NZ TELEHEALTH
FORUM & RESOURCE CENTRE

Telehealth use in public hospitals stocktake 2022-23

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Foreword from the Chair

Tena koutou katoa, it gives me great pleasure to introduce the third Aotearoa/New Zealand National Telehealth stocktake.

First undertaken in 2014 the stocktake is an opportunity to gather the latest information on telehealth activity across the motu, as it pertains to public hospital health care provision. Engaging the sector in this particular stocktake has been fraught with difficulty, taking place not only during a period of structural reform of the health system but also being affected by the COVID-19 pandemic. This is reflected in the length of time that it has taken to both conduct and present the survey ready for publishing but also offers a unique insight into this time of upheaval in the health sector.

The survey reflects the uncertainty, general weariness and change fatigue of the workforce but also gives us hope for the future with positivity around the opportunities for telehealth. The stocktake highlights the discrepancies across the regions in digital maturity and change management, with some regions leaping ahead during the COVID-19 pandemic but many more that are challenged to maintain telehealth provision for tangata whai ora. What is obvious from this stocktake is that it is imperative to take rapid action in order for telehealth activities to be supported as business as usual. If we fail to recognise this imperative, we are at risk of falling backwards and it will take far more support for telehealth in the future.

Particular thanks are due to all those who contributed to this stocktake, we have many free text comments which could not be included in the body of this report but have been distilled into one or two quotes that capture the essence of many. Thank you to all who took the time to participate, we could not have done this without you. The New Zealand Telehealth Forum continues to appreciate the support from our Data and Digital colleagues in Te Whatu Ora and to all members of the Forum who give their time freely for no other reward than to know that they are part of the bigger picture in supporting tāngata whai ora to access equitable healthcare. I trust that this stocktake is useful to all of us as we continue to be aspirational for equitable health gains for New Zealanders.

Ehara taku toa i te toa takitahi, engari ke he toa takitini.

Ruth Large
Chair, New Zealand Telehealth Leadership Group and Forum

Recommendations

1	Develop and implement a clear, clinically led national strategy for telehealth delivery.
2	Invest in telehealth infrastructure, training, and technical support across the motu.
3	Maintain an equity focus to overcome barriers such as digital literacy, access to data and technical support when needed.
4	Listen to the voices from communities, patients, whānau and carers to inform planning and service delivery.
5	Develop and implement overarching guidance for the clinical use of telehealth for patient care, encompassing patient selection.
6	Invest in change management to support different workflow processes for both clinical and non-clinical workforces.
7	Embed telehealth as part of a responsive, hybrid model of healthcare that offers choice.

Introduction

This stocktake is specific to Districts (ex-District Health Boards) and is based on survey responses received from mid-2022 to mid-2023. This does place the stocktake in a unique moment in history, encompassing the latter part of the coronavirus (COVID-19) pandemic and the inception of the New Zealand health reforms.

The previous stocktake in 2019 had demonstrated a considerable uptake in telehealth from 2014 and an increase across all District Health Boards (DHBs) in the number of clinical services represented, the frequency of usage and the types of telehealth interactions. A further increase in uptake followed during the pandemic, with an immediate increase in telephone and video patient consultations and the use of Zoom and Teams to include family/whānau engagement and to extend clinical teams' access to clinician-clinician support.

The stocktake consists of two surveys. The 2022 surveys repeated questions where appropriate to provide a longitudinal view but added questions to consider the impact of the COVID-19 pandemic and the health reforms.

In particular this stocktake sought to understand if the increased use of telehealth, driven by the pandemic requirements and targeted resourcing, was sustainable as health services returned to business as usual (BAU). We also sought to understand the impact of the current health reforms on telehealth initiatives.

Stocktake Structure

The stocktake was distributed in two parts: The first part, Survey One, a general District overview, was sent to a senior executive at each District. The second part, Survey Two, was sent to Districts to distribute to clinical services that use telehealth.

Survey One - Organisational Survey

Survey One focused on the district-level organisational capacity and readiness and characteristics of the external environment. This survey sought to reflect the views of a single responsible senior executive within the region. Responses were received from 16 Districts, two of whom provided a combined response, and one District who responded that they did not provide telehealth services. Therefore, the stocktake represents 16 Districts (Table 1).

Northern Region	Te Manawa Taki Region	Central Region	Te Waipounamu Region
Te Whatu Ora | Te Tai Tokerau	Te Whatu Ora | Waikato	Te Whatu Ora | Te Pae Hauora o Ruahine o Tararua Midcentral	Te Whatu Ora | Nelson Marlborough
Te Whatu Ora | Waitematā	Te Whatu Ora | Lakes	Te Whatu Ora | Capital and Coast*	Te Whatu Ora | Te Tai o Poutini West Coast
Te Whatu Ora | Te Toka Tumai Auckland	Te Whatu Ora | Tairāwhiti	Te Whatu Ora | Hutt Valley*	Te Whatu Ora | Waitaha Canterbury
Te Whatu Ora | Counties Manukau	Te Whatu Ora | Te Hauora a Toi Bay of Plenty	Te Whatu Ora | Whanganui**	Te Whatu Ora | Southern

Table 1: Survey One Participating Districts

* Presented one combined response
** Stated was unable to complete the survey as no telehealth services in the District.

In the previous survey, all 20 DHBs responded to Survey One questions. All Districts expressed the intention to complete the 2022 survey, but response rates were affected by the impact of the COVID-19 pandemic as well as a general lack of awareness as to who was responsible for, or engaged with, telehealth in their organisation.

Further points to note about Survey One:

- The responses are those of a single senior executive, so the information may not fully encompass governance and use of telehealth in that organisation.
- There are no assessments or assumptions made of the state of telehealth in Districts who have not participated.

Survey Two - Speciality/Service Level

Survey Two responses were received from 17 Districts, with 189 individual respondents across a wide range of speciality services. 90% of the Survey Two participants were in clinical roles (Figure 1).

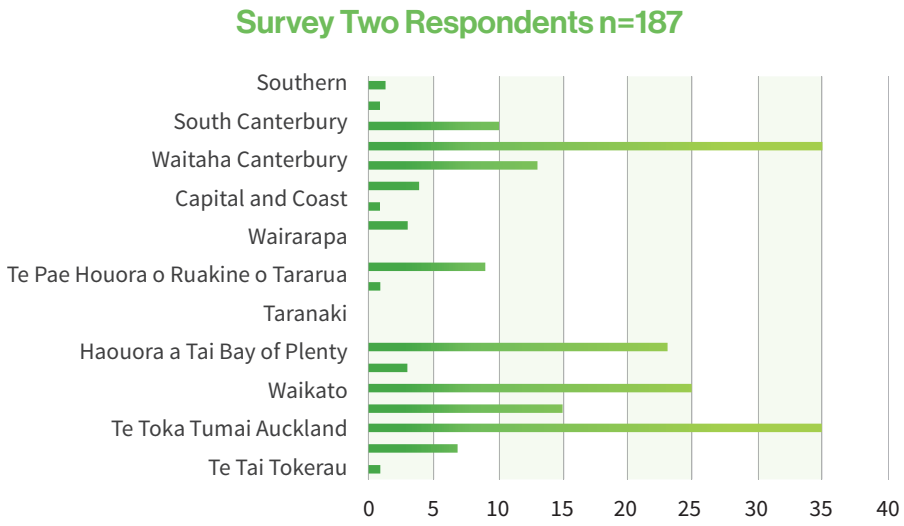

Figure 1: Survey Two Participating Districts

In the previous stocktake there were 18 DHB responses to Survey Two and over 300 individual responses.

