Telehealth as a mode of outpatient service delivery: A Pacific equity analysis

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COUNTIES MANUKAU HEALTH

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Introduction

CM Health has an overarching strategic goal of working with others to achieve equity in key health indicators for Maaori[i], Pacific and communities with health disparities. A key strategic objective underpinning this goal is ensuring Healthy Services: services that are safe, timely, accessible, and of high quality.

Telehealth is well recognised internationally as having the potential to improve the accessibility and quality of health services while also contributing to system efficiency. Locally, the potential benefits of telehealth in the outpatient setting were highlighted in the 2019 CM Health booking and scheduling improvements review which demonstrated the significant burden on patients who attended appointments that they felt were unnecessary or could have been met through a phone call.

There is currently significant momentum behind improving the availability, quality, and utilisation of telehealth as a mode of delivery for outpatient appointments within CM Health. This has been driven by the covid-19 pandemic and the lessons learned following the need to rapidly move to telehealth as the primary mode of outpatient services delivery during alert levels 3 & 4 in early 2020.

New Zealand's success to date in containing community transmission of COVID-19 has seen the majority of outpatient service delivery return to being delivered in-person. However, there remains a significant amount of activity across Ambulatory Care Services, Healthy Technology Together, and Ko Awatea to support a strategic and equity focused increase in the use of Telehealth services. This includes work centred on developing workforce capability, best practice guidance, enabling infrastructure, and several upcoming pilots and projects to understand CM Health community perspectives on telehealth.

In keeping with our organisational commitment to equity, this work aims to examine the opportunities and risks of telehealth as a mode of outpatient service delivery for the Pacific population of CM Health.

We have focused this analysis around opportunities and risks for Pacific patients and families. While we acknowledge there are also important considerations from the perspective of staff and the wider organisation, these have not been considered in the scope of this analysis.

We hope this analysis will be a useful starting point to highlight important considerations from a Pacific equity perspective in the planning, implementation, and monitoring of telehealth initiatives within CM Health. While its focus is on telehealth within the context of outpatient appointments, many of the findings are of relevance to the use of telehealth more broadly across the system.

Terminology:

The NZ Telehealth Forum & Resource centre defines **telehealth** as: "The use of information and communication technologies to deliver healthcare services when patients and care providers are not in the same physical location."[1]

[i] CM Health is located and delivers services within the boundary of the Waikato-Tainui Iwi and uses the double vowel instead of the macron for all te reo Maaori written communication in keeping with local tikanga (For further information, see: https://countiesmanukau.health.nz/about-us/use-of-the-double-vowel-in-te-reo-maaori-at-cm-health/)

Telehealth is an alternative to **in-person** healthcare delivery where the healthcare professional and patient are in the same physical location. Telehealth is different to a **non-contact** healthcare event where decisions about patient health care are made without the patient being present either via telehealth or in-person.

The NZ Telehealth Forum further defines telehealth into three broad types:

- Telemedicine - "The use of telecommunication and information technologies in order to provide clinical healthcare at a distance." This primarily is healthcare that is delivered over the phone or by video calls;
- Telemonitoring - "Remotely collecting and sending patient data."; and
- Mobile Health (mHealth): "using mobile communication devices like smart phones and tablet computers to send health information or support lifestyle programmes".

While this report uses the terminology telehealth, we are primarily referring to telemedicine rather than telemonitoring or mobile health initiatives.

The Pacific population of CM Health

CM Health is the district health board responsible for providing and funding health and disability services to an estimated 567,000 people who reside in the local authorities of Auckland, Waikato and Hauraki Districts and has a diverse Pacific population.

Based on the usually resident population count of the 2018 census, CM Health serves the largest Pacific population in the country, with an estimated 25% (135, 975) of the CM Health population identifying as Pacific.[ii] The Pacific population of CM Health is youthful with 39% of people who identify as Pacific being aged less than 15 years.

Approximately half (50%) of the Pacific population in CM Health identify as Samoan, nearly a quarter as Tongan (25%), 21% as Cook Island Maaori, and 8% as Niuean. People identifying as Other Pacific groups (e.g. Tokelauan, Kiribatian, Tuvaluan and Fijian) collectively represented 7% of the total Pacific population.

