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“Nobody should talk about it”: Fijian health system resilience and the COVID-19 pandemic

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Table of Contents

Abstract

In April 2021 Fiji made international news with stories of 'horrific' health care conditions, including hospital staff and patients without food, hospital operating theatres out of service, and shortages of beds, medicine, equipment, and blood. While Fiji appeared to be relatively well-prepared to respond to COVID-19 and had successfully avoided a major outbreak in 2020, a rapid increase in the number of cases in 2021 quickly overwhelmed the public health system. In this working paper, we draw on the health systems resilience framework of tangible hardware, tangible software, and intangible software to explore the impacts of COVID-19 in Fiji, the underlying causes of the resulting crisis, and the response of the Fijian health sector. We contend that the 2021-22 crisis was no accident, but that over two decades of political instability, multiple smaller crises, chronic under-resourcing, and neglect left the system with limited ability to cope with the pandemic, and potentially insufficient resources to enter a recovery phase post-pandemic. However, this research also highlights the role of intangible resources, including the adaptive practices, collective labour, and sacrifices of health workers drawing on solesolevaki and communal cultural values. We argue these were not only vital to the Fijian pandemic response but may offer a path towards resilience-building in the health system, and for the radical innovation and adaptions necessary to provide a healthy environment and best quality care for Fijians both in 'normal' circumstances and in the face of future crises.

Introduction

In April 2021 Fiji made international news with headlines such as 'Hospitals in chaos as Fiji battles COVID-19 hell'[1] and 'Fiji health system is collapsing under pressure'[2], and stories of 'horrific' hospital conditions, hospital staff and patients without food, hospital operating theatres out of service, and shortages of beds, medicine, equipment, and blood[3]. Indeed, by late 2021 the health system was a major topic of conversation, overwhelmed and close to collapse, with Fiji among the countries with the highest number of new COVID-19 infections globally, and the highest COVID-19 deaths among PICs (Weber et al., 2022).

Fiji was not alone in this crisis, and globally the impacts of the COVID-19 pandemic prompted increased popularity in the notion of 'resilient' health systems. However, while the study of 'resilience' is well-established across multiple disciplines, the consensus around what this concept means in relation to health systems remains unclear. Much of the health resilience literature draws on the World Health Organization's (WHO) framework of key health system building blocks (WHO, 2007), considering how these can support resilience (Fridell et al., 2020; Haldane et al., 2021). These building blocks include systems of service delivery; expedient and equitable financing; effective leadership and governance, a strong and committed health

[1] https://www.aljazeera.com/news/2021/7/30/patients-turned-away-as-fiji-battles-covid-19-hell

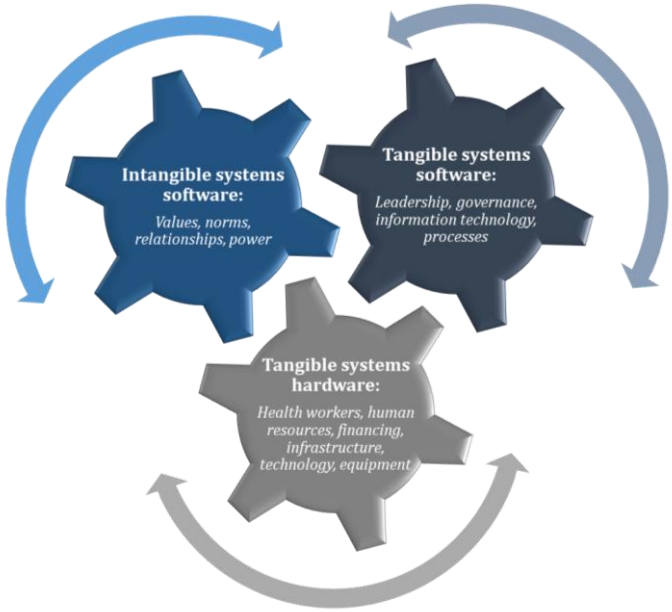
[2] https://www.stuff.co.nz/world/south-pacific/300368608/covid19-fiji-health-system-is-collapsing-under-pressure-doctor-warns

[3] https://www.rnz.co.nz/international/pacific-news/446015/fiji-hospital-staff-and-patients-without-food; https://www.newshub.co.nz/home/world/2021/07/covid-19-video-exposes-horrific-fiji-hospital-conditions-as-country-reports-another-1054-cases.html; https://www.rnz.co.nz/international/pacific-news/448904/critical-blood-shortage-in-fiji

workforce, data collection, management and dissemination of timely and quality health information; and availability and distribution of medical products, vaccines and technologies (Fridell et al., 2020; WHO, 2007).

These building block frameworks are helpful; however, health systems are complex, dynamic systems, not simply stacked up or interconnected blocks. They are fluid, adapting and evolving to internal and external factors and pressures. Implementing resilience thus involves both consideration of structural components and effective governance, as well as careful consideration of how values such as trust, compassion, equity, dignity and respect shape responses and experiences (Hanefeld et al., 2018). Barasa et al. (2017) draw on Elloker et al. (2012) to emphasise the tangible and intangible 'software' elements of health systems resilience, such as knowledge, leadership capacity, power relations, values and organisational culture, contrasting these to 'hardware' elements such as financing and infrastructure (see Figure 1 below).

