

**Waikato District Health Board and**

**Department of Corrections**

**Telehealth Pilot at Spring Hill Corrections Facility: Evaluating Impact**





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Evaluation completed in conjunction with

Department of Corrections and Waikato District Health Board Technology supported by Spark NZ

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# Abbreviations and Terms

|  |  |
| --- | --- |
| **Abbreviation and/or** **Term**  | **Details**  |
| AVL  | Audio-Visual Link  |
| CADS  | Community Alcohol and Drug Services  |
| DOC  | Department of Corrections  |
| DOC custodial staff  | Department of Corrections staff member, that is not part of the Health Centre  |
| DOC health centre staff  | Department of Corrections health centre staff member, this may include clinical and non-clinical (administrative) staff  |
| FSA  | First Specialist Appointment  |
| HDEC  | Health and Disability Ethics Committees  |
| IT  | Information Technology  |
| Patient  | Any patient, in custody at Spring Hill Corrections Facility who received health care provision via AVL during this project  |
| Participant  | Waikato DHB or DOC staff interviewed as part of this project  |
| SHCF  | Spring Hill Corrections Facility  |
| Telehealth  | Telehealth is the transmission of images, voice and data between two or more health care locations via digital telecommunications to enable clinicians to provide clinical advice, consultation, education, and training services. It encompasses use by appropriately qualified healthcare professionals.  |
| WDHB  | Waikato District Health Board  |
| WDHB clinician  | Any WDHB clinician who provide health care provision during this project, this includes consultants and nurses  |
| Wintec  | Waikato Institute of Technology  |

# 1 Executive summary

**Background**

This report presents the objectives, findings and recommendations from the evaluation of the Spring Hill Corrections Facility (SHCF) Telehealth pilot project. This pilot project used audio visual link (AVL) technology at Spring Hill Corrections Facility for telehealth appointments with clinicians from Waikato District Health Board (WDHB). The telehealth pilot, a collaboration between the WDHB and SHCF, was carried out from July – November 2017.

Whilst DHB appointments are common place in prisons nationally, appropriate transport is required to be arranged and Department of Corrections (DOC) custodial staff need to accompany the SHCF patient at all times during the consultation for safety and security reasons. The use of telehealth has become an increasingly important means of health service delivery throughout New Zealand. Preliminary testing between WDHB and DOC, using Spark technological equipment and knowledge, identified that telehealth, via AVL, is technically possible between the two organisations; therefore, a pilot project was established to trial and evaluate this method of health service delivery for appropriate SHCF patients.

This evaluation was carried out with the support and funding from the Centre for Health and Social Practice at the Waikato Institute of Technology (Wintec).

**Aim**

To evaluate the provision of specialist WDHB services via AVL from the perspective of SHCF patients, SHCF Staff and WDHB Staff. Four clinical areas were included in this pilot study: Renal, Respiratory, Community Alcohol and Drug Services (CADS) and Forensic Mental Health.

**Methods**

The evaluation framework was based on the Buller Health Telehealth Evaluation

Framework[[1]](#footnote-1). A guided thematic analysis (Braun & Clarke, 2006)[[2]](#footnote-2) was conducted to identify and analyse repeated patterns of meaning (themes) within interview data across four domains – clinical, service utilization and provision, technology and infrastructure, financial and cost benefit. This evaluation was carried out with Ethical approval from the Wintec Health and Ethics Research Group approval and the DOC Research and Analysis Committee approval.

**Key Findings**

* Telehealth as an option for service delivery ensured a patient-centric model of care.

* The use of telehealth improves the safety of the public, WDHB staff, DOC staff and SHCF patients.

* Telehealth has the potential to provide more timely access to clinical care and treatment changes can be initiated in a quicker timeframe. More follow up appointments can be accommodated and there are fewer cancellations and rescheduled appointments.

* Telehealth facilitated better transfer of information to the patient and DOC clinicians.

* Telehealth has the potential to enhance the knowledge and skills of WDHB and DOC staff. Increased exposure and use of the technology is likely to lead to improved confidence and productivity.