[ii] All data in this section is based on level 3 total response ethnicity. This means people who identify as more than one ethnicity are counted more than once, percentages may sum to more than 100%, and absolute counts will be greater than if prioritised ethnicity was used. Data sourced from Stats NZ 2018 Census release accessible at: http://nzdotstat.stats.govt.nz/

Methods

An iterative and mixed methods approach was utilised to undertake this work, which was planned and undertaken jointly by the Pacific Health Development and Population Health teams.

The Kapasa Pacific Policy Analysis tool was selected to guide the analysis and data collection for this work. The key questions posed by the Kapasa Framework were answered using population and routinely collected data, literature and reports, and the expert opinions of the Pacific Health Fanau Ola team collated through a facilitated workshop.

Kapasa: The Pacific Policy Analysis Tool

Kapasa (Figure 1) was developed by the Ministry of Pacific Peoples in recognition that Pacific peoples in New Zealand continue to suffer worse health and social outcomes when compared to other population groups despite a right to equitable outcomes.[2]

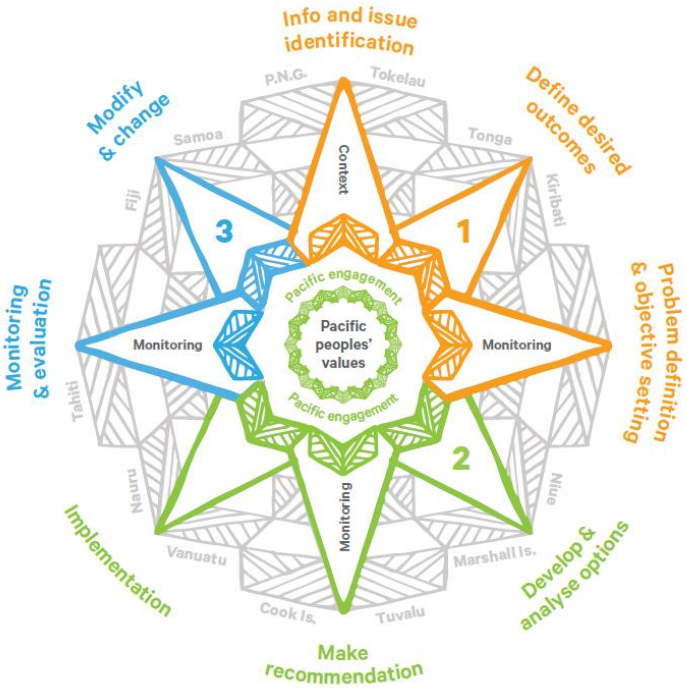

Figure 1: The Kapasa Pacific Policy Analysis Tool (Source: Ministry of Pacific Peoples)

The purpose of Kapasa is to guide decision making and policy interventions to ensure there is a focus on understanding the potential impact on Pacific peoples by:

- Effectively including data and important information on Pacific peoples;
- Taking into account the values, experiences, strengths, and diversity of Pacific peoples; and
- Ensuring effective engagement with Pacific communities.

Kapasa can be applied to a variety of decision making processes where Pacific people will be directly or indirectly affected, including in the development of programmes and initiatives and in determining how services will be delivered.

Kapasa identifies three stages to policy or programme development. The context and outcome phase (represented by orange), analysis and implementation (green), and monitoring, adjustment and evaluation (blue). At each of these phases, three Pacific focused overlays are applied:

- Overlay 1: Pacific peoples' information and evidence
- Overlay 2: Pacific peoples' values, strengths, and diversity
- Overlay 3: Pacific peoples' engagement

The questions from Kapasa used to guide this analysis are listed in Figure 2.