FIGURE 1: HEALTH SYSTEMS FRAMEWORK, ADAPTED FROM ELLOKER ET AL. (2012) AND BARASA ET AL. (2017)



Fiji's tangible and intangible resources were challenged in April 2021, when a quarantine breach saw Fiji go from very few cases of COVID-19 in quarantine to being among the countries with the highest number of new COVID-19 infections measured per one million of population by July/August 2021 and, by the end of 2021, having by far the highest COVID-19 deaths among PICs (Weber et al., 2022). While Fiji was considered to be relatively well-prepared to respond to COVID-19 and had successfully avoided a major outbreak in 2020 (Reading & Strugnell, 2021; Singh et al., 2022), the rapid increase in the number of cases in 2021 quickly overwhelmed the public health system[4]. In this working paper, we draw on the health systems resilience framework of tangible hardware, tangible software, and intangible software to explore preliminary findings on the impacts of COVID-19 in Fiji, and the response of the Fijian health sector.

[4] https://asiapacificreport.nz/2021/07/21/fijis-covid-horror-is-too-late-to-fix-yet-still-our-leaders-stay-silent/; https://www.aljazeera.com/news/2021/7/30/patients-turned-away-as-fiji-battles-covid-19-hell

Health in Fiji

Fiji has a commitment to universal health coverage, and most of the tangible systems hardware and software of the Fiji health system are coordinated and implemented by the Government of Fiji, through the Ministry of Health and Medical Services (MHMS). An emphasis on primary health care has contributed to improvements in health indicators over the past decade. Life expectancy has increased, and infant mortality rates have declined (Dearie et al., 2021). However, Fiji is now undergoing a significant epidemiological transition, and rising rates of non-communicable diseases (NCDs) pose a considerable health burden (Shamal Shivneel Chand et al., 2020; Phillips et al., 2018).

Funding for the system comes from government allocations through taxes, with some donor support and user fees. Expenditure on health has fluctuated in recent years, increasing to 3.8% in 2019 and then down to 3.75% in 2020 (World Bank, 2023), well below the 2015 WHO Western Pacific regional average of over 6% (Asante et al., 2017; Linhart et al., 2022). Private healthcare providers also exist alongside the public system, including hospitals, clinics, and medical practitioners. A recent shift towards increased private sector involvement follows two decades of reform, all of which can be conceptualised as changes to the tangible software of the system.

The first wave of reform, the Fiji Health Management Reform Project (FHMRP) (1999-2004), followed several critical reviews of Fiji's highly centralised system in relation to poor morale, high staff turnovers and transfers, inadequate staff numbers, and drug shortages (Mohammed et al., 2016). This first decentralisation effort focused on the devolution of health services; however, this was stalled by political instability and a lack of acceptance. In 2009, the second wave of decentralisation was a more focused effort that targeted the de-concentration of outpatient services in the Suva subdivision of the Central/Eastern Division. As Mohammed et al. (2016, p. 240) note, in 2013 the MHMS "deemed the decentralization of services a success and proposed rolling out decentralization to the rest of the country", despite limited evaluation of the first wave, and no evaluation of the second.

There is scant literature on the intangible software of Fiji's health system. Studies of the wider Pacific region, including research on Pacific emergency care during the pandemic (Herron et al., 2022), point to the vital role of cultural and relational strengths in health care resilience in the region. This is evident in Roberts et al.'s (2011) report on the health sector in Fiji, which noted that historically, and for cultural reasons, the roles of health workers and medical officers often extended beyond their clinical roles and hours, and that Fiji's communal culture facilitated a high degree of community engagement and participation. In iTaukai (Indigenous Fijia) communities, this engagement is underpinned by cultural values that emphasise connectedness and care (De La Torre Parra et al., 2023; Movono et al., 2018; Ravono, 2021; Steven & Vunibola, 2021). Richardson et al. (2019, p. 13) explain that the concept of well-being among Indigenous Fijians, defined as *an na bula taucoko* or *taucoko na bula*, is underpinned by the ethos of sharing and helping or "giving all your heart to help".

Methods

This working paper is the first step in a large project which responds to the need for more research on the intangible components of resilience. This initial phase of the study explored and documented responses to the COVID-19 pandemic in Fiji, providing a preliminary overview of the state of the health sector in Fiji as the country emerges from the crisis. The data collection methods for this phase included the collection and analysis of nearly 100 relevant published research reports, policies, strategies, and media sources, and talanoa with five key informants in Fiji, including medical, nursing and allied health leaders, and former government representatives. Talanoa is a process where two or more people converse, share ideas and stories, embodying Pacific traditions and protocols (Farrelly, 2011; Gibson et al., 2022; Nabobo-Baba, 2008; Stewart-Withers et al., 2017). The talanoa for this project involved recorded discussions, each of about one hour, exploring four questions: key observations about changes in the health system over the past decade, the impacts of the pandemic on the sector, concerns about the health system overall, and thoughts on how those concerns could be addressed.