* Telehealth is a cost-effective means of health provision. There are savings for DOC with each AVL consultation with regards to travel and custodial staff costs.

* The quality of transmission through dedicated band-width and fast broadband is necessary to ensure best clinical practice.

**Recommendations**

Overall, this project has been successful and achieved all intended objectives and benefits. A number of recommendations are outlined below for consideration, specifically that:

#### Department of Corrections and Waikato District Health Board

1. Clinics across all four clinical areas continues,

1. Criteria are developed to identify which patients and clinics would benefit from AVL specialist appointments,

1. AVL specialist consultations are utilised for first specialist appointments and follow up appointments,

1. Organisation support for telehealth consultations is considered to ensure additional equipment and new ways of working may be utilised to further streamline the AVL consultation process,

1. A DOC-WDHB Steering Group is established to support further telehealth implementation across sites,

1. Training requirements are considered to ensure staff are supported to make changes to their practice, which results in benefits to the patient, DOC and WDHB,

1. Associated processes are developed to support changes in practice, such as communication and prescription management,

1. The learnings of this pilot are disseminated widely to interested stakeholders,

1. The extended use of AVL/telehealth is explored,

1. A longer-term evaluation is initiated, which should include objective measures of health outcomes such as preventable hospital admissions and readmissions,

1. Consideration is given to how telehealth might support the continuity of care for DOC patients, their families and whānau,

#### Department of Corrections

1. DOC health staff continue to accompany patients during AVL consultations,

1. AVL specialist consultations are rolled out across other DOC sites,

1. Dedicated health AVL infrastructure and equipment is available at DOC facilities,

#### Waikato District Health Board

1. AVL specialist consultations are rolled out across other DHBs/WDHB clinics,

1. Dedicated telehealth infrastructure and equipment is available at WDHB facilities, and

1. The WDHB Telehealth Coordinator is utilised to facilitate further advances in telehealth implementation within the Waikato.

# 2 Introduction

This section provides an introduction to the telehealth pilot. An overview of telehealth is provided, then a background summary is provided for DOC and WDHB; and the drivers and opportunity outlined.

## 2.1 Telehealth

Telehealth can be defined as the use of telecommunication and information technologies to provide clinical health care when patients and care providers are not in the same physical location. For example, illnesses can be diagnosed, and treatment provided via secure audiovisual link. To be effective, telehealth relies on fast broadband internet services. Healthcare related education, research and evaluation can also take place using telehealth facilities[[3]](#footnote-3).

Telehealth helps eliminate the barriers of geography and can improve access to health services that would often not be consistently available in remote and rural communities. It can also be used to save lives in critical care and emergency situations. Telehealth technology permits communications between patient and health staff with both convenience and fidelity, as well as the transmission of medical, imaging and health informatics data from one site to another.

Telehealth is a form of virtual health care provision. Virtual health care services, includes telehealth and other initiatives, such as the use of applications (or ‘apps’). Virtual health is about increasing health equity and enabling healthy communities by:

* empowering patients to manage their own health;
* giving patients a say in when and where their healthcare is delivered;
* improving access to timely care for everyone no matter who they are or where they live; and
* delivering services closer to home to make it more convenient for patients.

For this pilot project telehealth involves providing healthcare via telehealth, using audiovisual link technology, so that patients located at SHCF can access health care provided by staff at WDHB, with clinical support provided by the SHCF health centre clinical staff.

For the purposes of this report, all prisoners are referred to as patients; all staff (DOC and WDHB) interviewed for this project are referred to as participants; and the terms AVL and telehealth are used – AVL was the technology used by SHCF, which enabled the telehealth consultations to occur.

The purpose of this report is to present an overview of an evaluation of the Spring Hill

Corrections Facility Telehealth pilot project. The telehealth pilot, a collaboration between

SHCF and the WDHB was carried out from July – November 2017. This evaluation was carried out with the support and funding from the Centre for Health and Social Practice at Wintec.