Section 1: Telehealth Governance

Financial and strategic investment as a response to the COVID-19 pandemic has driven an increase in use of telehealth since the last stocktake in 2019.

Districts have varying degrees of telehealth readiness, and most Districts are only somewhat or slightly equipped to use telehealth as a tool to facilitate the health reforms. None of the Districts are completely equipped to adopt telehealth as BAU.

Strategic planning is occurring, but strategy, funding and selection of technology is being affected by the uncertainty of the health reforms.

Whilst the number of District-level organisational strategies for telehealth have decreased since earlier stocktakes (from eight in 2014 to two in this survey, with four Districts reporting their strategy as "under development''), three regional strategies were reported. Those regions with regional plans were most likely to identify that they had strategic and financial investment in telehealth (Northern, Midlands and the South Island Alliance). Three noted that their strategy incorporated a consumer perspective.

Previous stocktake reporting showed a decrease in reported governance groups from thirteen in 2014 to eleven in 2019. In this survey, the District-level telehealth governance groups remain at eleven, however there are established regional governance groups reported in Northern, Midlands, Central and Southern.

There has been a reduction in telehealth leadership positions within Districts, and some Districts have no dedicated leadership role. There were ten appointed Clinical Informatics/Digital Leads reported across the Districts.

All respondents thought that the benefits of telehealth outweighed its disadvantages. The majority consider that the benefits of telehealth will increase over time and that this would decrease inequity.

It was also felt that there is both potential for equity benefit and risk in telehealth, depending on the level of support for digital literacy, devices and data.

Telehealth is being used across triage, first specialist assessment (FSA) and follow-up appointments and all were considered to be appropriate uses of telehealth, with follow-up appointments considered the most appropriate.

Good quality data collection and evaluation is not fully in place but is needed to support telehealth use going forward. Formal evaluation of projects was limited. Only three services said that they conducted formal/structured evaluations each time, 36% said 'Some' and 62% said 'None'.

Table 2 shows a comparison of telehealth governance findings across the years of the stocktakes.

Governance category	Governance question	DHBs - Yes 2014	DHBs - Yes 2019	Districts - Yes 2022/3
Staff Resources	Clinical leader (telehealth or digital)	10	10	10
	Appointed telehealth programme manager/ facilitator	7	12	9
Investment/ Oversight	Telehealth strategies/ policies	8	15	10 strategies, 11 policies
	Governance group that includes telehealth	13	11	11
Delivery	Telehealth protocols and guidelines	5	7	13*
	Telehealth training for clinicians	NA	14	12
	Training for non-clinicians	NA	NA	13
	Method of counting telehealth consultations	4	11	13
Promotion	Telehealth promoted in organisation	NA	NA	11 (8 'Somewhat')

Table 2: Telehealth Governance - Summary results 2014, 2019, 2022/23

Impact of COVID-19 & the Health Reforms

The majority of Survey One respondents reported that the COVID-19 pandemic significantly drove strategic and financial investment in telehealth services in the survey period. This was due to a large increase in the need and delivery of non-contact services and subsequent provision of targeted funding for telehealth.

The COVID-19 pandemic funding was of a fixed term nature. Figure 2 shows indications that Districts were likely to maintain funding for telehealth beyond the pandemic funding and, to a lesser extent, to increase investment. There was variability in the range of responses from slightly to completely, with one District responding that there would be no likelihood of maintaining or increasing their investment (Figure 2).

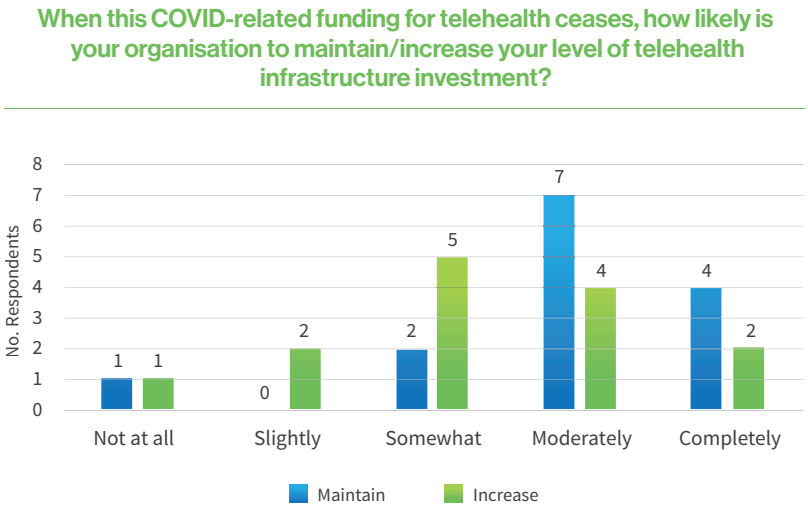

Figure 2: Likelihood to maintain or increase level of telehealth investment

Infrastructure

No District thought they have the resources completely needed to bring telehealth into BAU (Figure 3).

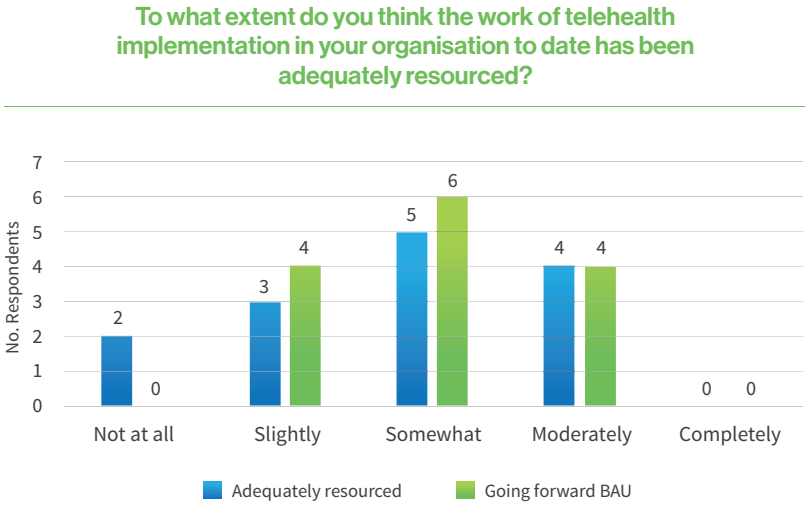

Figure 3: Combined responses to adequacy of resources and bringing telehealth into 'business as usual'.

All Districts will need further investment, though the extent of that additional resourcing may vary, and there are general concerns and uncertainty about decision-making and budget for telehealth in the context of the health reforms (Figure 4).

