Forging clinical collaborations and cooperation in overcoming challenges for non–COVID-19 patients during COVID-19 times: Surgical case studies requiring a multidisciplinary and inter-agency approach in Malaysia

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Abstract
The COVID-19 pandemic has brought global health services to a standstill. National healthcare systems and medical staffing in many countries have reached crisis levels due to the phenomenal outbreak. Healthcare resources have been strained to meet the unprecedented numbers of patient admissions with a significant amount of funding and manpower being channelled towards tackling this global pandemic. Despite the rollout of vaccinations, the development of new viral strains has now presented a new challenge. With the inevitable conversion of tertiary public hospitals to specialized COVID-19 centres with ‘Full Covid Status’ and the mobilization of its doctors from all specialities to care for these patients, the non–COVID-19 patients are becoming more neglected. The lack of elective surgeries performed and non-emergent admissions due to the unavailability of beds and personnel to care for this group of patients are concerning. As most of the focus and resources are now aimed at COVID-19 patients, the need to forge collaborations and cooperation between hospitals, agencies and healthcare systems are pertinent to ensure the provision of quality treatment for those suffering from non–COVID-19 diseases. To highlight this effort in Malaysia, we would like to present 2 case studies of non–COVID-19 patients undergoing elective surgeries through intergovernmental ministerial collaborations and a public–private partnership.

Keywords
COVID-19 pandemic, non–COVID-19 patients, collaborations, inter-agency, public–private partnership

Introduction
The COVID-19 pandemic has exhausted healthcare systems globally. Hospitals worldwide have been depleted both in resources and in manpower. With the increasing number of cases, the need for COVID-19–dedicated hospitals is on the rise. Numerous tertiary healthcare centres have shifted their focus on the pandemic and its ensuing clinical complications, resulting in critical shortages of bed and expertise for non–COVID-19 cases. With no foreseeable end to the current pandemic, it is predicted that the mortality and morbidity for non–COVID-19 cases will be on the rise. As such, the need to forge clinical partnerships and collaborations between government health agencies and even private–public healthcare initiatives are pertinent to address these shortages, in achieving a common goal during these challenging times. These cooperations are deemed essential in tackling complex clinical cases requiring a multidisciplinary team approach.

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which may not be available in all institutions, as highlighted in our case studies.

Case study 1
A 62-year-old gentleman with a pre-existing multinodular goitre, presented with a rapidly enlarging neck swelling and ulceration over his chest (Figure 1(a)). A biopsy and imaging confirmed a locally advanced papillary thyroid carcinoma with retrosternal and mediastinal extension with skin infiltration over the anterior chest wall. In view of the aggressive and extensive involvement of the tumour (Figure 1(b)), a comprehensive preoperative planning and a multidisciplinary team approach involving experts from the endocrine, cardiothoracic and plastic reconstructive surgical specialties were required. The patient was cared for in a public tertiary hospital under the jurisdiction of the Malaysian Ministry of Health, which unfortunately lacks in-house cardiothoracic and plastic reconstructive surgeons. With the growing number of COVID-19 cases, increasing admissions, lack of beds and operative capacities nationwide, it was not possible for this patient to be transferred to a fully equipped healthcare centre with all the required personnel as most have been converted to a ‘Full Covid Hospital’ status. In view of the malignant pathology, an urgent decision was made to request for inter-agency assistance for cardiothoracic and plastic reconstructive services from the regional Ministry of Higher Education Teaching Hospital. Despite different healthcare delivery systems, a multidisciplinary collective agreement was made and surgery with curative intent was performed. Surgery involved a median sternotomy, total thyroidectomy, modified radical neck dissection, retrosternal and mediastinal exploration, and tumour resection with a wide excision of the involved skin which necessitated skin grafting (Figure 1(c) and (d)). Postoperative recovery was complicated with nosocomial and surgical site infections, but the patient made a full recovery and was discharged well.

Case study 2
Elective coronary heart surgeries have been markedly reduced in order to prioritize resources and health expenditures towards tackling the ongoing pandemic. With the growing number of cases and healthcare costs, cardiovascular disease remains the costliest contributor to national health expenditures. As such, the immense burden of heart disease prior to the COVID-19 pandemic has become more dire now as more patients are being admitted with decompensated heart disease, resulting in a significant rise in the overall morbidity and mortality. To address this limitation within the government health services during these unparalleled times, an innovative approach towards a more comprehensive healthcare in Malaysia has been adopted. A public–private partnership (PPP) between the Ministry of Health and private healthcare entities was formed. The focus was on heart

![Figure 1.](image_url) (a) Showing a large anterior neck mass with ulceration at the anterior chest, (b) preoperative CT Thorax depicting a locally invasive thyroid mass with anterior mediastinal extension, (c) intraoperative picture post-median sternotomy and removal of the malignant thyroid gland and overlying skin and (d) postoperative wound with resolving surgical site infection.
disease specifically in patients requiring coronary artery bypass graft surgeries who would otherwise be on an extended waiting list in government hospitals.