The audience for this report is:

* Department of Corrections Central Region, other DOC departments and Spring Hill Corrections Facility. This report will be used to guide and inform the growth and developments of telehealth services for SHCF and other DOC facilities.
* Waikato District Health Board. This report will be used to guide and inform the growth and developments of telehealth services provided by WDHB to SHCF and other DOC facilities.

## 2.2 Department of Corrections

The Department of Corrections works to make New Zealand a better, safer place by protecting the public from those who can cause harm and reducing re-offending. Each week, DOC manages around 10,000 people in prisons and 30,000 offenders in our communities. DOC staff are committed to supporting offenders to help them address their offending and gain skills that will help them lead a crime-free life.

Corrections protects the public of New Zealand from those who can harm them, by making sure prisoners, parolees and other offenders in the community comply with the sentences and orders imposed by the Courts and Parole Board; and, by providing offenders with rehabilitation programmes, education and job training that will break the cycle of reoffending.

The Department of Corrections have 4 key priorities:

1. *Our People*

This includes aspects related to health and safety and recruitment.

1. *Community Safety*

This focuses on community engagement and community probation

1. *Industry, Treatment & Learning*

Main focus areas include employment and education, and mental health, alcohol and other drug support

1. *Modern Infrastructure*

This area looks at the facilities development and technology enhancement

Spring Hill Corrections Facility is located on a 215-hectare site near Meremere in the Waikato and is one of the country's biggest prisons. It is situated at Hampton Downs and accommodates up to 1,000 male prisoners. Prisoners often have high health needs and improving access to appointments with hospital-based specialists/consultants has multiple benefits.

SHCF provides a primary healthcare service that is within reason equivalent to that provided to the general population. The health service is nursing led with contracted doctors, podiatry, physiotherapy, x-ray facilities, secondary mental health services, and dentists.

The DOC Central Health Team initiated the telehealth pilot project as they saw the opportunity to use AVL to improve access to health services for patients based at the SHCF by continuing to provide patients with access to their usual health care – the difference is that the WDHB staff member will be based in another location and conversations with patients will occur using the AVL system. The equipment does not make recordings of pictures or of the video of patient and clinician talking.

To date, DOC has not established permanent AVL capacity within health services at present. However, SHCF and WDHB secured the use of AVL equipment for a period of six months; and a consultation room has been designated in the prison to allow for AVL consultations to take place with the WDHB.

## 2.3 Waikato District Health Board

Waikato District Health Board is one of 20 district health boards in New Zealand. District health boards are responsible for providing or funding the provision of health services in their district. WDHB serves a population of over 390,000 across the greater Waikato region. About 60 per cent of funding received by WDHB is used to directly provide hospital and health services across this large geographical area. The remaining 40 per cent is used to fund contracted services provided by non-government organisations (NGOs), primary health care organisations (PHOs), pharmacies and laboratories.

WDHB has a mission to “*Enable us all to manage our health and wellbeing. Provide excellent care through smarter, innovative delivery*”, with six strategic imperatives:

* Health equity for high need populations / *Oranga*.
* Safe, quality health services for all / *Haumaru.*
* People centred services / *Manaaki.*
* Effective and efficient care and services / *Ratonga a iwi.*
* A centre of excellence in learning, training, research and innovation / *Pae taumata.*
* Productive partnerships / *Whanaketanga.*

WDHB's virtual health care services, includes Telehealth and other initiatives. To work towards more sustainable models of care the WDHB, like many other providers globally, has an interest in developing virtual health provision capacity and capability, in partnership with technology providers (such as Spark) and relevant industry providers/agencies (such as DOC).

## 2.4 Drivers

DHB specialist First Specialist Appointment (FSA) and follow up appointments are common place for prisoners nationally. For example, the number of external WDHB appointments scheduled for patients at SHCF and Waikeria Prison range from one to four per day. Depending on the prisoner classification, this will utilise several custodial staff and many hours per day. Hospital appointments are arranged with the DHBs, health staff and custodial staff. Appropriate transport is required to be arranged and custodial officers need to be available for prisoner escorts and accompany the SHCF patients at all times during the consultation for safety and security reasons.

