community immersion and offsite rotations, and trainees learning to work in teams.

The sudden shift of the mode of consultation, teaching, and learning activities to online modality was the most

common adjustment implemented by all programs. This is because of the restrictions to patient mobility, limitation of patient admission to health care facilities, and closure of outpatient facilities.

The decline of cases in all age groups and procedural skills was observed by trainers because hospitals concentrated their services on the COVID-19 response. The FCM Departments were tasked with frontline services such as immunization, screening, swabbing, triaging sections, and hospital employees' clinic services. Surgical cases and clinical procedures were limited in most of the training programs during this period.

Significant experience cited was the learning environment fostered teamwork within and outside the Department. The trainees worked in teams for better coordination and efficient communication to implement changing treatment protocols. The teamwork also helped in the coping of trainees with the anxiety of contracting COVID-19 and the physical exhaustion of providing an efficient COVID-19 response.

**Table 3.** Comparison of Average Number of Elderly Cases Seen per Resident per Year per Broad Illness Category

Disease Categories	Average per Resident per Year (±SD)				P-value*
	2018 N=141	2019 N=160	2020 N=119	2021 N=46	
All Elderly Cases	2749 ± 5325	2868 ± 7516.7	1563 ± 2646.5	1312 ± 2444	0.11
Lifestyle Diseases	363 ± 843.7	362 ± 913.4	226 ± 498.7	233 ± 523.7	0.39
Neurologic Cases	251 ± 545.1	231 ± 579.1	124 ± 237.2	121 ± 134.2	0.09
Ophthalmologic Cases	183 ± 612.5	175 ± 703.2	62 ± 178.2	63 ± 162.4	0.18
ENT Cases	176 ± 198.5	133 ± 336.9	75 ± 129.8	53 ± 87.7	<b>0.001</b>
Dermatologic Cases	101 ± 133.2	90 ± 139.7	46 ± 61.2	50 ± 69.8	<b>&lt;0.001</b>
Cardiovascular Cases	385 ± 785.7	394 ± 1217.9	214 ± 354.8	177 ± 303.4	0.17
Pulmonary Cases	263 ± 486.1	308 ± 770.1	164 ± 275.4	112 ± 189.8	0.06
Gastrointestinal Cases	269 ± 699.5	240 ± 596.2	140 ± 260.5	84 ± 149.9	0.08
Genitourinary Cases	159 ± 361.2	185 ± 522.3	90 ± 164.1	73 ± 170.2	0.10
Musculoskeletal Cases	166 ± 304.3	180 ± 461.4	91 ± 167.8	83 ± 206.3	0.28
Endocrinology Cases	272 ± 545.5	395 ± 1606	180 ± 343.3	161 ± 401.5	0.26
Infectious Cases	101 ± 190.5	117 ± 231.7	94 ± 163.1	71 ± 107.5	0.50
Immunology Cases	50 ± 102.5	44 ± 87.9	30 ± 48.9	17 ± 21.8	0.05
Toxicology Cases	1 ± 2.2	2 ± 6.7	1 ± 3.7	1 ± 1.4	0.17
Mental Health Cases	30 ± 104.5	22 ± 74.4	27 ± 85.7	12 ± 18.5	0.60

\*p-value computed using one-way ANOVA

**Table 4.** Comparison of Average Number of Procedures Done for 2 years Pre and During Pandemic

Procedures	Average per Resident per 2 years (±SD)		P-value*
	2018-2019 n=183	2020-2021 n=110	
Procedures performed in children	270 ± 298.3	138 ± 175.3	<b>&lt;0.0001</b>
Procedures performed in the adults and elderly	924 ± 784.9	370 ± 289.8	<b>&lt;0.0001</b>
Procedures for Women's reproductive health	102 ± 123.2	49 ± 88	<b>&lt;0.0001</b>
Out-patient surgical procedures	94 ± 64.4	35 ± 41.6	<b>&lt;0.0001</b>
Communication and counseling skills	166 ± 144.2	107 ± 96.3	<b>0.0002</b>
Completion of Family Case Report and Community-oriented Primary Care (COPC) Report	14 ± 6	11 ± 5	<b>&lt;0.0001</b>

\*compared using t-test

## DISCUSSION

This study determined the effect of the COVID-19 pandemic on Family and Community residency training in the country. The results showed that there was a remarkable decrease in the cases and procedures in all age groups and in the variety of cases before and during the pandemic.

A considerable proportion of trainees in the study have a substantial reduction in the number of clinical and surgical cases mandated in their residency training curriculum. This reduction encompasses various specialties such as neurology, ophthalmology, otolaryngology, dermatology, cardiology, gastroenterology, urology, reproductive health, musculoskeletal, and endocrinology cases. Required core procedural skills were significantly reduced because of the limited access to clinical cases and canceled community immersions. This poses a significant problem for the trainees, as they may fail to fulfill the minimum competencies expected of a resident in Family and Community Medicine and compliance with standards of quality training of residency programs.<sup>5-7</sup>

The decrease in the volume of medical cases and procedures necessary for each resident has prompted the implementation of innovative changes in the curriculum based on the qualitative data. These changes include the introduction of bridging programs aimed at enhancing the skills of the residents, as well as the incorporation of online workshops. The programs have emerged as a valuable component of this educational adaptation because they were the bridging programs to augment resident's skills, ensuring they remain well-prepared for their generalist role as family physicians.

