

Research Article

Integrative Journal of Nursing and Health

Collaborative Amphia Science C19: Optimizing COVID-19 research in the Netherlands

Annemarie JBM de Vos^{1*}, Leandra JM Boonman-de Winter¹, Henriëtte FEW Cuijpers¹, Denise Eygendaal^{1,2} and Amphia COVID-19 Collaborative Group³

¹Department of Science, Amphia Hospital, Amphia Academy, The Netherlands

²University of Amsterdam, Medical School, The Netherlands

³Amphia Hospital, The Netherlands

***Correspondence:** Annemarie JBM de Vos, Department of Science, Amphia Hospital, Amphia Academy, The Netherlands, PO Box 90158, 4800 RK Breda, E-mail: jbm.devos@etz.nl

Received date: Nov 11, 2020; Accepted date: Jan 13, 2021; Published date: Jan 18, 2021

Abstract

Since March 2020 the Amphia Hospital, Breda in the Netherlands has been at the forefront of patient care during the COVID-19 pandemic. To assist health professionals and researchers we initiated a task force to optimize COVID-19 related research by coordinating COVID-19 related scientific projects and promoting collaboration between the different disciplines in the Amphia Hospital. Within the task force three separate teams were formed with their own dedicated tasks and responsibilities in the development and use of the COVID-19 database. Approximately fifty COVID-19 related studies have started in the Amphia Hospital. In addition, we participated in a variety of clinical trials for COVID-19-treatment and executed retrospective and observational studies. Moreover, the Amphia Hospital collaborated in national and international cohorts and initiatives because of our COVID-19 database. The joint effort to optimize COVID-19 related research in the Amphia Hospital contributed to improved interdisciplinary collaboration, and promoted new initiatives regarding interdisciplinary research. The task force members experienced equality and professional acknowledgment through the establishment of the Amphia COVID-19 Collaborative Group.

Introduction

The corona crisis in the Netherlands is part of the global corona crisis, which is caused by the outbreak of the infectious disease COVID-19 in 2019-2020. At the beginning of 2020, SARS-CoV-2 - the corona virus that causes COVID-19 - was also detected in the Netherlands. Although the first infection was officially detected on February 27th 2020, a number of Dutch people had already been infected.

The outbreak led to measures that were unprecedented in the Netherlands, whereby social traffic was largely halted. Schools, universities, libraries, cafes, hairdressers, museums, cinemas and restaurants had to close their doors by government directive. High school exams,

sports matches and many other events were cancelled. Dutch people were advised to keep a distance of 1.5 meters from each other and to refrain from traveling abroad. In addition, people were asked to stay indoors as much as possible and to work from home. Foreigners were instructed to only travel to the Netherlands if strictly necessary.

Since the beginning of the COVID-19 pandemic in March 2020, the Amphia Hospital, Breda has been at the forefront of patient care in the Netherlands. Due to the uneven distribution of the COVID-19 patient population, with the majority of patients in the south of the Netherlands, the Amphia Hospital was flooded with patients from the beginning of March to the end of June

2020. During this period, 398 COVID-19 patients were admitted, of which 296 were discharged and 102 died as a consequence of the virus (unpublished data). At the height of the crisis, the hospital increased its Intensive Care capacity from 22 to 46 beds to effectively manage the continuous stream of critically ill patients. Moreover, three floors of the brand new hospital (The hospital moved into a new building on November 29th 2019) were converted into COVID-19 cohort units.

Understanding COVID-19, its reservoirs, transmission and clinical severity and subsequently developing effective counter-measures was considered critical in order to control the outbreak and reduce morbidity and mortality. Consequently, the number of national and international research initiatives skyrocketed during this period, though the quality of many of these studies left much to be desired. Hence, we recognized a clear need for identifying gaps and overlaps to ensure high quality research that actually contributes to patient care. To assist health professionals and researchers, who combine clinical work under challenging conditions with research, we initiated a task force to optimize COVID-19 related research. The main goal of the task force was to prevent duplication of work in the creation of multiple databases, to promote collaboration between different disciplines and to coordinate and obtain insight in COVID-19 related scientific projects in the Amphia Hospital.

Methods

Within the task force three separate teams (A, B, C) were formed. To set up team A, all disciplines who were directly or indirectly involved in COVID-19 patient care were asked to appoint a representative. The main task of team A was to develop the COVID-19 database by using the blue print for data collection as developed by the WHO [1], analysing existing databases within the Amphia Hospital (e.g. laboratory and pharmacy databases), and adding relevant additional parameters.

Team B was formed by five leading scientists within the institution, who created an overview of the existing and potential future COVID-19 studies by sending out a brief questionnaire to all clinicians. Next, these studies were prioritized and combined whenever possible.

Team C was formed by administering a questionnaire to the managers of all departments and the manager of the Academy, who is in charge of the medical students in the Amphia Hospital, in order to assess the availability of healthcare workers and students with experience in

our electronic patients file 'Epic' [2]. Next, recruitment was performed under medical students (who were not allowed to be physically present in the hospital during the COVID-19 pandemic) and research professionals (not involved in COVID-19 patient care). Team C was responsible for the data collection and data entry in the COVID-19 database developed by team A. All members of team C were uniformly trained by a highly experienced database scientist to ensure the quality of the data collection and data entry.

All hospital departments were allowed to use the database, by submitting a 1-page research proposal, which was reviewed with regard to relevance and overlap by team B. Co-authorship was decided prior to initiation of the study by using the International Committee of Medical Journal Editors criteria [3]. All members of team A, B, and C were part of the Amphia COVID-19 Collaborative Group and mentioned as collaborator in all papers using data from this database.