The use of Telehealth has now become an increasingly important part of health services throughout New Zealand. Health providers are using this technology for a variety of uses such as; alternatives to face to face clinical therapeutic sessions, diagnosing skin disorders with the use of specialist cameras, emergency diagnostic and treatment support, and meetings between specialist services. In the preliminary testing trial between the WDHB and the DOC, using Spark technical knowledge, it was established that Telehealth, through AVL, was technically possible between these two organisations.

## 2.5 Telehealth opportunity

DOC is an experienced user of AVL through the judicial system and understands the associated privacy issues. SHCF and WDHB secured the use of additional health specific AVL equipment for the telehealth pilot period. With the Ministry of Health’s continued drive for improving access to health services through this technology the timing was right for this region to implement a pilot telehealth project with the WDHB.

# 3 Evaluation Development

This section outlines the evaluation criteria and framework adopted for this project and the ethical approval process. It also highlights how clinics and patients were recruited for the study. The research methodology, including inclusion and exclusion criteria are outlined in Appendix 1.

## 3.1 Evaluation Criteria & Framework

This evaluation utilised aspects of an Evaluation Framework based on previous work published by the Buller Health Telehealth Group. Four domains were applied – clinical, service utilization and provision, technology and infrastructure, financial and cost benefit. It should be noted that due to the number of consultations that occurred over the pilot period, clinical outcomes are outside of the scope of this evaluation. The full Evaluation Criteria and Framework are included in Appendix 2.

|  |  |
| --- | --- |
| **Evaluation domains**  | **Criteria**  |
| Clinical  | * Experience of patients, clinicians (DOC and WDHB)
* Perceptions of safety (patient, DOC and WDHB)
* Perceptions of quality of care (patient, DOC and WDHB)
* Perceptions of reduction in clinical risk/adverse events
* Privacy and security (health information)
* Confidence of DOC and WDHB staff
 |
| Service utilisation and provision  | * DOC and WDHB staffing resource implications
* Impact on staff workloads/patterns
* Changes in uptake of services
 |
| Technology / Infrastructure  | * Training required and frequency of technology use
* Actual versus intended usability of technology
* User satisfaction
* Record of daily problems/difficulties with technology
* Effect of technology on processes and work practices (clinical and

administrative for DOC and WDHB staff)  |
| Financial / Cost benefit  | * Infrastructure, support and training costs
* Cost network, hardware, licences
 |
|  | •  | Cost staff time for visits (custodial staff accompanying prisoners, admin processes etc.)  |

## 3.2 Ethics Approval

Ethical approval was essential for this evaluation. The Wintec Health and Ethics Research

Group (HERG) provided ethical approval for this project. In addition, the Department of Corrections Research and Analysis Committee also provided ethical approval, given the inclusion of patients from Spring Hill Corrections Facility.

The research team reviewed the Health and Disability Ethics Committee (HDEC) requirements to determine whether HDEC ethical approval would be required. It was agreed that this study was exempt from HDEC approval[[4]](#footnote-4), as the study was a minimal risk observational study[[5]](#footnote-5), which meant the patients’ health information was not to be disclosed to researchers in a form that would allow them to identify the individual(s) concerned, or to match the information with other datasets through a non-encrypted identifier (e.g. an NHI number).

## 3.3 Clinics Involved

During the development phase, analysis of clinics accessed by SHCF patients was completed and consideration given to a) those clinics and consultants that were already actively engaging in telehealth consultations and; b) those clinics that had high numbers of consultations with SHCF patients. This process helped identify clinics for the inclusion in this project, which were:

1. Renal
2. Respiratory
3. Community Alcohol and Drug Services (CADS)
4. Forensics mental health

## 3.4 Recruitment of Patients

All SHCF patients that had appointments at the four identified clinics during the pilot period were identified proactively by administrative staff and reviewed by a clinician to determine whether their appointment could be via telehealth. Once patients were identified by the clinician as being suitable for a telehealth consultation the Waikato Hospital Booking Clerk was advised; following which, the clerk linked directly with the SHCF administrative staff member, who arranged the DOC AVL appointment.