> *"If we do not have enablement and investment in telehealth, the system will continue to get what it's getting, which is a lot of telephone telehealth (and) in-person appointments."*
>
> **(SURVEY TWO RESPONDENT)**

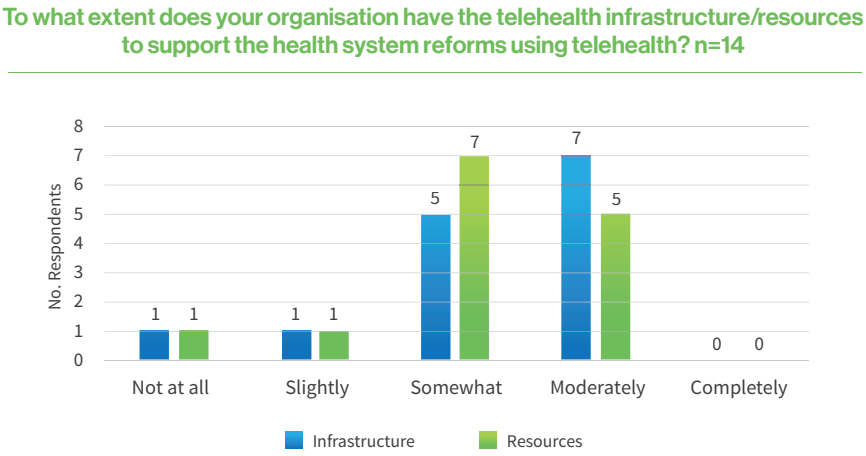

Figure 4: Extent that organisation has telehealth infrastructure/resources to support the health reforms using telehealth

Staff Resources

Districts received targeted funding for Telehealth Coordinator / Programme Manager roles during the COVID-19 pandemic, however, this was fixed term funding, meaning an overall reduction has occurred in telehealth coordination positions during the course of the survey.

There were ten Clinical Informatics/Digital Leads reported across Districts; some Districts have no dedicated leadership role.

Districts reported that Multidisciplinary Team / Multidisciplinary Meetings (MDT/MDM) were resourced with a coordinator in ten Districts (down from fourteen in 2019).

Value Proposition

A question was asked about the likely change to the value proposition for telehealth in the coming years. Twelve of thirteen respondents believed that the value proposition is likely to change over the next three to five years. Of those respondents, eleven felt it was likely to increase benefits and nine to decrease inequity (Table 3).

Does your organisation consider that the value proposition is likely to change over the next 3 – 5 years?			No. of Responses
Likely to change over the next 3 – 5 years	Yes, likely to change (12)	No, not likely to change (1)	13
If yes, likely to increase benefits?	Yes (11)	0	11/12
If yes, likely to decrease inequity?	Yes (9)	0	9/12

Table 3: Change to value proposition next 3 - 5 years

Twelve out of thirteen Survey One respondents agree or strongly agree that the benefits of telehealth outweigh its disadvantages, with one neutral response. Nine respondents agree that telehealth is cost-effective and seven that it could widen inequity.

Of 112 specialty/service respondents in Survey Two, 83 agree or strongly agree that the benefits of telehealth outweigh its disadvantages, with 22 neutral responses, and seven that disagreed or strongly disagreed. However, there is caution that telehealth whilst improving care for some patients could widen inequity, with half of respondents agreeing or strongly agreeing with this concern.

In Survey Two, we asked whether services had received feedback from patients and whānau regarding telehealth. From the 83 relevant comments received, 80 comments related to informal feedback and three to formal feedback (see Table 4).

MIXED FEEDBACK	[District] has completed some surveys with patients and whanau with positive results about telehealth. Out of 700 persons, the patient would rather receive face to face assessments but would be happy with video telehealth assessments if this meant they got seen faster.
	Some patients are grateful to have fewer visits but some find non face to face assessments less personal.
	Survey of telephone follow ups pre-Covid was positive but most preferred face-to-face (F2F) at that time.
	[District] did some research on accessing health services and telehealth came up. A shift away from face-to-face healthcare consultations and a move towards telehealth was also perceived negatively by some people, particularly in the context of inaccessible technology and telehealth platforms. On the flip side of that there were positives identified in the research including this quote: "Telehealth services made accessing healthcare services easier for many people because it eliminated the need to negotiate physical and environmental barriers including inaccessible buildings and transport. Telehealth can be mana enhancing as it necessitates shared input and decision-making between people and healthcare professionals. Telehealth can also result in healthcare services that are connected, easy-to-use and integrated with other systems, for example, public transport."
POSITIVE	Phone and email OK for follow up or simple matters. Anything complex they want to discuss face to face.
	Some are requesting phone appointments, especially when they are restricted due to other commitments.
	Many patients preferred Zoom or phone appointments...many patients have anxiety and also find it difficult to get to the physical clinic locations. We used Zoom for therapeutic groups and it was more popular than face to face. Some people did not feel like telehealth was a 'proper' consultation. Some patients did not turn up (similar to face to face). Some patients who were older did not feel comfortable using the technology. Some did not have a suitable private place or device to do telehealth.
	Patients have been able to identify that they have saved on time and money having to travel to appointments. They have appreciated the flexibility that telehealth brings. Some patients though do not have the ability to get video conferencing equipment such as smart phones or computers and they feel that they have missed out. Often these are the patients that would benefit the most from having more accessible options as they often live far, can't afford to travel.
NEGATIVE	Takes more time - patients often inflexible if clinics running late.

Table 4: Summary of feedback received from patients of specialty/services

Free text comments predominantly describe their feedback from patients/whānau as a mixture of positive and negative, indicating that it is specific to that patient and to that interaction.
There was also feedback illustrating that telehealth was beneficial and two respondents describing their feedback as negative. Verbatim examples of reported feedback are shown in Figure 5.

Figure 5: Direct quote examples from Survey Two respondents of positive and mixed feedback reported from patients/whānau/carers

Key Findings: governance

The overall picture in 2023 is one where organisational governance and policies are more widespread than previously but there has been a reduction in up-to-date strategies. There are some encouraging examples of regional projects, training and infrastructure but the picture is one of variability between Districts and uncertainty in anticipation of the health reforms.

Key findings include:

- The COVID-19 pandemic increased strategic investment and funding in telehealth across responding Districts.
- Both between and within Districts there are marked differences in readiness for telehealth to become BAU.
- Investment planning for telehealth is unevenly spread across the responding Districts.
- Responding Districts are not on a level playing field when it comes to preparedness for delivering digital services to meet the goals of the Pae Ora (Healthy Futures Act, 2022)[1] and the recommendations in Te Pae Tata Interim New Zealand Health Plan 2022[2] .

[1] The Pae Ora (Healthy Futures) Act 2022. New Zealand Government.
[2] Te Whatu Ora Health New Zealand, Te Pae Tata Interim New Zealand Health Plan 2022.

Section 2: Use of telehealth in hospital services

Survey Two focused on the current use of telehealth modes of delivery and the technology used in their specialty/services, as well as planned use.

There is evidence of a strong shift from reliance on designated videoconferencing (VC) rooms to desk-based technology. This has moved the use of video from one where access was set up and controlled to one that allows greater flexibility, however, this also means more variation in the equipment and set up available to the healthcare teams. There has also been a marked move towards the use of personal devices.

In 2014, the most common telehealth activities reported were clinical imaging (primarily tele-radiology and tele-dermatology), videoconferencing for multidisciplinary meetings, and patient follow-up appointments. In 2019, more services reported using video for first patient and acute assessments, patient-only and group sessions in allied health, nurse-led clinics and clinician-to-clinician sessions. There was also growth in the use of email, text messaging and social media to communicate with patients.

In the 2022-23 period surveyed, this trend continued with specialty/services identifying multiple uses of telehealth, both directly with patients and to engage professionally (Figure 6).