Fiji's health system during COVID-19

Tangible systems hardware

Human resources and training

Concerns about the workforce were a recurrent theme throughout the data. The media were quick to note the impact of the pandemic on health workers, noting they had been stretched, with "frontline workers having been tasked to relentlessly work on containing of the spread of the virus"[5]. In August 2022, the Fiji Times reported that:

> *Our nurses and doctors are rostered to work for 12 hours per shift instead of the normal 8 hours. And in densely populated areas like the Suva-Naucorid corridor, it becomes intolerable when they are forced to work between 50-72 hours per week.*[6]

This relentless work was compounded by public health measures meant to contain the virus such as movement restrictions, hand hygiene, wearing face masks and social distancing. Swamy[7] claimed that this "accelerated the burnouts [sic] amongst healthcare professionals", explaining that "while healthcare professional burnout is not new, the pandemic is rapidly accelerating the many negative repercussions of uncertainty and inadequate support, and the consequences are being felt by patients, healthcare workers, and healthcare systems".

Participants in the talanoa for this research also emphasised the sacrifices undertaken by health workers during the pandemic, including stories of personnel who missed close family funerals, or special events including milestones in their children's lives – and that "despite the long hours no health personnel have received or even publicly complained of non-payment of overtime" [Talanoa Participant 1]. However, it is clear that, prior to the pandemic, the health

[5] https://www.fijitimes.com/burnout-among-healthcare-workforce/
[6] https://www.fijitimes.com/public-health-and-medical-services-in-fiji-in-state-of-decay/
[7] https://www.fijitimes.com/burnout-among-healthcare-workforce/

system was already facing challenges related to a shortage of healthcare professionals, including doctors, nurses, and other specialised healthcare workers. While the talanoa participants were concerned about health workforce decline during the pandemic, they all noted the longstanding issues that contributed to long-term attrition and the out-migration of health workers. In particular, they emphasised the desire for professional development and postgraduate education:

> *I remember when I was in office we did a survey on the attrition of nurses. And most nurses, their reason to go abroad was not because of the salary. It's because of continuing professional development… the number one reason was training. [Talanoa Participant 2]*

Talanoa Participant 3 concurred, noting the importance of training and postgraduate education in Fiji as a means to retain medical staff:

> *To retain them, you've got to have some sort of ongoing training program… an incentive for somebody to study. It's an incentive to work. It's an incentive to stay. You know, nobody wants to go anywhere. This is home. But what happens if you keep pushing them, making it hard, they will disappear.*

While participants emphasised concerns about training, money is also a key driver of health worker migration. Participant 2 acknowledged this, but also raised a note of hope in the connection Fijians have with their country:

> *Fiji, right now as we speak, doesn't have the carrot to dangle. So the nurses leave. Because the nurse that's going to fly out tomorrow has a mortgage, has a car loan to pay, has to put food on the table, has to pay bills. What they're earning every two weeks is not enough to go around, so they go… nobody wants to go… So, once they pay the mortgage, once they pay their loan, they come back in country… They come back to Fiji, they buy a house…nobody wants to go anywhere. This is home.*

While there is considerable evidence that ongoing concerns with workload and retention were exacerbated by the pandemic, as with the participant's emphasis on home, the connection to the country and culture was also a considerable pull factor, contributing to health workers' abilities to continue working in the face of considerable challenges. Indeed, there is evidence that health workers quickly adapted to the 'new normal', feeling a sense of responsibility to serve the public (Kajal & Mohammadnezhad, 2022a). As Deo and Mohammadreza (2022) found, HCWs adjusted the workload, and worked as a team, in a trustful, friendly, and supportive environment. This was reflected in a Fiji Sun headline in June 2021, which noted that:

> *Long work hours, fatigue, and time away from family are some of the sacrifices made by our frontline staff and this has all taken its toll on their health and mental health. However, the urge to carry on and serve the*

people that they have taken an oath to protect continues in these trying times.[8]

Infrastructure and equipment (including medicines)

Infrastructure in the Fijian health system is both fragile and under pressure, and this became particularly evident during the pandemic. In April 2021, The Fiji Times noted that only four out of the eight operating theatres at the Colonial War Memorial (CWM) Hospital were operational[9], leading to delays in elective surgeries. Malfunctioning equipment had also led to outsourcing of diagnostic tests, forcing patients to get tested at private facilities[10]. Amnesty International's 2021/22 Human Rights report (2022) addressed the seriousness of this, attributing Fiji's COVID-19 deaths to an inadequately resourced healthcare system and noting that thousands of patients were turned away from hospitals due to bed shortages.