SHCF patients are a vulnerable population - nearly 65% of prisoners haven’t achieved NCEA Level 1 in literacy and numeracy. For this reason, SHCF patients who had an appointment using the AVL system were provided information regarding the telehealth evaluation in either a written or verbal format (see Appendix 3), and the SHCF clinicians assisted with completion of consent forms as required. All participants had the option to decline to participate, and/or to withdraw from the research study. A decision not to participate did not affect access to the AVL appointment or any other health service. SHCF health centre staff collated data from SHCF patients on behalf of the researchers to minimise risk and to ensure researcher safety.

## 3.5 Recruitment of Participants from WDHB and DOC

Specific WDHB clinicians involved in the selected clinics were invited to participate in the evaluation. Nine WDHB staff (three non-clinical and six clinical staff members) and four DOC staff (three clinical and one administrative staff member) from the SHCF health centre were interviewed as part of this evaluation.

All DOC and WDHB staff participants were provided with an information sheet and given the option to participate in the study (see Appendix 4). An interview appointment was made for either a face to face or telephone interview. All participants were provided with a clear explanation of the purpose and nature of the research and their rights as participants. All participants had the option to decline to participate, and/ or to withdraw from the research study.

# 4 Conducting the Clinics

This section outlines the processes involved in conducting the clinics at WDHB and SHCF. The study commenced 6 July 2017 and concluded 17 Nov 2017. Four clinical areas were included in this pilot, and 9 patients and 6 clinicians were involved.

## 4.1 Preparing the infrastructure and technology

The success of this project relied on having the correct infrastructure and technology. Spark NZ kindly provided the AVL technology and equipment for loan at the SHCF and Spark NZ staff were integral in setting up the technology and providing technological support for this pilot. While AVL technology is utilised within the prisons to connect to courts, this was the first time AVL had been used for the provision of health services.

The DOC infrastructure involved two polycom AVL units, which were installed within the SHCF Health Centre. This required a significant amount of coordination, as any installation of equipment within a prison carries security risks. Once the AVL equipment was in place, the technology was trialled over a month to allow any troubleshooting to occur. Three virtual rooms were set up – the first for 2 callers, the second for up to 6 callers and the final room was for administration purposes only and could accommodate 10 callers – to allow for concurrent use of AVL technology.

The WDHB utilise in house Cisco video conferencing equipment throughout the campus, which enables easy interoperability between many different vendors equipment. This standards based communications allows WDHB to securely connect to DOC over a private Connected Health network, as well as enables WDHB to communicate to any other video provider on the internet.

Throughout the pilot the Waikato DHB utilised the Cisco Jabber soft client to conduct the consults, this was selected as it provides the ability to remote control the far end camera giving the clinician the ability to zoom in on the patient where needed.

During the trial month, it was identified that it would be beneficial to ensure each telehealth appointment was accompanied with a WDHB clinic phone number to ensure the patient could be connected to the clinician, should a rare case of unsuccessful connection occur.

## 4.2 Consultation Appointment Process

Once the infrastructure and AVL technology were in place, a process was established to ensure appointment bookings were suitably managed. All SHCF patients that were identified as being suitable for an AVL consultation were identified at the WDHB by the clinician involved in the pilot study. Only follow up patients were included, and clinicians used their knowledge of the patient and their health condition to determine whether the consultation could take place via telehealth. The WDHB booking clerk then contacted the SHCF health centre administrator who booked in the AVL consultation for the patient and created the required PIN code for the AVL consultation. The SHCF health centre administrator set up an appointment using the Telemedicine schedule in MedTech, which had specific rooms identified for the AVL consultations. The SHCF health professional was then informed of the scheduled appointment, which allowed for any preparation (for example, blood pressure or temperature) to be completed prior to the consultation.

During the consultation, the patient and the SHCF health professional were present within the SHCF clinical room. The dial-in occurred using the PIN code provided. Throughout the consultation, if the WDHB clinician required any specific observations SHCF health professionals (who are Registered Nurses) were able to assist with these requirements. For example, temperature, respiratory rate, blood pressure.