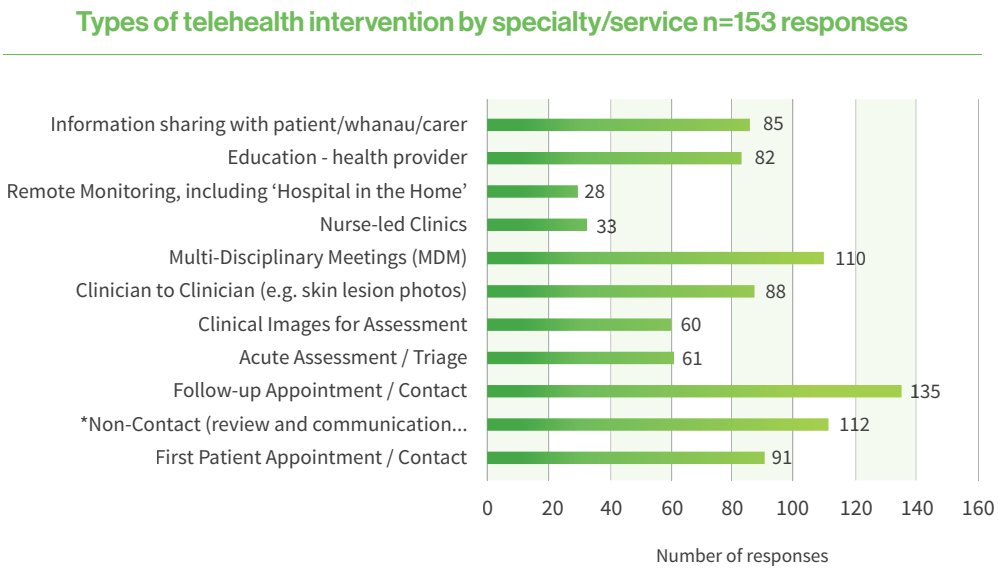

Figure 6: Telehealth interventions used by specialty/services

* The Non-Contact category included review and communicating investigation results, outcomes and plans to patient and/or health provider.

Clinical use

Telehealth for clinical use was considered most appropriate for follow-up appointments (47%), followed by triaging (30%) and First Specialist Appointments (23%), (Figure 7).

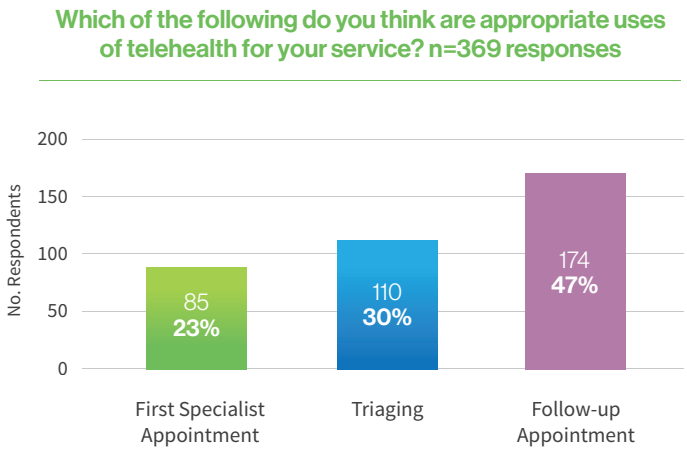

Figure 7: Telehealth use considered appropriate, by contact type

Direct use with patients is predominantly delivered via telehealth phone interventions over the other modes. This is followed by video and email. For video consultations, Zoom was the more common platform over Teams.

When considering use of telehealth in the context of their speciality/service, clinical appropriateness factors such as the need for a physical examination were cited as the predominant limitation to the use of telehealth.

> *"[I] only do phone consultations after I have previously been sent good quality colour photographs outlining the nature and extent of the patients' skin diseases."*
> **(SURVEY TWO RESPONDENT)**

Other clinical considerations were the presence/absence of co-morbidities/disability and access or technology related issues. Table 5 shows the range of factors that are considered to impact on telehealth in specialities/services.

Access issues tended to support the use of telehealth for example.

> *"Inability to travel long distances due to disease or concurrent diagnoses, lack of transport availability, support/finances."*
> **(SURVEY TWO RESPONDENT)**

It was also recognised that access was linked to patient circumstances where their access to data and devices was poor, so telehealth is both an enabler of access to healthcare but also involves barriers to use.

The large number of free text responses in Survey Two were grouped into three categories: clinical scenario, presence of co-morbidities or disability and access or technology issues (Table 5).

1. Clinical Scenario	physical exam required insufficient information to make a clinical decision via telehealth ability to consent development assessment dementia assessment protocol e.g. clinical trial access to equipment social complexity (e.g. violence) sensitive nature of illness disorganisation when unwell pre-admissions/triaging pre-admissions
2. Presence of co-morbidities or disability	cognition/dementia, physical examination, distress mobility sensory disabilities impaired communication, hearing/sight impaired, confusion, language follow-up, care at home MDT, multiple clinicians on the call chronic condition vital signs required
3. Access or technology-related issues	phone DNA, patient doesn't pick up unknown callers on phone patient circumstances, rural/remote, have dependents, can't travel, no access to parking internet, data, device access to connectivity hospital clinician does telehealth with the support of an in-place health worker e.g. local clinic whānau input and support time off work, inclusion, safe environment no driving license unable to get a scheduled appointment [so uses telehealth]

Table 5: Categorisation of comments describing factors impacting telehealth in their specialty/service

Note: Many comments within the categories in the Table describe barriers to telehealth, i.e. a limitation on usability, although the third category includes factors that may encourage telehealth use.

Given the requirement that telehealth is clinically appropriate, it was significant that over a third stated they did not have protocols for the use of telehealth and over a quarter stated that they did not have guidelines for the use of telehealth in their specialty/service. Nearly a third 'Didn't know'. This is despite growth in protocol development since 2019 when the lack of protocols and guidelines was still a barrier for half (ten) of the DHBs.

Use of email, text and social media is reported in the current survey, as it was in 2019. In 2022-23 a new question was included about portal use, which is low compared to other modes. The reported use of different technology for direct to patient telehealth is shown in Figure 8, for one patient to one clinician interactions as well as one clinician to many patients and many clinicians to many patients.

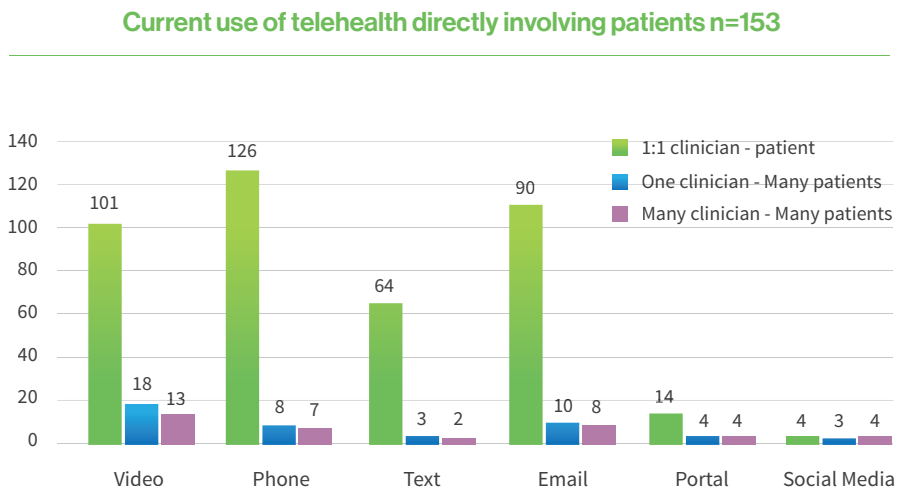

Figure 8: Current reported use of telehealth directly involving patients

Non-clinical use

Telehealth for professional and non-contact activity involved high use of video, particularly for administrative and management meetings, clinical education and communication with intra-sector health professionals (Table 6). There has been a marked growth in non-clinical use of telehealth since 2019. Phone is being used for administrative and professional activities, in addition to text and email, with minimal use of social media and patient portals.