The Fijian Government initially responded quickly to the April 2021 outbreak, sealing off the CWM and Lautoka Hospitals as COVID-19 care facilities, and activating the Fiji Emergency Medical Assistance Team (FEMAT) in early May. FEMAT field hospitals were set up in Lautoka and Suva to treat non-COVID-19 patients, and the government medical carrier vessel MV Velveeta was dispatched to Lautoka with a FEMAT team[11]. Donations began to roll in from Australia[12], New Zealand[13], the USA[14], China[15], Taiwan[16], and other nations, and from multilateral institutions[17], NGOs[18], the private sector[19], religious organisations[20], and the Fijian diaspora[21]. The government also rolled out a vaccination campaign from early 2021, with donations of vaccines from COVAX, India and New Zealand (A. A. Chand, 2021; Weber et al., 2022). The campaign was deemed a success, with the government claiming that 90 percent of the adult population had been vaccinated by March 2022[22].

Despite these resources, and assurances from MHMS that Fiji was well-prepared for the pandemic, stories of shortages of beds, supplies and medicines continued circulating. PPE was a particular concern. Although the Permanent Secretary for Health's stated in July 2021 that Fiji had "large stocks" of PPE that "are always readily available to all health care workers at the

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[8] https://fijisun.com.fj/2021/06/17/our-medics-tell-dont-let-our-sacrifices-go-in-vain/
[9] https://www.fijitimes.com/hospitals-operating-theatres-out-of-service/
[10] https://www.fijitimes.com/public-health-and-medical-services-in-fiji-in-state-of-decay/
[11] https://www.fiji.gov.fj/Media-Centre/News/FEMAT-FIELD-HOSPITAL-SERVICES
[12] https://www.foreignminister.gov.au/minister/marise-payne/media-release/fijis-economic-recovery-benefit-additional-support
[13] https://www.beehive.govt.nz/release/next-phase-support-fiji%E2%80%99s-covid-19-response-announced
[14] https://fj.usembassy.gov/united-states-donates-medical-supplies-to-fijis-ministry-of-health-to-support-covid-19-efforts/
[15] https://www.fijivillage.com/news/China-donates-17-hospital-beds-to-assist-with-Fijis-COVID-19-response-xf845r/; https://www.fiji.gov.fj/Media-Centre/News/FIJI-RECEIVES-PPE%E2%80%99S-WORTH-$136,250-FROM-FIJI-CHINA
[16] https://www.roc-taiwan.org/fj_en/post/1580.html
[17] https://www.unicef.org/pacificislands/press-releases/adb-unicef-send-fiji-urgent-medical-supplies-battle-second-wave-covid-19; https://www.who.int/westernpacific/about/how-we-work/pacific-support/news/detail/16-08-2021-15-000kg-of-medical-supplies-arrive-in-fiji-to-support-the-response-to-a-deadly-surge-in-covid-19-cases
[18] https://adra.org.nz/fiji/; https://rotaryoceania.zone/stories/rotary-clubs-in-fiji-and-new-zealand-partner-to-provide-face-masks-for-fijians
[19] https://www.fijitimes.com/covid-19-fiji-digicel-donation-in-support-of-ndmos-outreach-program/; https://news.anz.com/new-zealand/posts/2021/04/media-release-fiji-covid19-donation
[20] https://www.fijivillage.com/news/Health-Ministry-receives-donations-worth-more-than-126000-to-assist-in-their-fight-against-COVID-x58f4r/
[21] https://www.fijivillage.com/news/Health-Ministry-receives-donations-worth-more-than-126000-to-assist-in-their-fight-against-COVID-x58f4r/
[22] https://www.health.gov.fj/

front-line"[23], a lack of PPE and other equipment was noted in the media, by the talanoa participants, and in a study of frontline healthcare workers in Fiji during the pandemic (Deo & Mohammadnezhad, 2022). As Sharma[24] and Nonoy et al. (2021) reported, private providers had to procure their own PPE, often from overseas sources, despite international donations to the state's Ministry of Health and Medical Services.

Talanoa Participant 1, who had practiced as a GP during the pandemic, offered several examples of real-life situations that showed how strained the system was. These included the poor care for patients with other respiratory illnesses due to a lack of oxygen cylinders, and the inability to give nebulisers no matter how severe their respiratory distress, due to the risks of spreading COVID-19. He also recounted the story of a terminally ill patient who had been turned away from a main hospital and two other health centres due to lack of capacity or closure for decontamination, and had been lost to treatment. Stories also abounded in the media of inadequate care due to a lack of resources – for example, in a statement commemorating World Diabetes Day 2022, National Federation Party candidate Sashi Kiran was quoted as saying she had seen people in the villages waiting to die because they could not access dialysis[25]. She noted issues with limited wheelchair access to bathrooms in these settings, and a lack of medication due to COVID-19 restrictions.