A joint cooperation was initiated between a national cardiovascular referral centre under the Ministry of Health and a private cardiovascular healthcare facility. This public–private partnership was aptly named ‘MyHeartBeat Initiative’ with the sole aim of providing early intervention for public patients requiring coronary artery bypass graft surgery in a private facility (Figure 2). Biweekly meetings and discussions were held between cardiovascular experts from both centres to identify suitable patients to be enrolled in this programme. With almost 50 patients having been enrolled into the programme since its recent inception, this alternative yet important pathway has provided the government with an outlet to offload their patients’ waiting time and subsequently provide a better outcome at a subsidized cost that has been mutually agreed upon. In the middle of the global COVID-19 pandemic and its various restrictions, this initiative has become an essential pathway for patients to receive their needful treatment.

**Discussion**

Malaysia has a two-tiered system for the delivery of healthcare services: a public system which is led and funded by the government and a rapidly expanding and thriving private system. The majority of the population accesses the government-funded services with subsidies being provided. However, despite the higher number of patients, there is a clear disparity in the number of doctors especially specialists between both sectors with most being attached to private healthcare providers.1

The delivery of the Malaysian public health care services is primarily through the Ministry of Health. However, other government departments also provide these services to specific groups of the population. The Ministry of Higher Education manages the University Teaching Hospitals to cater for patients as well as providing the platform for the delivery of medical and health-related education. The Ministry of Defense runs the military healthcare centres specifically for members of the military services and veterans while the Ministry of Home Affairs provides services for drug rehabilitation centres.2 These are some of the examples of the divisions of healthcare services among the different ministerial agencies. These agencies provide hospital care under their own jurisdiction with full autonomy and independence of each other. During pre–COVID-19 times, there is a clear demarcation of patient care and healthcare workers involvement.

However, this current pandemic has glaringly displayed the inefficiencies and limitations of each individual service. Not all centres are well-equipped in terms of personnel and assets. The different budget allocations and focuses of their practices have been made complicated when all infrastructures are overwhelmed with the unprecedented number of COVID-19 patient admissions. As such, to have a dedicated centre to cater to a specific cohort of patients is no longer possible as all efforts are being mobilized to cater for the pandemic. With this in mind, the non–COVID-19 patients who require urgent specialist attention and treatments will face difficulties and will be seen as collateral damage during this period of time. It has been estimated that up to 28 million elective surgeries worldwide have been postponed due to this current crisis.3

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Figure 2. MyHeartBeat patient admission flowchart.
The COVID-19 pandemic has brought upon innovative ideas which have transformed the delivery of healthcare services. The current pandemic has shown the importance of collaborations and cooperation, both internationally and locally. Partnerships between different healthcare agencies in Malaysia have enabled the optimal use of existing healthcare resources and facilities to ensure a continuous provision of services to the public. In May 2020, the World Health Organization through the World Health Assembly has also stated the importance of collective action, resource redistribution and solidarity. The uncertainties faced by healthcare systems worldwide can be mitigated by the unified effort to work as a single national system of care. Government hospitals from different agencies as well as private entities should engage and integrate their resources, streamline their services and come together for the betterment of the nation.

These unprecedented collaborations exemplify the importance of inter-agency partnerships in healthcare, ever more so during this current crisis. With the ongoing pandemic, cooperation between government health agencies and even instituting private–public healthcare initiatives with sharing of services and personnel are vital to overcome shortcomings in a strained healthcare system. During these extraordinary times, unorthodox measures and novel ideas are required to mitigate ongoing health issues which otherwise would have been managed in a conventional way. This all-inclusive healthcare approach is seen as the key to a long-term problem which has been compounded further by the COVID-19 pandemic. These symbiotic relationships may, in essence, offer the best possible solution for patients, in which time is literally, of the essence.

Conclusion
To overcome this unprecedented event, the need for adaptations is important. Conventional practices may no longer be relevant and an off-centred approach to tackling the ongoing pandemic is a must. Innovative ideas for smart partnerships and collaborations between the many health-related stakeholders are a necessity and competitors should be seen as collaborators in line with the ‘whole-of-society and whole-of-government’ viewpoint. The need to work together to overcome a common enemy can and will only benefit the patients and communities at large.

Acknowledgements
I would like to extend my gratitude to Hospital Universiti Teknologi MARA and all those who have kindly contributed to this study.

Author contributions
Abid Amir wrote the first draft of the manuscript. All authors reviewed and edited the manuscript and approved the final version of the manuscript

Declaration of conflicting interests
The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding
The author(s) received no financial support for the research, authorship, and/or publication of this article.

Ethical approval
Hospital Universiti Teknologi MARA does not require ethical approval for reporting individual cases.

Informed consent
Written informed consent was obtained from a legally authorized representative(s) for anonymized patient information to be published in this article.

Availability of data
Data sharing is not applicable to this article as no datasets were generated or analysed during the current study.

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