Telehealth usage:	Video	Phone	Text	Email	Portal	Social media	Total number of responses
Administrative and management meetings	134	52	18	67	13	4	**145**
Clinical education	130	16	5	49	23	15	**138**
Communication with intra-sector health professionals	102	88	38	107	18	10	**142**
Communication with patient groups/support groups	50	72	44	81	12	18	**110**
Communications/meetings with organisations outside health? (e.g., Corrections, Justice, Education)	60	61	11	88	4	5	**112**
Other non-patient care related uses	66	64	37	80	18	15	**102**

Table 6: Non-patient use of telehealth

Planned use of telehealth

When asked about their planned use of telehealth, the results show a slight decrease anticipated across the modes. This indicates a trending down in clinical use of telehealth, which contrasts with the benefits of telehealth noted in the survey. However, it is more explicable when viewed in the light of responses to the barriers of telehealth use (see Section 4); both clinical and administrative staff default back to in-person modes when systems are not smooth.

Technology

Respondents predominantly used organisational hardware (Table 7). There has been a reduction in use of VC rooms since 2019.

However, personal devices (laptop, tablet or phone) were used for approximately 20% of patient interactions for first specialist appointment and follow-ups. Personal devices were also used for a similar amount of non-contact and clinician to clinician interactions.

In 2014, hospitals were only just starting to use other technologies, with three DHBs reporting telemonitoring projects in 2014, increasing to eight reporting active projects in 2019. At that time there were several telemonitoring projects planned but there were only unspecified reports of remote monitoring in the current survey (28) as well as nurse-led clinics (33 responses).

Hardware	First Specialist Assessment (FSA)	Non-contact	Follow-up	Acute assessment /triage	Clinical images for assess-ment	Clinician to clinician	MDT/ MDM	Nurse-led clinics	Remote monitoring + hospital in the home	Education health provider	Information sharing with patient/ whānau/ carer
VC rooms	32	26	38	15	17	34	63	9	5	22	17
Office PC/ laptop	63	80	93	48	57	83	71	11	4	28	37
Organi-sational phone	51	66	86	41	20	63	35	8	2	11	24
BYO PC/ laptop	16	21	22	14	14	22	25	1	1	10	7
BYO tablet	3	7	6	4	5	7	10	1	1	5	3
BYO phone	10	19	20	9	12	25	17	1	1	7	7

Table 7: Hardware used for telehealth

Software	First Specialist Assessment (FSA)	Non-contact	Follow-up	Acute assessment/ triage	Clinical images for assessment	Clinician to clinician	MDT/ MDM	Nurse led clinics	Remote monitoring + hospital in the home	Education health provider	Information sharing with patient/ whānau/ carer
Phone call	57	62	91	42	12	68	32	20	3	13	32
Video-MS teams	29	25	36	15	12	40	54	7	0	21	12
Video - Zoom	47	40	70	18	17	47	55	12	2	21	15
Video - other	7	6	7	4	3	10	7	2	0	3	2
Text, email etc.	16	37	46	17	17	53	16	12	3	7	21
Email	14	34	41	15	27	61	24	9	3	12	29
Social media	0	2	0	2	1	3	1	0	0	2	2
Non-health authorised software	0	0	0	1	3	4	0	0	0	1	1

Table 8: Software used for telehealth

There is an expansion in the use of personal devices (BYOD) in hospital services and the use of cloud platforms such as Zoom and Teams. More than half of respondents felt that staff would have to upgrade their personal device or home IT system to use tele-health for work and one third thought some may have to.

No Districts said they were using Doxy.me, Cisco Jabber, Vidyo software in 2022-23 although six were using Polycom Real Presence and all six of these also used Zoom and five used Teams.

At the service level there were a higher number of respondents using Zoom (80%) over Teams for First Scheduled Appointments, however there was an equal split for Follow-up Appointments, MDM and education purposes (Table 8).

Work Processes

Respondents identified that it was likely or extremely likely (81%) that telehealth would require new or different steps in the care pathway, involving administrative or clinical processes. Exemplar quotes are shown in Figure 9.

Clinical process change

"It often creates twice the work - two appointments, a telehealth appt and then a face to face appt which equals twice the administrative work."

"The triage clinician would need to be willing to take longer time at triage to complete the video assessment"

"May alter our triage process."

"Screening would need to take place as to whether or not it is clinically safe for that client to be offered telehealth (or whether pertinent they are seen in person)."

Administrative process change

"At the moment there is minimal admin support for telehealth so admin falls to clinicians - this is partly because admin staff are not trained in telehealth implementation."

"More steps in confirming phone numbers or creating zoom meetings."

"We would need to add a telehealth option to our clinic's scheduler's process."

Technology requirements

"Current level of interoperability of our clinical system and PAS makes the setting up of video calls very cumbersome. Including providing the links to clinicians and patients."

"Clinical team need better ways to link to the telehealth component. We need community/home monitoring of things like BP and weights."

Technical support requirements

"New administrative processes need tech support which is limited in this institution. Training for staff and protocol creation for departments."

"Some patients may need support to access telehealth software e.g. when working with children we may require someone to go to the school to help with setup and connection, but this doesn't have to be a qualified health professional, it could be an assistant who facilitates the appointment."

Figure 9: Quotes highlighting the need for process and technology support in telehealth implementation

Clinical process comments referenced concerns about clinical workflow or double-handling due to telehealth. The comments suggested that clinical workflows have not been developed to ensure that telehealth assessment and documentation processes equate to those of an in-person appointment. Administrative process change comments were predominantly around the impact on administration time to set up a telehealth intervention or change the process required.

Comments from Survey Two respondents on telehealth work processes:

"Lots of work to make appointments/meetings and ensure access to IT."

"Very slight change in booking appointments and ensuring emails verified and documentation - different rather than additional requirements."

"The triage team would need to ensure that the patient has access to a [mobile] device and that the triage clinician would need to be willing to take longer time at triage to complete the video assessment, It will also require allocating more time for technical issues that would arise from conducting telehealth at triage level."

Respondents were largely unsure about recording or reporting telehealth data, with 59% (77/131) not knowing if data about telehealth was collected. 30% (39) reported that it was not recorded or reported and the remaining 11 % (15) reported that it was.

Responses to questions about the impact of telehealth on work and work processes for staff are shown in Table 9. Telehealth was not considered to affect job security but 20% of respondents considered it would require additional jobs. Similarly, it was not considered that telehealth would make someone's job more difficult. Almost half of respondents thought increasing use of telehealth would make someone's job easier.

Thinking about the extent to which telehealth is usable and acceptable to the clinical and non-clinical staff within your specialty/service:	Yes	No	Some / Maybe	Don't know	Total number of responses
Do they understand what telehealth does and the data telehealth generates?	39	9	68	10	126
Would increasing use of telehealth make someone else's job obsolete?	2	102	13	10	127
Would increasing use of telehealth create more jobs?	26	32	36	31	125
Would increasing use of telehealth make someone else's job more difficult?	24	44	42	14	124
Would increasing use of telehealth make someone else's job easier?	60	16	39	9	124
Does your service/specialty conduct Patient Reported Experience Measures (PREMs)?	19	41	14	51	125

Table 9: Views on the impacts of increasing use of telehealth for staff and reporting

Training

Training continues to be largely self-directed. Training in any new technology requires more intense support at implementation before moving to self-directed learning. Training in telehealth was reported as largely online, and online learning time in the health workforce is negatively associated with health provider workload. Whilst some describe good access to helpdesk support, others were unaware of what support was available. Telehealth implementation was rushed to meet the pandemic context and, in many services, inter-operability, integrated workflows and on-boarding for team members have not been addressed.