The state of CWM Hospital was regularly commented on throughout the research period. In July 2021 Al Jazeera[26] noted that CWM Hospital was under-resourced at the best of times, with much of its infrastructure dating back to 1923. The deterioration of this hospital was echoed by Fijian lawyer Graeme Leung in an opinion piece for the Fiji Times, which quoted an elderly Suva resident:

> *I remember as a child when we had to go to hospital or the dentist at the CWM or the health office near the bus stand, we'd start shaking even before we saw these buildings as we could smell the disinfectant when climbing up Waimano Rd. That smell has been replaced by urine. Sa bio Riri Dina!* [27]

While CWM Hospital was particularly criticised, the health system as a whole was clearly under-resourced and struggling well before COVID-19. Overall, the talanoa participants were scathing of the current state of health infrastructure and resourcing – as Participant 2 described:

> *They (health officials) are saying it's well-resourced. That healthcare is well-resourced. You only have to go to the hospital to know that that it's not well resourced. Simply to say, before you had the mattresses covered. Now you go into a ward it is like walking into a warehouse. The mattresses are not covered. Because you don't have the large sheets anymore. You don't have draw sheets anymore. And the laundry has been outsourced. The traffic of that laundry is taking very long. So, these are things that we look out for. Those are variables that determine the quality of the care that we provide.*

[23] https://www.health.gov.fj/covid-19-situation-update-24/
[24] https://www.linkedin.com/pulse/impact-covd-19-primary-health-care-fijian-narrative-dr-neil-sharma/
[25] https://www.fijivillage.com/news/We-often-see-people-in-the-villages-waiting-to-die-because-they-cant-access-dialysis--Kiran-4fx8r5
[26] https://www.aljazeera.com/news/2021/7/30/patients-turned-away-as-fiji-battles-covid-19-hell
[27] https://www.fijitimes.com/diagnosing-the-state-of-fijis-health-system/

The need for improvements in the efficiency and quality of the health system and adequate investment in upgrading and maintenance of health infrastructure was noted in the MHMS and World Bank Environment and Social Management framework (2021). This specifically emphasised the need for the "adequate provision of hand basins in good working order and related sanitation measures which are essential components of basic infection prevention and control interventions" (p. 27). As with human resourcing, the lack of resources and problems with infrastructure and equipment were not new but were exacerbated during the pandemic. Cracks in supply chains and processes became acutely visible in shortages of equipment and medicine.

While the physical infrastructure and resources were crumbling, the pandemic did provide opportunities for the development of technological innovations and change. Unfortunately, these were often beset by problems related to infrastructure and IT support. For example, the Care Fiji app was rolled out in 2020 and updated in June 2021. The app had a QR scanner for check-in to public locations and used Bluetooth for proximity data (A. A. Chand, 2021). However, the use of the app highlighted challenges with data collection and technology in health in Fiji. There were significant issues with digital literacy, incompatible (simple or older) devices, poor adoption, and low usage, and app failures including QR scanner glitches (Shivnay S. Chand et al., 2021; Reading & Strugnell, 2021; World Bank et al., 2022).

Another innovation was the implementation of telehealth. This became imperative during the lockdown and subsequent restriction of many services (Khatri et al., 2022; Pickering-Martin, 2021). For example, a teledentistry service, the first of its kind in the Pacific, was created in collaboration with the MHMS, other health care workers (nurses, doctors, and pharmacists), and the support of the World Health Organization (WHO). The service, delivered using the social mobile application Viber, provided oral health education messages and was used to identify patients who needed urgent care and to tele triage them. This was a first step towards implementing teledentistry across the region, enabling health authorities to gain valuable experience in such telehealth activities (Khatri et al., 2022). Nevertheless, while telehealth was used successfully in dentistry and by GPs, digital information systems were not fully operated in the public sector and health information linkages remained fragmented (Noknoy et al., 2021).

Financing

Many of the problems with the system's hardware are the result of pressures on health finance. The government took extraordinary loans in its 2020/21 budgets to finance investments in infrastructure, health and education (Weber et al., 2022). This included funds for the hiring of 238 intern nurses, 140 medical interns, 114 doctors, 10 nurse practitioners, and 43 midwives, and a specific FJ$25 million COVID-19 contingency fund[28]. However, this funding was not sufficient to cover the shortfall of previous years. While public expenditure on health by the government has been increasing, Fiji's per capita expenditure on health, and total expenditure on health as a share of GDP, has been noticeably, and consistently, lower than the average for upper-middle income countries globally for many years before COVID-19[29]. Sikivou (2023, p. 13) attributes this to the focus on reductions in the public sector as part of the 'new public management' (an approach to running public services based in a reduction in public

[28] https://www.fijitimes.com/2021-2022-budget-fijis-health-ministry-receives-increased-budget-allocation/
[29] https://www.dfat.gov.au/publications/development/fiji-health-program-strategic-review

service size) approach in Fiji, which has also been cited as a source of concern in Fiji's public health service delivery quality. There are still significant health financing needs in Fiji.