The task force ensured that data collection, storage, and exchange complied with the Royal Dutch Medical Association guideline Dealing with medical data, which was adapted in 2016 to meet the terms of the General Data Protection Regulation [4]. Patient participation in all studies was voluntarily and recognized by acknowledgement. Informed consent was obtained whenever possible. Moreover, patients were informed by posters, hanging throughout the hospital departments, that their medical records could be used anonymously for research purposes, and that they could 'opt out' for participation in research any time.

Results

The task force met physically and via videoconferencing weekly in March, two-weekly in April, and every 3-4 weeks in May and June 2020. In addition, the separate teams had further meetings or discussions if required. According to plan, the team A members created the COVID-19 database, supported by Castor Electronic Data Capture [5]. Team B coordinated and overviewed all clinical, observational and retrospective studies, which extracted data from the COVID-19 database. Team C coordinated and supported the collaborators (i.e. interns, fellows, research staff) in uploading the patient data in the database.

Since March 2020 approximately fifty COVID-19 related studies started in the Amphia Hospital, including diagnostic, therapeutic, and health care management studies. We participated in a variety of clinical trials for

COVID-19-treatment, executed retrospective studies, such as risk score calculations for disease severity, and observational studies, quantifying lung function and quality of life follow-up of COVID-19 hospitalized patients. In addition, the Amphia Hospital collaborated in international cohorts, for example a study investigating the correlation between Body Mass Index and COVID-19. Due to our COVID-19 database, the Amphia Hospital is the first non-academic hospital, participating in the Health Research Infrastructure COVID-19 initiative, instigated by the Netherlands Federation of University Medical Centres.

Discussion

The joint effort to optimize COVID-19 related research in the Amphia Hospital by developing the COVID-19 database and coordinating the COVID-19 related scientific projects resulted in improved collaboration between the various disciplines. The task force members experienced not only equality, but also professional acknowledgment through the establishment of the Amphia COVID-19 Collaborative Group. Moreover, collaboration within the task force promoted new initiatives with regard to current interdisciplinary research and in the future. In addition, both the medical students and the research professionals were pleased to upload the patient data in the database, be involved in COVID-19 related research and hence contribute to the crisis in a meaningful way.

Developing the database by building upon the existing WHO-database proved to be a challenging exercise, as many items had to be removed, since they were not applicable for the patient population in the Amphia Hospital. On the other hand, we had to add a considerable number of items, which were essential in our opinion, and not available in the WHO-database.

Given these issues, building the database and reaching consensus on its efficacy and appropriateness proved to be more time-consuming than anticipated. Furthermore, it demonstrated the importance of involving Business Intelligence staff from the start to ensure optimal and efficient collaboration during the development of the new hospital database. Yet, due to limited resources involvement of Business Intelligence staff was not always possible.

In conclusion, joining the Amphia COVID-19 Collaborative Group enhanced interprofessional collaboration, facilitated cutting edge COVID-19 related research, and provided professional acknowledgment
Int J Nur Health, 4(1): 105-108 (2020)

for health professionals and researchers. We anticipate that our efforts will deliver answers to COVID-19 related research questions, which will be used to generate evidence based directives and protocols for the management of future emerging pathologies. Finally, we propose the creation of an operational (inter)national network, in which all teaching hospitals collaborate.

Disclosure statement

AJBMdV, LJMBdW, HFEWC, and DE have no conflicts of interest.

Funding

The authors received no specific funding for this work.

Acknowledgements

Amphia COVID-19 Collaborative Group

Sander Talman, Joke van Haperen-Matthijsen, Brigitte Marijnissen, Ton Janssen, Ouiem el Kharbouchi, Lisanne Beugelink, Anne van Rooyen, Jose Verstijnen, Brian de Bruijn, Kristof van der Meulen, Janneke van Kempen, Demy van Gilst, Elmar 't Hart, Jolein van het Hof, Roderick van der Vring, Gwenny Loman, Brian Driessen, Jochem R van Werven, Arthur WF du Mee, Peter van Wijngaarden, Ronald W van Etten, Simone van der Sar, Ingrid CF de Backer, Cor H van der Leest, Marco AMW Alings, Jeroen Schaap, Thijs CD Rettig, Merijn KM Kant, Hein AW van Onzenoort, Margot Taks, Wouter van den Bijlaardt, Jan AJW Kluytmans, Robbert G Bentvelsen, Anja APH Vaessen-Verberne, Sanne Hammer, Jantien Visser, Marja GK Dijksterhuis, Marc HM Thelen, Adriaan J van Gammeren, René N Idema, Hans M Westgeest, Joan B Heijns, Miriam C Faes, Janneke AL van Kempen, Leandra JM Boonman-de Winter, Henriëtte FEW Cuijpers, Denise Eygendaal, Annemarie JBM de Vos.

References

1. International Severe Acute Respiratory and Emerging Infection Consortium. (2020). COVID 19 Clinical Research Resources. <https://isaric.tghn.org/>
2. Epic - With the patient at heart. (2020). <https://www.epic.com/>
3. International Committee of Medical Journal Editors. (2020). Defining the Role of Authors and Contributors. <http://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html>.
4. General Data Protection Regulation [Uitvoeringswet

Algemeneverordeninggegevensbescherming].(2020).
<https://wetten.overheid.nl/BWBR0040940/2020-01-01>.



Copyright: © **Annemarie JBM de Vos**. This is an Open Access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.