Responses were spread in relation to teams having the resources, time, space or support to learn more about using telehealth with around a third (n=122) responding likely, unlikely and neutral respectively. Eleven responses (9%) felt it would be extremely unlikely.

Comments were invited on what support their organisation offers for using telehealth. The eight responses received spanned the range of "none" and "no idea" to "helpdesk team on phone/ remoting in, dedicated Telehealth support team, online resources and 'How-to' guides and clinical coaches." These responses highlight the degree of variation in support of telehealth in different services and Districts.

Training provided to support clinicians in the use of telehealth was primarily online rather than in-person. Additionally, one District was trialling telehealth training/support for patients via phone or video and another said that no dedicated resource was available now that COVID-19 initiatives had ceased.

> *"At the moment there is minimal admin support for telehealth, so admin fall to clinicians - this is partly because admin staff are not trained in telehealth implementation."*
>
> **(SURVEY TWO RESPONDENT)**

Telehealth promotion and evaluation

Promotion of telehealth options, for example, in newsletters, websites, waiting rooms or at events, is reported by three Districts and described as 'somewhat' by a further eight Districts.

The nature and extent of promotion is not clear, with only one elaborating that promotion included copy brochures and intranet. A separate survey of telehealth Programme Managers in 2023 provided a picture of poor visibility of telehealth services and a lack of promotion in hospital services and word of mouth was the most common way for information about telehealth services to be conveyed to Telehealth Coordinators and patients.[3]

Twelve of thirteen respondents said that their organisation undertook some formal/structured evaluation of telehealth projects, up from seven in 2019. An increased number of Districts, thirteen, reported they are using standardised data entry using Ministry of Health Telehealth Mode of Delivery (MoD) codes. This has become a mandatory requirement since 2019 when nine used the MoD codes. While this result does not tell us about the quality of the reported data it does move towards more consistency in coding to better inform strategic targeting of telehealth in public hospital services.

> *"Telehealth opportunities are more embedded into everyday practice since COVID, but the full time telehealth role has now been removed and it leaves gaps and lost opportunities for expansion."*
>
> **(SURVEY TWO RESPONDENT)**

Key Findings: use of telehealth in hospital services

Telehealth is utilised in most specialty/services to some degree. However, telehealth is not universally embedded as a complement to in-person care; it is still clinician or circumstance led.

Supporting structures for telehealth are undeveloped. Clinicians report a lack guidance developed within their specialty/service to feel confident about the use of telehealth across clinical scenarios. Software solutions have supported an increase in videoconferencing and reduced the barriers of hardware and room availability, however, there were still multiple reports of poor experiences with telehealth implementation at the service level.

[3]"." NZ Telehealth Forum, Exploring the need for a telehealth directory of services in the public health system, June 2023.

Section 3: Impact of telehealth benefits

We asked both senior executive respondents (Survey One) and specialty/service respondents (Survey Two) to use a 5-point Likert Scale to rate the impact (no/low impact to extremely high impact) of a list of internationally recognised values/ benefits delivered by telehealth, asking "what impact have you seen within your organisation and for your patients and their whānau?". The ranking of these benefits in both surveys is shown below in Table 10.

Both senior executive respondents and specialty/service respondents ranked three benefits to patients as those of highest impact:

- Reduces travel times
- Reduces travel costs for patient/whanau/carer
- Reduces time off work (patients/whanau/carer)

Many free text comments described benefits of improved access to healthcare of under-served populations. Example comments from Survey Two include:

"Telehealth works well to widen access to tertiary services for regional areas, however the regional areas need to provide facilities/staff to support the patient locally."

"Will make health access to the rural and priority populations much easier."

Reduces travel times for health provider was also considered a high impact benefit:

"Due to staffing shortages, I feel telehealth could be quite helpful with efficiency of time, not having to take two hours out of the day to drive to see consumer, for example."

"It would increase service capacity having telehealth as another means of reaching patients aside from home visits."

	Survey One Highest to Lowest Benefit Impacts	Survey Two Highest to Lowest Benefit Impacts
1	Reduces travel time for patient/whānau/carer	Reduces travel time for patient/whānau/carers
2	Reduces travel costs for patient/whānau/carer	Reduces travel costs for patient/whānau/carers
3	Reduces travel times for health provider	Reduces time off work (patients/whānau/carers)
4	Reduces time off work (patients/whānau/carer)	Reduces travel times for health provider
5	Increases patient empowerment and engagement	Provides a new model of health care
6	Patient/whānau/carer like using telehealth	Reduces travel costs for health provider
7	Provides a new model of health care	Reduces DNA rates
8	Reduces travel costs for health provider	Increases patient empowerment and engagement
9	Improves access to early treatment	Reduces unnecessary use of hospital services and facilities
10	Reduces waiting times	Reduces waiting times
11	Reduces unnecessary use of hospital services and facilities	Improves equity of access to healthcare
12	Reduces excessive use of hospital services and facilities	Reduces excessive use of hospital services and facilities
13	Reduces DNA rates	Health providers like using telehealth
14	Improves equity of access to healthcare	Patient/whānau/carers like using telehealth
15	Provides a 'fairer' health system	Provides a 'fairer' health system
16	Health providers like using telehealth	Has equivalent health outcomes as in person care
17	Reduces hospital admissions/readmissions	Provides culturally appropriate services
18	Has equivalent health outcomes as in-person care	Reduces hospital admissions/readmissions
19	Provides culturally appropriate services	Improves access to early treatment

Table 10: Combined Survey One and Survey Two benefit impacts.

A Survey One respondent commented that the benefits are

> *"...not being well measured and monitored. It is variable depending on what else is happening, DNA rates reduced in lockdowns as people were often not working and had time. DNA rose again after lock downs but not to the same levels."*

Key Findings: benefits

Beyond the reduction of travel and time saving, there is strong recognition in the responses to both surveys that telehealth modes of delivery are beneficial and have value in supporting patient to clinician and clinician to clinician engagement.

Whilst the benefits of telehealth interactions became very apparent during the COVID-19 pandemic, indications for planned use going forward are showing small decreases. The benefits for patients, clinicians, teams, and services will not be maintained or strengthened without investment in reliable technology and the support for technology use and work processes.

> *"I think perceptions will be more positive if staff are given the proper support and resources to run telehealth appointments."*
> **(SURVEY TWO RESPONDENT)**

Section 4: Impact of telehealth barriers

We asked both senior executive respondents and specialty/service respondents to use a Likert Scale to rate the impact of a list of well-established barriers of telehealth, asking "what impact do these have as barriers to your use of telehealth for your organisation and for your patients/whānau?' The ranking of these barriers is shown below in Table 11.

Technical barriers were rated the top 5 highest impacts: technology barriers for patients ranked 1, 3 and 4 (internet, devices and data access) and for specialities/services ranked 2 and 5 (adequate technical support and availability of equipment and room at time of requirement).

Health provider workload was identified by senior executives as high impact but rated below patient and clinician technical access factors by Survey Two respondents.