Tangible systems software

Processes and data

Tangible system software includes management knowledge and skills, and organisational systems and procedures. There is evidence that the tangible software in Fiji's health system was at least partially functional throughout the pandemic. In an analysis of Fiji's experiences of disease outbreaks, Nelson et al. (2022) argue that communication, collaboration, and coordination become more open and flexible during an outbreak, utilising informal pathways including social media and leading to changes in roles, responsibilities and decision-making. This initially seemed to be the case in Fiji, as national-level systems originally responded well to the COVID-19 pandemic – this can be seen in the quick deployment of FEMAT, and the effective roll-out of the vaccination programme.

However, poor processes and practices were implicated in the initial spread of the virus, including insufficient and inappropriate quarantine protocols and a lack of policies or procedures for quarantining people who refuse treatment for infectious diseases (Weber et al., 2022; World Bank et al., 2022). Weber et al. (2022) argue that mistakes and oversights not only allowed for Fiji's second wave, but also added severe hardship to an already ailing economy and society. The problems in the supply chain and resourcing of health services also point to underlying issues with processes and data in the system. As Sikivou (2023, p. 18) pointed out, Fiji's rules on procurement, construction of infrastructure, and the appointment of new staff are slow and cumbersome. Problems with the supply chain for medicines and consumables were the focus of a LinkedIn post by Sharma in early 2021, who observed that the pharmaceutical and medical consumable supply chain to low- and middle-income countries is at imminent risk of falling apart, due to a wide range of natural and man-made barriers. He further argued that a restructure of the supply chain within Fiji was necessary but had not been undertaken, calling attention to a "constantly variable changing leadership, poor governance structures, a poorly motivated workforce"[30].

Talanoa participants also noticed changes to this aspect of the system well before the pandemic. As Participant 1 noted,

> *Compared to now … in my days I think the processes were more efficient in that there was more empowerment given to us doctors in managing health centres... In our days in every health centre there will be at least a motor vehicle and an ambulance; with us doctors assigned the power of authority to manage every assets within your health centre. The servicing of vehicles, managing of fleet fuel, maintaining health centres or government properties like tables, chairs etc. were managed by the then Public Works Department.*

Another talanoa participant noted that this decline in the standard of infrastructure and services had occurred since the FHMRP, when the MHMS took over functions previously

[30] https://www.linkedin.com/pulse/sustaining-healthy-supply-chain-pharmaceuticals-medical-sharma-1c/

undertaken by the Public Works Department (PWD) – he observed "the dilapidation and the decline" such that now if "you go to a nurses station you won't even know that it's nursing station".

Despite this, studies show that health workers adapted quickly to the challenges of the pandemic environment, modifying strategies and protocols to the conditions they faced and the resources available (Kajal & Mohammadnezhad, 2022a, 2022b). At the service level, health managers and workers developed their own strategies and operating procedures from the national guidelines. Talanoa participants also highlighted the ways in which health professionals turned to technology, and innovative use of mobile and internet-based tools was evident in the community and amongst health professionals, who used informal information networks and applications such as WhatsApp and Viber to facilitate peer-to-peer sharing of knowledge and resources.

Leadership and governance

In order for the processes to run smoothly and the hardware to function, a health system needs effective planning processes, management and leadership capacities. Unfortunately, Fiji's COVID-19 response was beset with issues related to leadership and governance, and political and health leadership were regularly criticised for the resulting escalation of the crisis. The pressure leaders were under was evident in October 2022, when the Permanent Secretary for Health claimed Fiji was at the cusp of being able to deliver high-level care but, in an apparent effort to stem criticism, requested that the health system "be left alone, it should not be touched, nobody should talk about it, and nobody should undermine it"[31].

Despite this, the health system was a major topic of discussion. As Mackey[32] reports, in Fiji, as in other parts of the Pacific, government responses to COVID-19 were marked by limited transparency, oversight and public engagement, exemplified in Fiji by ongoing media conflicts involving both the Auditor General's Office and the CSO Alliance for COVID-19 Humanitarian Response. Weber et al. (2022) noted several examples of poor leadership during COVID-19, including decisions about lock-downs, vaccines, and tourism opening, arguing that what was presented to the public was not based on scientific evidence but on speculation, or 'wishful thinking'.

One of the areas where there were substantial concerns was the vaccination campaign. This included the initial slowness of the campaign rollout which was argued should have started earlier – before the first surge in 2021 – and ongoing concerns with misinformation and anti-vaccination conspiracy theories (A. A. Chand, 2021; Kant et al., 2021). The 'no jab, no job' policy[33] (Weber et al., 2022) was particularly controversial, with Human Rights organisations including Amnesty International arguing it was not justified under international human rights law, and noting the government should "develop a clear, effective, and transparent information strategy to address vaccine uptake and misinformation in the country, rather than resorting to oppressive measures which may deprive people of their livelihoods"[34].