Phase 1: Context and outcome	
Overlay 1	How, and to what extent are Pacific peoples affected by the issue, problem or opportunity?
Overlay 2	What are Pacific peoples' experiences of the problem(s)? What will success look like for Pacific peoples in relation to the policy / programme under consideration?
Overlay 3	If you do not know what Pacific peoples' values, experiences, strengths and descriptions of success look like, will this be a significant risk to the success of the policy? If yes, how will you find out about these? - Who are the Pacific peoples to consult, and what are the best times, geographic coverage and venues for engagement? - What existing relationships can you use to support good engagement?
Phase 2: Analysis and Implementation	
Overlay 1	When considering prior initiatives and evidence or anecdotes of what worked and why, ask: Are any of the results dependent on a particular set of cultural attributes or values, or socio-economic circumstances? Are these present and/or replicable in Pacific communities or the sub-populations being targeted? When assessing options, ask: How will the options impact on Pacific ethnic groups or other sub-groups of Pacific peoples?
Overlay 2	Do the options address the issues for Pacific peoples in line with their value system? If not, how can this be resolved?
Overlay 3	Are there Pacific-specific engagement approaches required to test the options?
Phase 3: Monitoring, adjustment, and evaluation.	
Overlay 1	Are there barriers that would prevent Pacific peoples from benefiting from the implementation of this policy? Will implementation and delivery require a specific approach for Pacific Peoples?
Overlay 2	How can we monitor if the policy has been implemented in a culturally sensitive, effective and efficient manner from a Pacific perspective?
Overlay 3	Who in the Pacific community should be involved in the ongoing monitoring and evaluation of the policy or initiative?

Figure 2: Kapasa framework questions used to guide project analysis and data collection

Fanau Ola team telehealth workshop

A Pacific telehealth workshop was held on the 24th of November 2020. The overall purpose of the workshop was to generate ideas and provide advice from the Fanau Ola team about using telehealth when providing care for Pacific patients, families, and communities in CM Health.

The Fanau Ola team are qualified and registered nurse case managers and social workers who work with Pacific families with complex health and psychosocial issues. The aim of the service is to ensure families stay well at home and in their communities.

The Fanau Ola team was purposefully selected for the workshop due to their high level of clinical and cultural expertise in working with Pacific communities. In addition, the team use phone calls as well as home visits to deliver care meaning they are in an excellent position to provide advice about the use of telehealth when supporting Pacific patients.

The specific workshop objectives were to capture the knowledge and expertise of the Fanau Ola team to identify:

- The potential benefits and risks of using telehealth as a mode of service delivery for Pacific patients, families and communities; and
- Potential solutions to some of the risks identified.

The workshop consisted of a series of activities that involved brainstorming ideas in response to a question then grouping ideas together under similar themes. For some questions an additional step of ranking the importance of each theme was included. This methodology was chosen as it enabled the Fanau Ola team to not only generate ideas but also to then interpret and theme the findings of the workshop to ensure that a strong Pacific perspective was incorporated into the analysis of the workshop findings.

The specific questions answered in the workshop were:

- From a Pacific perspective what are the potential benefits of using telehealth rather than in-person interactions to deliver care?
- From a Pacific perspective what are the potential risks of using telehealth rather than in-person interactions to deliver care?
- How might we make sure that telehealth can be used to have health literate consultations?
- How might we support affordability so Pacific patients, families, and communities get the most from telehealth?

Published literature & Reports

A systematic review of the literature was outside the scope of this analysis given the resources available. Instead, a series of focused literature searches were carried out as necessary to contribute to answering the questions identified by Kapasa. Search strategies for published literature included using structured Medical subject Headings (MeSH) to guide searches in Ovid Medline and keyword searches in Google Scholar. Additional unpublished reports and grey literature was identified though Google searching. Snowball searching was also carried out to identify further resources of interest. Internal documents of interest were identified through discussions with the Ko Awatea improvements team as well as searching on Paanui.

Publications that focused on the implementation, evaluation, or piloting of telehealth as a mode of healthcare service delivery for Pacific peoples in New Zealand were prioritised. However, due to the scarcity of this evidence base, a number of resources that considered equity in telehealth initiatives more generally were also included when relevant. Due to time constraints, reviews or summaries of evidence were prioritised.

A brief description of some of the key reports drawn on in this analysis is included below:

2019 CM Health booking and scheduling improvement review[3]

This improvement review focused on patient flow and experience through outpatient services. It included analysis of complements and complaints data as well as qualitative interviews with 15 Pacific patients which provide useful insights into the in-person care provided in outpatient services.

Rapid review of telehealth consultations in Manukau Superclinic outpatient services during COVID-19 level 4.[4]

This rapid review focused on the telephone and video consultations that were introduced at Manukau Superclinic as part of the response to COVID-19. It included 13 patient interviews with users of telehealth services, of which four were of Pacific ethnicity.

Rapid review of Pacific peoples engagement with telehealth services[5]

This report was commissioned by Auckland District Health Board (ADHB) and undertaken by Moana Research. It focused on the Pacific experience of telehealth across a range of ADHB and primary care services and included interviews with five Pacific fanau.