Generally, governance barriers such as information governance, patient confidentiality, patient consent and standards or protocols for care were least rated as high impact.

Impact of Barriers to telehealth	No/low impact	Neutral	Extremely high / high impact	Total responses
Patients not having access to reliable internet	8	10	99	117
Patients not having access to devices	10	10	96	116
Adequate technical support	12	13	91	116
Patients not having access to sufficient data	10	14	90	116
Availability of equipment and room at time of requirement	7	21	88	116
Patient digital health literacy	10	23	84	117
Quality of audio	18	17	81	116
Incompatibility between different telehealth systems/networks	7	28	80	115
Health provider workload	15	19	78	112
Quality of video	18	21	77	116
VC interoperability with other VC systems (e.g. Zoom with MS Teams)	9	28	75	113
Widening inequity of health outcomes	27	28	70	115
Support from patient/whānau/carers for telehealth	18	30	68	116
Cybersecurity	14	34	67	115
Quality and safety of health care	14	38	63	115
Support from clinicians for telehealth	923	31	60	114
Senior management and planning/funding acceptance (or understanding) of the telehealth value proposition	15	41	59	115
Patient acceptance	17	42	58	117
Business case / feasibility study required for scalability of telehealth	16	43	55	114
Appropriate re-imbursement models at individual or organisational level	11	50	52	113
Standards or protocols / guidelines for care pathways	22	42	52	115
Patient consent	27	46	44	117
Patient confidentiality	30	41	43	114
Information governance	20	56	37	113
Other (Please describe)	1	2	7	10

Table 11: Impact of barriers to your use of telehealth for your organisation?

In the qualitative responses, Survey One respondents identified a range of systemic barriers to telehealth (Figure 10).

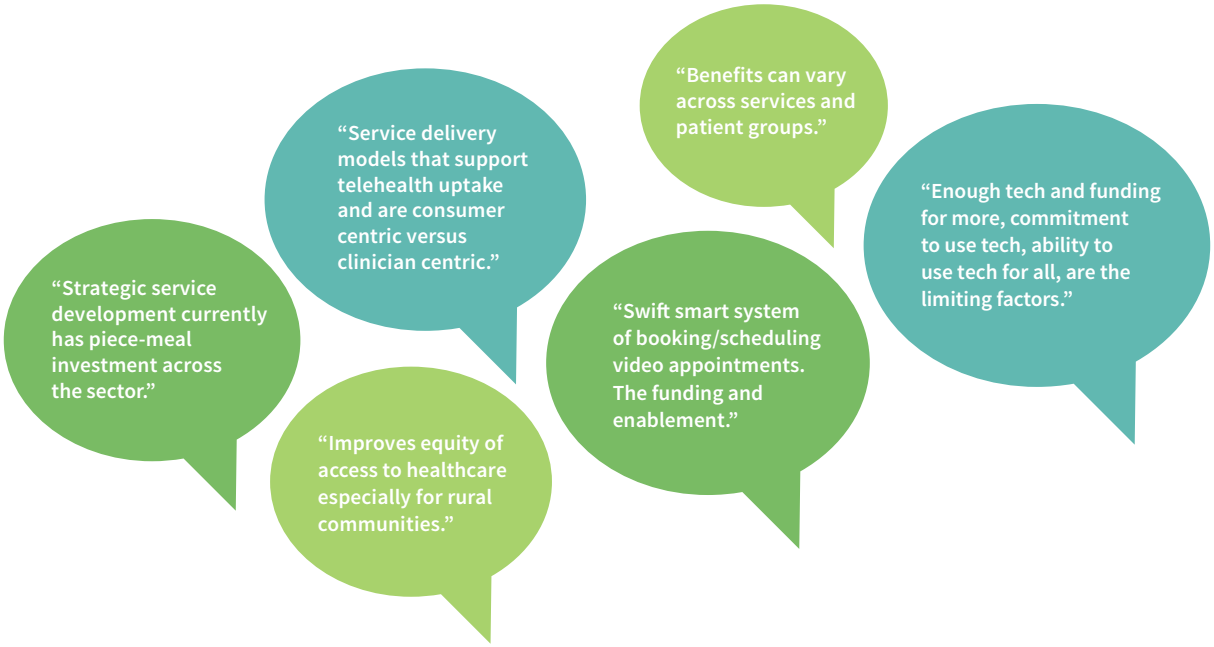

Figure 10. Range of systemic barriers to telehealth as identified by Survey One respondents

Health Equity

Whilst there has been a significant increase in digital access and literacy as a result of the pandemic, there is a continuing concern that access to devices and data issues pose a significant barrier for a portion of the population. Survey Two respondents commented:

> *"Increases inequity: poor people do not have suitable devices technology, and often benefit more from a face2face appointment, when other services can be concurrently booked e.g. Dr, nurse, allied, all in one go."*
>
> *"Patients from lower socio-economic backgrounds and Māori and Pacific tend not to use telehealth as much (maybe lack of access to technology), however, for some, it provides an improved opportunity to engage when transport and childcare are barriers to engagement."*
>
> *"[I have] equity concerns for our Māori patients. Does not fit well with Māori models of care."*
>
> *"Difficulty with access to telehealth - especially for the elderly patients that aren't aware how to use it."*
>
> *"Providing culturally appropriate services may be more difficult as the health and whānau team are not in the 'same' room. This will be a case-by-case issue. Feedback has seen it work well."*

The overall value proposition and use of telehealth in hospital services was positive. When asked, will the change have an impact on equity, 62% responded, "Yes, an increase in equity", 24% "No impact on equity" and 14% said "A decrease in equity".

In responses to the value proposition for telehealth, some clinicians felt that telehealth could increase resource strain on local teams in rural areas, for example one respondent said:

> *"Telehealth works well to widen access to tertiary services for regional areas, however the regional areas need to provide facilities/staff to support the patient locally."*

Concern about double-handling of work processes was also raised in Survey Two, for example:

> *"It often creates twice the work - two appointments, a telehealth appt and then a face-to-face appt which equals twice the administrative work."*

Key Findings: barriers

At the operational level, if there are technological impediments or lack of support for clinicians to use telehealth, then these will outweigh the benefits for the clinician, patient and the system and will increase resistance to adoption and impede embedding as BAU. The high impact rating of adequate technical support and availability of equipment and rooms evidenced in the surveys reinforces these as barriers, yet these are ones that potentially have relatively easy solutions.

Clinicians in hospital teams are weighing up the clinical appropriateness, efficacy and safety of the mode of delivery. Clinicians also weigh up the complexities for the patient in terms of co-morbidities or disability factors impeding use of telehealth and whether the patient is telehealth enabled wherever they are receiving care.

Key findings include the following:

- Lack of technical support and health provider workload and were reported as key barriers to telehealth.
- Interoperability between systems is variable. Both administrators and clinicians default to in-person appointments when systems are not smooth.
- Training for clinical and non-clinical staff is mainly self-directed and online with helpdesk support.
- Workflow and processes are needed at specialty/service level to support integration of in-person and telehealth interactions, including patient preference and capability, staff training, coding and hardware resources.
- Successful telehealth use requires integration with other systems and some changes to workflow processes.

> *"We look at the patient holistically and decide if telehealth is the best option for them."*
> **(SURVEY TWO RESPONDENT)**

Section 5: Cautions and mitigations

There are concerns that need to be addressed to integrate appropriate use of telehealth modes of delivery and to realise the value of telehealth as a beneficial addition to in-person care across hospital services.