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[31] https://www.fijivillage.com/news/Health-system-is-to-be-left-alone-it-should-not-be-touched-nobody-should-talk-about-it-and-nobody-should-undermine-it--Dr-Fong-fr458x

[32] https://www.transparency.org/en/blog/fiji-government-response-covid-19-integrity-emergencies

[33] https://www.amnesty.org/en/documents/asa18/4662/2021/en/, https://www.transparency.org/en/blog/fiji-government-response-covid-19-integrity-emergencies

[34] https://www.amnesty.org/en/documents/asa18/4662/2021/en/

The government was also critiqued for being mostly reactive and 'outward looking' towards foreign aid, foreign expertise, and vaccination, rather than looking 'inward' and seeking to understand problems of ordinary Fijians, and to provide context-specific proactive solutions[35]. That lack of attention to the 'ordinary Fijian' led to accusations of the government being 'missing'[36] and silent. As Biman Prasad, leader of Fiji's National Federation Party stated:

> *We all know that deaths from this outbreak will be measured in the hundreds, and the horror of this is just beginning. And yet, our leaders are silent. They offer no support, no information. They do not want to talk about this crisis because they have difficult questions to answer about their utter failure to lead.*[37]

Furthermore, there was a perceived lack of empathy from the Fijian Government. According to Gounder and Kessler[38], if a person became ill or died from COVID-19, there seemed to be an underlying notion in government and public discourse that the problem was with the individual – because that person did not follow protocols or did not get vaccinated. The talanoa participants were particularly critical of government and health leadership, with suggestions of a break-down in interconnections between government departments, and "ministerial over-reach" linked with perception control by leadership.

While the strongest criticism was levelled at the government level, the civil service, local health leadership and management was also critiqued, with accusations of an "incompetent civil service bureaucracy" by "dull, mediocre" workers[39]. In Deo & Mohammad Nezhad's (2022) study, health workers highlighted the lack of knowledge sharing by superiors while managing the COVID-19 situation. Criticism of the state of the infrastructure, poor care from staff, and the lack of resourcing and supplies was often directed at these local level leaders.

Intangible systems software

The intangible systems software for health includes health worker motivation, productive cultures, and healthy power dynamics among system actors. In this section we include the Fijian and broader Pacific cultural strengths and relational connections, creativity, compassion and care discussed earlier in this paper. While these are rarely addressed in formal reports and studies, the intangible elements of the Fijian health system are infused throughout these and are particularly clear in media stories of the sacrifice, hard work and compassion of Fijian health workers. These stories were spread globally – for example, in the story of a team of medics who hiked in the mountains for hours to take supplies to the small village of Nakada. As reported in the Guardian[40], the villagers "were very receptive and they were very happy to see visitors and to see that we cared enough to make that trip and reach their village". This care was also emphasised by the talanoa participants, including talanoa Participant 4, who likened the service to serving family: "You need to go and serve your people and treat everyone as your family member".

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[35] https://devpolicy.org/fijis-covid-19-crisis-a-closer-look-20210709/
[36] https://www.fijitimes.com/herd-immunity-hesitation-factor-still-huge
[37] https://asiapacificreport.nz/2021/07/21/fijis-covid-horror-is-too-late-to-fix-yet-still-our-leaders-stay-silent/
[38] https://devpolicy.org/fijis-covid-19-crisis-a-closer-look-20210709/
[39] https://www.linkedin.com/pulse/sustaining-healthy-supply-chain-pharmaceuticals-medical-sharma-1c/
[40] https://www.theguardian.com/world/2021/sep/04/vaccines-on-horseback-fiji-doctors-take-long-and-muddy-road-to-protect-remote-villages-from-covid

The strategic use of intangible systems was seen in the MHMS and WHO social listening project, a tool used to understand what the public is thinking and doing. This was established in Fiji in May 2021 to identify and counter rumours and misinformation prior to the vaccine roll-out[41]. The first part of this project was to highlight the commitment of nurses, doctors, and paramedics. For example, in a video entitled Meet Our Frontliners posted on the MHMS Facebook page, featured nurse Maria Virago talking through tears about leaving her husband and five children to serve in the FEMAT hospital in Suva, as "we are part of the solution"[42]. In the second part of the project, stories of patients treated at the height of the 2021 surge were shared, highlighting the professionalism, empathy and care they encountered. A final part of the campaign involved a team answering questions and concerns on social media and hotlines. This programme not only worked to restore people's trust in the healthcare system, but also enabled resources to be used more effectively:

> *Once we started hearing the experiences of everyday Fijians, we could see where some of the clear gaps were. We then very quickly passed along the complaints we were hearing to other parts of the COVID-19 response so that they could be addressed. For example, when we heard that there were no proper mattresses in some of the school-based isolation centres, we notified our partners who helped rectify the situation. Then we knew that seeking care at the right place at the right time was essential to keeping people alive during this pandemic.*[43]

Within iTaukei culture, service, and the actions of reciprocity, encouragement, respect and kindness that villagers experience in their daily relationships is integral to healing practices, with the understanding that the helping actions towards others has a reciprocal effect (Orcherton et al., 2021). In the Indigenous Fijian context, solesolevaki, soli, and kerekere are customary forms of collective self-help, reciprocity and giving, which promote social cohesion, support and good relations within (and beyond) family, tribe, and the community (Love et al., 2023). Solesolevaki explicitly involves the exchange of collective labour and of working together to meet the needs of the community, something that was seen in the responses of health workers and communities across Fiji (De La Torre Parra et al., 2023; Love et al., 2023; Ravono, 2021; Scheyvens et al., 2023). It should be noted, however, that although the intangible cultural values and norms helped to hold the system together during the pandemic, the impact of these is not always so positive. For example, the rapid spread of COVID-19 in 2021 was often associated with the large social gatherings which are part of the communal culture of Fiji, including funerals[44] (Reading & Strugnell, 2021; Vave, 2021).