Results

As outlined in the methods section above, information has been drawn from multiple sources to undertake this analysis using the Kapasa tool. The results in this section are presented under the headings of the three phases (and nine domains) of the Kapasa tool with information from all sources integrated throughout.

Phase 1: Context and outcome

Overlay 1: How, and to what extent are Pacific peoples affected by the issue, problem or opportunity?

The increased use of telehealth as a mode of service delivery for outpatient appointments is highly relevant to Pacific peoples who receive services from CM Health. It is an important opportunity given CM Health provides services for a large and diverse Pacific population and there is evidence from the literature that:

1) Telehealth has the potential to improve access to healthcare services by removing financial and other barriers to care; and [6-9]
2) Telehealth can result in healthcare system efficiencies meaning there is potentially an opportunity to redirect efficiencies to providing more intensive support for Pacific populations with high levels of need. [6]

The Fanau Ola telehealth workshop also identified other potential benefits for Pacific patients and families, including:

- Support people – telehealth has the potential to increase the ability to have family support during clinical interactions;
- Less impact on livelihoods – including having to take less time off work or away from family and community commitments;
- Decreased need to find care for others – Pacific patients frequently need to juggle attending appointments with providing care for children and elderly family members and telehealth has the potential to reduce the need to find alternative carers;
- Power to the patients – the Fanau Ola team felt some patients and families will actually feel more empowered and less intimated by clinical interactions over the phone than in person; and
- Reminders – the ability to efficiently send appointment reminders and prompts.

While telehealth implementation has the potential to improve Pacific health outcomes, quality improvement initiatives that do not specifically consider Pacific peoples in planning, design, implementation and monitoring have the potential to perpetuate and exacerbate existing inequities.[10]

This is especially relevant to telehealth services because:

1. Benefiting from telehealth requires access and confidence using digital technology and there is evidence that Pacific peoples have poorer access to devices and data that facilitate access to this mode of healthcare delivery; and [6,9]
2. There is limited evidence about the impacts of telehealth implementation on cultural safety and health literacy of the system. This means telehealth may perpetuate current inequities in the quality of healthcare experienced by Pacific populations and in the worst case may actually worsen experience of care for Pacific populations.[6,11]

Overlay 2: What are Pacific peoples' experiences of the problem(s)? What will success look like for Pacific peoples in relation to the policy / programme under consideration?

There has been limited research or evaluation that specifically explores Pacific peoples' experience of telehealth services or what a gold-standard model of care would look like.

A rapid review of Pacific peoples' experience of telehealth services undertaken by Moana research found that participants reported telehealth was a useful and informative mode of healthcare delivery and that it removed structural barriers to accessing care such as transport, time, and arranging care for other family members.[5]

These findings are clearly positive and show the potential for telehealth as a mode of effective service delivery for Pacific peoples. However, caution is clearly needed in generalising this experience given the bulk of telehealth use was during covid-19 level 3 & 4 lockdown.

The rapid review of telehealth consultations at Manukau Superclinic outpatient services during covid-19 level 4 also provided important qualitative information on patient experience – although only four of the thirteen patients interviewed identified as Pacific. Relevant findings of the review included:[4]

- The vast majority of participants had not used telehealth prior to the level 3 & 4 lockdown;
- Participants who had video calls felt they had a better sense of connection and relationship with the clinician than they would have if it had been over the phone. Those who had phone calls reported that they felt a video call would have been better;
- There was an urgent need to improve the health literacy of the system. Five of the 13 participants reported they did not know what was going to happen at the appointment or why they needed the appointment and 3 reported they did not get the advice or care they needed from their appointment; and
- Patients were concerned with how privacy and confidentially were being protected.

The 2019 booking and scheduling improvement review outlined a number of patient experience factors that were important to Pacific participants during care provided by CM Health outpatient services. This included:[3]

- Feeling listened to and valued;
- Being greeted warmly and being respected;
- Healthcare professionals that were kind and took the time to understand them as a whole person;
- Healthcare professionals that spent time with them and didn't make them feel like they were in a rush; and
- Healthcare professionals that answered their questions effectively.

These factors are also likely to be relevant to care delivered via telehealth and the extent to which telehealth can support positive patient experience for Pacific peoples is critical.