For instance, a common strategy to continue training by most programs is the use of online platforms for learning and assessment as cited in other studies.<sup>8,9</sup> To meet the need of a variety of cases, the programs took advantage of their assignment in the employee's clinic and continuity clinic using remote consultations through phone calls, email, and social media communication platforms. Similarly, teamwork, communication, and multidisciplinary care<sup>10</sup> were also experienced by the trainees. Other significant experience of residents in this study was the team-based approach which was also described in other studies as pooling together diverse expertise and fostering effective communication among healthcare professionals, optimized patient care, and efficient response to address healthcare delivery challenges posed by crises like the pandemic.<sup>8,9</sup> This also managed the anxiety and physical fatigue of the residents since a strong bond and support system was forged.<sup>11,12</sup> Family Medicine training programs in other countries also have the same experience where distance learning and using telemedicine were the adjustments made.<sup>13-15</sup>

The understanding of such effect is important in a scenario that there were also adjustments made by the national residency committee of PAFP on the required number and

variety of cases for promotion and graduation. To help the programs cope with the demands of training and service during the pandemic, the standards required were lowered to about 5 to 15% from the minimum for the years 2020 and 2021.<sup>2</sup> For example, the policy requiring all programs to enforce achievement of 65% variety of cases before promotion to the next year level was lowered to 50% while the requirement of 80% variety of cases for graduation was lowered to 75%.<sup>4</sup>

The use of Information and Communications Technology (ICT) was advocated to transform higher education by UNESCO long before the pandemic but adaptation to technology-based education was challenging for countries with restricted financial resources.<sup>16</sup> However, the pandemic prompted swift and successful adaptation of most educational institutions like multiple residency training programs where online learning and assessments were implemented. The integration of technological advancements permanently impacts medical education and training even beyond the pandemic.

Low-cost technology-based teaching and learning tools using Google and social media teleconferencing applications were harnessed by most programs to cope with limited face-to-face case discussions and reporting. Free web-based forms for evaluation and assessment were used and permanently incorporated into the training strategies by most programs. The successful implementation of these new learning strategies during the pandemic has highlighted the importance of flexibility and adaptability in medical education. This experience has also highlighted the need for further research to identify best practices and optimize the use of technology in postgraduate studies.

### Limitations of the Study

This study has several limitations that should be considered when interpreting the results. One potential limitation is the possibility of recall bias in the qualitative part, as the data collection was conducted one year after the onset of the COVID-19 pandemic. Participants may have experienced difficulties in accurately recalling events and experiences from the early stages of the pandemic, which may have affected the reliability of the data collected. Additionally, responses from participants may have been influenced by the COVID-19 situation in their respective areas at the time of the survey, potentially leading to variations in responses between different regions.

Furthermore, this study's results should be considered within the context of its methodology. The sample size and demographic characteristics of the participants may limit the generalizability of the findings to other populations. Additionally, the study's reliance on self-report measures may have introduced social desirability bias and influenced the accuracy of the responses obtained.

Future studies addressing the impact of the COVID-19 pandemic on medical education should aim to overcome these limitations by incorporating robust study designs and

sampling techniques, collecting data longitudinally to assess changes over time, and utilizing objective measures where possible. By doing so, the results obtained can provide a more accurate and comprehensive understanding of the effects of the pandemic on medical education and inform the development of effective strategies to address the challenges faced by medical educators and learners alike.

## CONCLUSION

This study provides valuable insights into the effects of the COVID-19 pandemic on medical education, specifically in the field of Family and Community Medicine. The cases and procedures were remarkably decreased in pediatrics, adult, and elderly. The variety of cases also were also decreased. The qualitative findings, however, highlighted that while the pandemic has presented considerable challenges for medical education, it has also fostered opportunities for innovation and growth. The integration of technology in medical education, as evidenced by the implementation of online learning modalities by all the training programs to cope with these deficiencies, has proven to be a promising development that will likely continue to play a pivotal role in the future of medical education.

Furthermore, the pandemic has underscored the importance of resilience and adaptability in medical education and has prompted a reevaluation of traditional teaching methods and the adoption of new strategies. These experiences have provided valuable lessons that can inform future medical education practices and lead to the improvement of training and patient care. Overall, the impact of the COVID-19 pandemic on Family and Community Medicine residency training has been significant.

## Statement of Authorship

All authors certified fulfillment of ICMJE authorship criteria.

## Author Disclosure

All authors declared no conflicts of interest.