Equity

Clinicians expressed concerns that telehealth could widen inequity if implementation does not address equity of access. Improving equity of access will require targeted and flexible approaches and new access models including Digital Navigator-led training and hubs supporting Patient Anywhere, Clinician Elsewhere (PACE) models[4].

Cross-government initiatives such as the Marae Digital Capability Programme and Pacific Community Digital Hubs in communities will increasingly contribute to improving digital literacy over time[5]. The NZ Digital Action Plan focus for digital inclusion has a focus on Māori, Pacific peoples, older, disabled and migrant communities[6].

Implementation

Multiple comments throughout the survey reflected the rushed and non-negotiable implementation of telehealth healthcare during the COVID-19 pandemic, which carried concerns regarding clinical risk. Some administrators and clinicians had poor experiences with telehealth implementation during this time and wish to see improvement in reliability and efficiencies before endorsing telehealth as an option.

> *"We did telehealth during COVID. It created work and was exhausting..."*

> *"At the moment there is minimal admin support for telehealth, so admin falls to clinicians - this is partly because admin staff are not trained in telehealth implementation."*

Comments on the value proposition for telehealth included describing concerns about mandatory delivery of telehealth in place of in-person healthcare and the future of telehealth. A sample of comments are shown in Table 12.

[4] From PASE to PACE: responses from the sector to the PASE White Paper and recommendations for the establishment of telehealth models; an opportunity to improve access and equity of healthcare and to provide more clinician support, New Zealand Telehealth Forum, February 2023.
[5] Te Rautaki Matihiko mō Aotearoa The Digital Strategy for Aotearoa and Action Plan, New Zealand Government, September 2022 https://www.digital.govt.nz/digital-government/strategy/digital-strategy-for-aotearoa-and-action-plan/the-digital-strategy-for-aotearoa/
[6] Ibid, p 14.

Benefits	Negative experiences	Future of telehealth
"Our patients should have a choice about how they receive their health care (when clinically appropriate)." *"Patient feedback indicates the reduced travel, parking is of benefit. Especially if traveling between centres would have otherwise been required. FSA notably faster with telehealth option. To date 100% attendance."* *"Will make health access to the rural and priority populations much easier."* *"Very valuable for clinicians and radiologists outside of our area to be able to participate in important MDMs and discuss their patients. Has allowed us to get patients imaged at their closest hospital."*	*"Depends hugely on the supporting structures beyond the video link or phone call. If we don't have access to the data on the patient's condition from community or home measures we'll still have to bring them back to the clinic to get these, even if all the rest of the consultation might be better done remotely."* *"We did telehealth during COVID. It created work and was exhausting. We have a health workforce crisis as it is, yet this continues to have political legs that is in direct opposition to the lived experience by those that had to do it. "* *"Telehealth works well to widen access to tertiary services in regional areas, however the regional areas need to provide facilities/staff to support the patient locally e.g. instead of having a clinic nurse at the tertiary site, there needs to be a clinic nurse / case manager with the patient at the regional site.* *"Management may wake up and realise that telehealth is stupid and a waste of resources. But I won't hold my breath."*	*"Please listen when we say that those who most need face to face appointments are the ones pressing for phone/telehealth consultations. It increases their level of risk and if we are not willing to accept risk ourselves will act as an impediment to treatment, thereby widening inequities, the opposite of what is being proposed."* *"I think that the most important thing is that this is not "one size fits all" and there will need to be listening done to find out what the best models might be for each patient group and willingness to invest up front in technology and application to enhance. Too often we see a telehealth device promoted to specialities where it will not work while applications that would make a difference are ignored as they don't fit someone's preconceived ideas about telehealth."* *"Telehealth would create more efficient working for clinicians, but would require high outlay at start as current computers are not fit for this purpose."*

Table 12: Comments on telehealth value proposition

Many Survey Two respondents commented that telehealth should be considered an addition to healthcare delivery options, one that delivers value when integrated with, not as a replacement to, in-person care:

> *"I don't believe telehealth should be a standalone model of care. It is a very useful alternative that doesn't suit every situation."*

> *"The biggest benefit to telehealth is at the time of triage and remote monitoring this allow us to gauge patient need from the patient's home and decide on the best pathway for them."*

> *"We consider each individual case and determine appropriateness of telemedicine for each."*

"I am concerned that there is such a drive to incorporate telehealth across the board that it is not acknowledged that for some it will not provide better value, we will increase appointments and clinician time, and patient/whānau time, because we tried to cut a corner too early in the piece."

"The value proposition is different for every condition and patient situation. I don't believe it can be aggregated as an overall. It needs to be on a patient-by-patient basis, both from clinical and patient-centred perspective. In that sense, it is a 'responsive hybrid-model' that needs the value proposition considered for."

The 3-5 year future picture

We asked in Survey Two for free text responses to the question, 'how do you anticipate that individual staff users' perceptions of telehealth will change over the next 3 - 5 years?

A recurring theme in the responses was the expectation that there will be an uptake in telehealth confidence and use over time:

"Vastly if there is investment to implement it."

"Need to make it easy for our administrators and clinicians to get it right first time, every time; without it taking extra resources to achieve."

"With a positive experience where it saves the clinician's time, I think it would change the staff's perception of telehealth, however, currently we haven't had telehealth training. Additionally, we work with a high percentage of Māori and Pasifika where there are language barriers and sometimes difficulties with setting up technology for telehealth."

Respondents also cautioned that there could be a return to the lower pre-COVID-19 levels of use, if improved support is not in place:

"I think it will be very dependent upon the support available in terms of IT help, device set up, room set up and availability, and admin for booking and communication."

Key Findings: cautions and mitigations

Clinicians who are not well-supported in their use of telehealth are likely to revert to in-patient only healthcare. Therefore, individual clinicians and teams require organisational support and skilled change management to enable telehealth successfully.

"Clinician barriers are higher than patient barriers. Both need support and adequate preparation and equipment access."

Identified mitigations include:

- protocols on when telehealth is and is not appropriate and guidance to ensure effective and efficient use of telehealth
- defining those patients who are 'telehealth suitable and key indicators of those that are 'telehealth ready' with an ability to support those that are suitable but not yet ready (e.g. due to technology barriers)
- clear process workflows for telehealth scheduling, coding and documentation
- training, adoption and user support
- sufficient resourcing of service-level hardware to ensure clinicians have easy access to both phone and video options.

In Summary

There has been significant investment in telehealth over the COVID-19 pandemic. No District is fully positioned to sustain telehealth to support the goals of Pae Ora (Healthy Futures) Act 2022, however, some have made great strides in that direction.

We have a significant telehealth divide; it is not a level playing field in New Zealand public hospital settings. Many providers have had a poor experience when using telehealth implementation and there has been minimal improvement in interoperability, governance, change management, promotion, and training and support for ongoing telehealth initiatives in most specialties/services.

Districts are impacted by the uncertainty of the health reforms and await guidance on telehealth implementation. Telehealth offers an opportunity to provide new models of care but successful implementation requires resource and change management to smoothly integrate telehealth into clinical and administrative workflows and to train staff in the appropriate applications for telehealth. To avoid the risks of introducing new barriers to healthcare with telehealth, an equity approach must be taken, with a focus on both patient and clinician support to overcome barriers of access to reliable technology.

In summary, this stocktake indicates that the benefits of telehealth are strongly accepted and that there is an appetite to continue development. However, to enable use and embed as BAU across the motu, strategic investment and leadership is required.

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