Overlay 3: If you do not know what Pacific peoples' values, experiences, strengths and descriptions of success look like, will this be a significant risk to the success of the policy?

While we have a variety of evidence on what the potential benefits and risks of telehealth implementation are for Pacific peoples, much of this comes from a theoretical basis or is extrapolated from information from other communities.

Given this, there is a strong argument that there is a need to pilot telehealth initiatives and co-design a model of service delivery that is in line with Pacific values and is complementary to elements of healthcare that need to be delivered in-person. As this may be service dependent, priority should be given to services that serve a high proportion of Pacific patients (e.g. renal medicine, diabetology) or a high volume of Pacific

patients (e.g. cardiology, ophthalmology, plastic surgery). An analysis of volumes of outpatient services by ethnicity is presented in Appendix 1 and can be used to identify high priority services.

Phase 2: Analysis and implementation

Overlay 1: When considering prior initiatives and evidence or anecdotes of what worked and why, ask: Are any of the results dependent on a particular set of cultural attributes or values, or socio-economic circumstances?

While there is a significant body of evidence that supports the benefits of telehealth in western health systems, with the exception of the report by Moana research, we found no published literature with a specific focus on Pacific populations in New Zealand. Much of the research to date in the telehealth domain lacks a focus on the impacts of telehealth on health literacy, cultural safety, and equity. Therefore benefits from the published literature may not be generalisable to the Pacific population of CM Health.[6]

There is a small body of literature that reports of the experiences and outcomes of telehealth as a mode of service delivery to Pacific peoples in the wider Pacific region. Again, this research is unlikely to generalisable to the Pacific population of CM Health given the vast differences in term of healthcare infrastructure, access to specialist services, and geography.[12-17]

The lack of high quality evidence on how acceptability and quality of telehealth services might differ for Pacific populations compared to non-Pacific populations is certainly a risk for implementation. However, this risk should be weighed up against the potential benefits and within the context of the alternative option to maintain the status quo of the majority of outpatient appointments being in-person.

The 2019 booking and scheduling improvements review highlighted that outpatient services already underserved Pacific peoples. In addition to unacceptably high Did-Not-Attend (DNA) rates for Pacific patients, qualitative interviews with Pacific patients found:[3]

- Attending appointments was a significant burden for patients and their family. This was especially the case for people who had limited options for transport or physical limitations due to their health conditions;
- Some patients reported feeling frustrated when they attended appointments they didn't feel were necessary; and
- The health literacy of the system is low. This included Pacific participants who reported they did not have adequate communication around the reason for their appointment, their health condition or their medications.

This highlights that while telehealth may provide significant benefits to Pacific peoples in terms of improving access, there is an urgent need to improve the cultural safety and health literacy of the entire system, regardless of the mode of service delivery. Therefore the implementation of telehealth should be undertaken within the broader context of work to implement the findings of a recent review of health literacy activities and progress within CM Health.[18]

Anecdotal evidence from the Fanau Ola team who successfully use telephone calls to complement in-person service delivery suggests that when telehealth is utilised by a workforce that is culturally safe and working within a Pacific health paradigm it has the potential to be a useful extension to in-person care. This highlights that workforce development and understanding which parts of a patients journey can be effectively delivered via telehealth will be critical for the success of implementation in Pacific populations.

Overlay 2: Do the options address the issues for Pacific peoples in line with their value system? If not, how can this be resolved?

Concerns about how telehealth aligns with Pacific values was highlighted in a recent viewpoint article on telehealth which outlined that "Pacific peoples place great emphasis on relationships and nurturing the space (va) that connects people, things, and elements."[6]

The Fanau Ola telehealth workshop also highlighted these concerns. While members of the Fanau Ola team recognised the convenience of telehealth they felt telehealth did not align with:

- Cultural values – The Fanau Ola team described the cultural importance of having an in-person connection which cannot be replicated over the phone or by video call; and
- Spirituality – many staff reported common practices of spirituality, like sharing prayer "just isn't the same" over the phone compared to being in-person.

Workshop discussion included that patients seeing different doctors and health professionals through their journey also impacts on nurturing the va. There was discussion that some of the impact of not being in the same space could be mitigated if there was an existing relationship between the practitioner and the patient.

Overlay 3: Are there Pacific-specific engagement approaches required to test the options?