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## REFERENCES

- Tolu LB, Feyissa GT, Ezech A, Gudu W. Managing resident workforce and residency training during COVID-19 pandemic: Scoping review of adaptive approaches. *Adv Med Educ Pract.* 2020 Aug 10;11:527–35. doi: 10.2147/AMEP.S262369. PMID: 32848492; PMCID: PMC7428317.
- Residency IRR [Internet]. Philippine Academy of Family Physicians. [cited 2023 Jun 5]. Available from: <http://thepafp.org/residency-irr/>
- Policies and guidelines on establishing/expanding Family Medicine Residency Training in DOH Hospital [Internet]. 2021 [cited 2023 Jun]. Available from: <https://www.hsfrb.doh.gov.ph/wp-content/uploads/2021/06/ao2012-0012.pdf>
- Philippine Academy of Family Physicians, Inc. Graduation Requirements [Internet]. 2017 [cited 2023 Jun]. Available from: <https://thepafp.org/residency-fcmrtp-graduation-requirements/>
- Fashner J, Espinoza A, Mainous AG Iii. COVID-19 disruption to family medicine residency curriculum: results from a 2020 US programme directors survey. *Fam Med Community Health.* 2021 Sep;9(3):e001144. doi: 10.1136/fmch-2021-001144. PMID: 34470769; PMCID: PMC8413477.
- Crosby SD, Howell PB, Thomas S. Teaching through collective trauma in the era of COVID-19: Trauma-informed practices for middle level learners. *Middle Grades Review.* 2020;6(2).
- Diamond L, Kulasegaram K, Murdoch S, Tannenbaum DW, Freeman R, Forte M. Impact of early waves of the COVID-19 pandemic on family medicine residency training: analysis of survey data. *Can Fam Physician.* 2023 Apr;69(4):271–7. doi: 10.46747/cfp.6904271. PMID: 37072215; PMCID: PMC10112711.
- Seidel B, Trovato E, Elashvili M, Bartels M, Oh-Park M, Thomas M, et al. Impact of the COVID-19 pandemic on physical medicine and rehabilitation residency in the epicenter of the outbreak. *Am J Phys Med Rehabil.* 2020 Sep;99(9):784–6. doi: 10.1097/PHM.0000000000001517. PMID: 32833383; PMCID: PMC7363359.
- Marasco G, Nardone OM, Maida M, Boskoski I, Pastorelli L, Scaldaferrri F, et al. Impact of COVID-19 outbreak on clinical practice and training of young gastroenterologists: a European survey. *Dig Liver Dis.* 2020 Dec;52(12):1396–402. doi: 10.1016/j.dld.2020.05.023. PMID: 32507619; PMCID: PMC7245276.
- Venkataram T, Goyal N, Dash C, Chandra PP, Chaturvedi J, Raheja A, et al. Impact of the COVID-19 pandemic on neurosurgical practice in India: Results of an anonymized national survey. *Neurol India.* 2020 May-Jun;68(3):595–602. doi: 10.4103/0028-3886.289004. PMID: 32643671.
- Nasrallah MS, Tawfik HA, Aseel MT. Medicine residency training program during COVID-19: Qatari experience. *Pan Afr Med J.* 2020 Jul 29;35(Suppl 2):126. doi: 10.11604/pamj.supp.2020.35.25005. PMID: 33282081; PMCID: PMC7687476.
- Coleman JR, Abdelsattar JM, Glocker RJ; RAS-ACS COVID-19 Task Force. COVID-19 pandemic and the lived experience of surgical residents, fellows, and early-career surgeons in the American College of Surgeons. *J Am Coll Surg.* 2021 Feb;232(2):119–135.e20. doi: 10.1016/j.jamcollsurg.2020.09.026. PMID: 33069850; PMCID: PMC7561602.
- Juprasert JM, Gray KD, Moore MD, Obeid L, Peters AW, Fehling D, et al. Restructuring of a general surgery residency program in an epicenter of the Coronavirus disease 2019 pandemic: Lessons from New York city. *JAMA Surg.* 2020 Sep 1;155(9):870–5. doi: 10.1001/jamasurg.2020.3107. PMID: 32936281.
- Sia C-H, Tan BY-Q, Ooi SBS. Impact of the Coronavirus Disease 2019 pandemic on postgraduate medical education in a Singaporean academic medical institution. *Korean J Med Educ.* 2020 Jun;32(2):97–100. doi: 10.3946/kjme.2020.157. PMID: 32486618; PMCID: PMC7272375.
- Awadallah NS, Czaja AS, Fainstad T, McNulty MC, Jaiswal KR, Jones TS, et al. The impact of the COVID-19 pandemic on family medicine residency training. *Fam Pract.* 2021 Aug 27;38(Suppl 1):i9–i15. doi: 10.1093/fampra/cmab012. PMID: 34448487; PMCID: PMC8414919.
- Transforming Education: The Power of ICT Policies United Nations Cultural Organization. UNESCO [Internet]. 2011 [cited 2023 Jun]. Available from: <https://unesdoc.unesco.org/ark:/48223/pf0000211842>