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[41] https://www.who.int/westernpacific/news-room/feature-stories/item/fiji--listening-leads-to-more-impactful-communication-and-a-stronger-covid-19-response

[42] https://www.facebook.com/MHMSFiji/posts/pfbid02YGP2BCPSQr6uDVTgdRovVhQn9zqUYnVMV7kqTdE7QcmN8WsMpi4azPFs4mD2XKUJl

[43] https://www.who.int/westernpacific/news-room/feature-stories/item/fiji--listening-leads-to-more-impactful-communication-and-a-stronger-covid-19-response

[44] https://www.fijivillage.com/news/Funeral-gatherings-gatherings-in-a-limited-space-and-grog-drinking-remain-the-major-concerns-for-the-spread-of-COVID-19--Dr-Fong-x8r45f/

Discussion and conclusion

In the case of Fiji, two decades of political instability, multiple smaller crises, and chronic under-resourcing of the system through times of crisis, change and reform left the system with limited ability to cope with the pandemic, and potentially insufficient resources for recovery. This can most visibly be seen in the decay and dilapidation of the CWM Hospital and other health facilities across the country, which undoubtedly contributed to poor outcomes for many Fijians during the crisis, and in the stress, fatigue, and demoralisation of the health workforce. That workforce was a key strength of the pandemic response, but at a cost to health workers – many of whom suffered burnout – and to the people and communities of Fiji who have lost health workers to the virus directly, and to attrition due to burnout. As with the decay of infrastructure, this situation arose largely because of low workforce retention over many years. As Brolin et al. (2022, p. 15) argue, there is no point having health infrastructure, supplies and equipment if there is no one skilled (or too exhausted and demoralised) to use it.

As systems hardware does not work without software, these issues are intimately linked to the processes and data, and the leadership and governance that should enable the system to function. These software components are often overlooked – global health discourse and action often appear biased in favour of hardware, and building resilience is sometimes seen as adding more money, more health workers, more hospitals, and better surveillance systems (Barasa et al., 2017; Kamal-Yanni, 2015). This hardware bias has contributed to the criticism that health resilience thinking adopts the view that system actors are naive, and neutral players, without political interests of influence (Barasa et al., 2017, p. ii92). However, in the case of Fiji, decisions made over two decades set in motion processes that resulted in the chaos that Fijians endured during the pandemic and limited the ability of the system to absorb and adapt to the crisis. With an infusion of capital and resources through privatisation and the PPP, and ongoing support from international donors, the system does outwardly appear to be recovering to some degree. Nonetheless, due to longstanding institutional and leadership failures and a lack of adaption within the system's tangible software, the impact of future crises – including the already looming climate crisis – are likely to be severe if there is no transformational change.

We believe transformational change is possible. This is where we contend that intangible systems are vital. Our research to date has found the adaptive practices, collective labour and sacrifices of health workers drawing on solesolevaki and communal cultural values were vital to the Fijian pandemic response. We argue that these intangible resources may offer a path towards resilience-building in the health system. An example of this was seen as this paper was being prepared, when over 1,000 Fijians answered a call to clean up CWM Hospital. Following a media tour that highlighted the neglect the building had suffered, the Health Ministry, under a newly elected coalition government, organised a hospital clean-up day – "Let's Do It Again, Together for CWMH: We Care"[45]. The labour of the volunteers is a tangible expression of the intangible care Fijians have for each other and their nation, and the values that drive resilience in Fiji.

While the intangible factors are clearly a driver for resilience, it is also clear that there are strengths to be found in the tangible factors, and in the in-between spaces, the connections,

[45] https://www.fijitimes.com/great-turnout-at-cwm-clean-up-campaign/

overlaps and linkages between these components. When leadership or processes failed, the ingenuity and adaptability of staff, the involvement of new actors and ideas, and emerging processes within and outside of the formal health system shaped the response and ultimately saved lives. In the next phase of the research we aim to map these adaptive practices and evaluate what they can offer for resilience and capacity-building in the health system, with a particular focus on the intangibles that provide the glue that holds the system together and, when woven together with the tangible system components, could provide to build resilience in the health sector. It is our hope that responses to the current crisis, along with recent changes in the socio-political landscape in Fiji, will be the catalyst for the radical innovation required to escape from the poverty trap, and for reorganisation and adaptions in the system to provide a healthy environment and best quality care for Fijians both in 'normal' circumstances and in the face of future shocks.

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