As outlined in the previous section there is a strong argument for piloting telehealth initiatives in the CM Health Pacific population who receive care from outpatient services. This should include a specific focus on those who are engaged with services, but also those who have been referred but do not attend.

The Pacific population of CM Health is diverse and any pilot initiatives should be cognisant of this diversity by aiming to build an evidence base that includes understanding the opportunities but also risks of telehealth implementation for Pacific peoples of different ethnicities, languages spoken, age, and social circumstances.

There are well documented approaches to engage with Pacific communities.[19] The Fanau Ola team are also in an excellent position to advise on the engagement approaches required given their experience with using telehealth as well as their cultural expertise and connection with the CM health Pacific community.

Phase 3: Monitoring, adjustment and evaluation phase

Overlay 1: Are there barriers that would prevent Pacific peoples from benefiting from the implementation of this policy? Will implementation and delivery require a specific approach for Pacific Peoples?

There are several barriers that may prevent patient engagement in telehealth services. These include: [4-6]

- Concern about privacy and security
- Actual or perceived costs
- The availability of a telephone or a device capable of video conferencing and an internet connection
- Digital literacy
- Health literacy and cultural safety of the system

This is of specific relevance to uptake in the Pacific population of CM Health who experience high levels of deprivation and lower levels of access to digital technology compared to non-Maaori non-Pacific populations.

For example, results from the 2018 census show that internet access at home was lower for Pacific peoples (81%) in CM Health compared with Asian and NZ European/Other groups (94% and 93%). This is one indicator that the Pacific populations of CM Health are likely to be less able to utilise video consultations, which qualitative evidence suggests provide higher levels of patient satisfaction that telephone consultations.

While access to a mobile phone was higher (93%), it is important to note that while device access is necessarily to enable telehealth consultations, it is not sufficient – users also need to be confident navigating the technology. National data analysed in a report on Digital inclusion and Wellbeing in New Zealand found significant gaps in access to the internet and lower rates of internet use among Pacific peoples and those living in social housing.[20]

Implementation of telehealth services will need to specially address and mitigate these barriers to ensure equitable access. Approaches should build on lessons from existing pilots that aim to increase device access and digital literacy – for example, the Moana Research pilot programme Digifale which utilised an intergenerational approach designed to strengthen digital health literacy among Pacific communities.[11]

The Fanau Ola workshop also highlighted solutions to the digital divide such as:

- Ensuring that telephone or video calls are at no cost to the patient;
- Providing devices and training to patients who require a high volume of outpatient services; or
- Pacific focused strategies such as:
    - A multiagency fanau centred approach to implementing telehealth – i.e. a joint approach by health and the wider social and education sector agencies;
    - Investigating community telehealth hubs in easily accessible places; or
    - Providing a Fanau Ola telehealth outreach service which would support patients and fanau with telehealth use.

The Fanau Ola workshop also highlighted the following potential options to ensure a health literate telehealth service:

- Patient Voice – providing patients the opportunity to feedback on the service;
- Communication: Staff should use simple language, effective listening, and interpreters to provide language support. Providing the option for longer appointment times and video conferencing was felt to potentially improve communication. Where possible visual aids should be used – this could include sending out written information / diagrams ahead of the appointment which can then be discussed, other options include using the 'slide share option' available on most video conferencing platforms to allow practitioners to show pictures / diagrams and videos; and
- Staff – having staff that were culturally safe, well prepared and trained in telehealth was felt to be important. Growing the Pacific health workforce was also felt to be a critical enabler of health literacy within the system.

Overlay 2: How can we monitor if the policy has been implemented in a culturally sensitive, effective and efficient manner from a Pacific perspective?

Careful monitoring of telehealth implementation within the Pacific population of CM Health is clearly important given the scarcity of the current evidence base around the cultural safety and effectiveness of telehealth in the Pacific population. While rates of DNA are routinely monitored as part of data collection about outpatient services, it is vital that qualitative data on patient experience is collected to monitor for unintended consequences of telehealth implementation.

Ensuring that telehealth is being used as part of a wider system that supports health literacy is critical. The health literacy review guide published by the Ministry of Health outlines a framework for measuring the

health literacy of a healthcare system and advocates for multiple overlapping data collection methods including interviews with consumers and families, interviews with staff, and observed clinical interactions by a trained assessor.[21] While this is a potentially resource intensive assessment, undertaking an assessment of an individual outpatient service in which telehealth is being piloted is a prime opportunity to ensure that telehealth is making the system easier to navigate and leading to improved understanding by Pacific patients and their fanau.

Overlay 3: Who in the Pacific community should be involved in the ongoing monitoring and evaluation of the policy or initiative?

As outlined in previous sections, it is critical that there is strong Pacific community voice considered when planning the evaluation and monitoring of the implementation of telehealth services. Pacific outpatient service users should therefore be involved in the piloting, monitoring and evaluation of telehealth initiatives in CM Health.

Recommendations

This Pacific equity analysis has highlighted the significant opportunities for telehealth to be used to reduce the barriers and burdens on patients that are associated with in-person healthcare. However, it also demonstrates that equity focused implementation and monitoring will be critical to ensure that Pacific peoples benefit from telehealth.

Based on this analysis, we support in principle the move towards offering the choice of telehealth appointments alongside in-person options. However, to ensure that Pacific communities are equally able to benefit from telehealth and to ensure the risk of unintended consequences are minimised, we recommend:

1) Prototyping telehealth methods with a single or a small number of outpatient services prior to implementation more widely. Services with a high volume or a high proportion of Pacific patients should be included in these initiatives and there should be consideration given to include Pacific peoples of different ethnicities, age groups, and languages spoken. Initiatives should be co-designed with Pacific users of the service to understand the:
    - Elements of a patient journey can be effectively delivered via telehealth rather than in-person;
    - Acceptability of telephone and video calls as a mode of service delivery; and
    - Support and training that patients may need to navigate telehealth consultations.

2) Monitoring and evaluation of prototypes should have a specific focus on how telehealth impacts health outcomes as well as cultural safety and health literacy. Undertaking a service based health literacy assessment would be beneficial to monitor the impact of telehealth services on health literacy as well as contribute to progressing the health literacy agenda within CM Health more generally.

3) Specific strategies are needed to address the lower level of digital access and use among Pacific populations. Specific consideration should be given about how to best address cost barriers (such as device cost, device credit, internet availability) as well as supporting digital literacy.

Appendix 1

It is difficult to precisely define the Pacific population who currently have care provided by CM Health outpatient appointments in-person who could have their care effectively delivered via Telehealth. This is because there are multiple factors that affect whether or not care can be effectively delivered via telehealth - this includes the type of consultation, the clinical condition(s) being addressed, clinician and patient preference.

However, as Pacific peoples make up a significant proportion of the outpatient population currently served by CM Health any changes to the mode of delivery of these services are likely to have an impact on Pacific peoples.

Table 2 shows outpatient appointment volumes for the 2019 year by prioritised ethnicity and service estimated using routinely collected data from the National Non-Admitted Patient Collection (NNPAC).

It demonstrates that some services have a very high proportion of patients that identify as Pacific (e.g. infectious disease), some services serve very high volumes of people that identify as Pacific (e.g. cardiology, ophthalmology, plastics), and some services serve both high volumes and a high proportion of Pacific patients (e.g. renal medicine, diabetology).

NNPAC provides individual level information on non-admitted (outpatient and emergency department) patient activity using an encrypted National Health Index (NHI) number. The NNPAC contains demographic variables that include age, gender, ethnicity, domicile code, and DHB of service provision.

We took a provider view of the data in this analysis, meaning we report the patients who received outpatient services provided by CM Health, regardless of where these patients live (i.e. their DHB of domicile).

NNPAC reports patient activity using Purchase Unit Codes (PUCs). As NNPAC does not include diagnostic codes and each DHB can allocate a variety of clinical activities to the same PUC, analysis by diagnosis or by subspecialties involved is not possible.

The purpose of this analysis was to understand the population who currently receive outpatient services, a subset of whom may potentially be able to have their care delivered via telehealth rather than face-to-face. Therefore, only subsets of PUC were included, with emergency department and procedural purchase codes excluded. The purchase unit codes included in this analysis are included in Table 3.

Table 1 2019 Outpatient appointment volumes for the 2019 year by prioritised ethnicity and service.

	Pacific Peoples		Maaori		NMNP	
	Total Volume	% of total	Total Volume	% of total	Total Volume	% of total
M00 General Medicine	935	26.2%	477	13.3%	2163	60.5%
M10 Cardiology	3212	23.7%	2198	16.2%	8138	60.1%
M15 Dermatology	642	23.9%	340	12.7%	1701	63.4%
M25 Gastroenterology	1086	14.9%	756	10.4%	5459	74.8%
M30 Haematology	941	17.9%	598	11.4%	3724	70.8%
M40 Infectious Diseases	404	33.8%	138	11.5%	653	54.6%
M45 Neurology	87	21.8%	47	11.8%	265	66.4%
M55 Paediatric Medicine	2158	27.5%	1806	23.0%	3885	49.5%
M60 Renal Medicine	3527	43.5%	1388	17.1%	3195	39.4%
M65 Respiratory Medicine	1773	22.7%	1397	17.9%	4644	59.4%
M70 Rheumatology	1859	24.1%	814	10.6%	5042	65.4%
M95 Endocrinology	501	23.2%	359	16.6%	1298	60.1%
M96 Diabetology	1786	41.2%	613	14.2%	1933	44.6%
S00 General Surgery	3374	20.5%	2721	16.5%	10381	63.0%
S05 Anaesthesiology	108	7.4%	206	14.1%	1151	78.6%
S25 Otorhinolaryngology (ENT)	3355	23.5%	2640	18.5%	8265	58.0%
S30 Gynaecology	1556	25.6%	956	15.7%	3569	58.7%
S40 Ophthalmology	6000	28.1%	2024	9.5%	13336	62.4%
S45 Orthopaedic Surgery	4894	21.3%	3928	17.1%	14140	61.6%
S60 Plastic Surgery [excluding burns]	4053	13.3%	3484	11.4%	23009	75.3%
S65 Burns Surgery	169	19.9%	212	25.0%	467	55.1%
S70 Urology	1021	18.9%	613	11.4%	3757	69.7%
All services combined	43444	22.7%	27718	14.5%	120177	62.8%

Table 2: Purchase Unit Codes to identify outpatient appointments in NNPAC

M00002 General Medicine - 1st attendance
M00003 General Medicine - Subsequent attendance
M10002 Cardiology - 1st attendance
M10003 Cardiology - Subsequent attendance
M15002 Dermatology - 1st attendance
M15003 Dermatology - Subsequent attendance
M20002 Endocrinology - 1st attendance
M20003 Endocrinology - Subsequent attendance
M20004 Diabetes - 1st attendance
M20005 Diabetes - Subsequent attendance
M25002 Gastroenterology - 1st attendance
M25003 Gastroenterology - Subsequent attendance
M30002 Haematology - 1st attendance
M30003 Haematology - Subsequent attendance
M40002 Infectious Diseases (incl HIV/Aids) – 1st attendance
M40003 Infectious Diseases (incl HIV/Aids) – Subsequent attendance
M45002 Neurology - 1st attendance
M45003 Neurology - Subsequent attendance
M55002 Paediatric Medical Outpatient - 1st attendance
M55003 Paediatric Medical Outpatient - Subsequent attendance
M60002 Renal Medicine - 1st attendance
M60003 Renal Medicine - Subsequent attendance
M65002 Respiratory - 1st attendance
M65003 Respiratory - Subsequent attendance
M70002 Rheumatology (incl immunology) - 1st attendance
M70003 Rheumatology (incl immunology) - Subsequent attendance
PC0001 Pain Medicine 1st Specialist Assessment
PC0003 Pain Medicine Assessment - Follow-up
PC0010 Pain Psychosocial 1st assessment
PC0016 Pain Psychosocial - Follow up
S00002 General Surgery - 1st attendance
S00003 General Surgery - Subsequent attendance
S25002 Ear Nose and Throat - 1st attendance
S25003 Ear Nose and Throat - Subsequent attendance
S30002 Gynaecology - 1st attendance
S30003 Gynaecology - Subsequent attendance
S40002 Ophthalmology - 1st attendance
S40003 Ophthalmology - Subsequent attendance
S45002 Orthopaedics - 1st attendance
S45003 Orthopaedics - Subsequent attendance
S50005 Spinal - 1st attendance
S50006 Spinal - Subsequent attendance
S60002 Plastics (incl Burns and Maxillofacial) - 1st attendance
S60003 Plastics (incl Burns and Maxillofacial – Subsequent attendance
S70002 Urology - 1st attendance

S70003 Urology - Subsequent attendance

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