At the end of the consultation, if any prescriptions were required the SHCF health professional would ask the WDHB clinician to fax the prescriptions to either the pharmacist used by SHCF, or the SHCF health centre, who would arrange to get the prescription filled. Following the consultation, the SHCF health professional documented in the patient’s SHCF clinical file a summary of the consultation, outcomes and plan. A specialist consult letter is still generated, however the timeframe for sharing any alteration to treatment is instant.

# 5 Key Findings

This section presents the findings from the data collected, which included patient surveys, qualitative interviews with participants and financial calculations.

## 5.1 Current service delivery model for SHCF patients

The diagrams below outline the pre-existing service delivery model for SHCF patients attending WDHB specialist services. Two pathways are presented: 1) the First Specialist Appointment (FSA) pathway for all initial appointment (Figure 1), and 2) the follow up (FUp) pathway for subsequent appointments (Figure 2).

#### Figure 1: Service delivery model for DOC patients attending First Specialist Appointment at WDHB

*Key: Green = DOC*

 *Blue = WDHB*

 *FSA = First Specialist Appointment*



All FSA appointments are generated following a referral to WDHB for a specialist service, which may be initiated via a range of methods, such as via a GP referral, DOC health professional referral, or other professional referral. Once the referral is received by WDHB and triage is completed, and the patient is added to the appropriate wait list. When they reach the top of the wait list a FSA letter is generated, and the appointment is sent inviting the patient to attend the First Specialist Appointment.

SHCF are currently only able to accommodate up to two external appointments per day. This can mean that either prior to the FSA or on the day of the FSA, the appointment may need to be rescheduled. High volumes of prisoners transfer around the country and health services have systems in place to ensure the least impact for prisoners with scheduled appointments.

During the appointment the SHCF patient will always be accompanied by between two and four custodial staff who also carry sealed patient documentation. The custodial staff must accompany the patient at all times, for safety and security reasons; therefore, they are always present during the consultation.

Following the FSA, the clinician will generate a letter back to the referrer or GP to update them about any treatment changes. This may take days or weeks to arrive at SHCF. Once it has been received the DOC health centre staff will initiate treatment changes as indicated.

Follow up appointments have a very similar pathway; however, the pathway commences when a follow up appointment is generated (see Figure 2). The other parts of the process are the same.

#### Figure 2: Service delivery model for DOC patients attending follow-up appointment at WDHB

*Key: Green = DOC*

 *Blue = WDHB*

 *FUp = Follow up appointment*



In some cases, the WDHB clinician visits SHCF to assess and treat patients (for example, Forensic Mental Health Services). In these situations, the SHCF patients are part of the clinicians’ community case load. The clinician leaves the WDHB site to travel to SHCF, they need to be cleared to enter the facility and then see patient/s within the facility.

## 5.2 Potential AVL service delivery model

The next diagram outlines the how the current service delivery models for SHCF patients that require follow up appointments with WDHB specialist services could be altered when AVL is utilised (Figure 3).

FSA appointments currently do not take place via AVL, therefore the process for these consultations remains the same as identified in Figure 1 above. The potential service delivery model of follow up appointments is outlined in Figure 3 and shows how efficiencies can be gained, when compared with the current service delivery model for follow up appointments. Patients may still be transferred to another DOC facility, therefore if all DOC facilities have AVL included as part of their service delivery model the patient would still be able to have their appointment as scheduled.

#### Figure 3: Service delivery model for DOC patients requiring a follow up appointment at WDHB

*Key: Green = DOC*

 *Blue = WDHB*

 *FUp = Follow up appointment*



#### Potential service delivery model for DOC patients using AVL for follow up appointments with WDHB



The AVL pathway commences when the appointment is generated by WDHB and sent to the SHCF Health Centre. Once the letter is received the AVL appointment is arranged within the SHCF Health Centre.

In the case of AVL consultations, the appointment takes place with the patient based at

SHCF health centre and the clinician is based at their WDHB location, such as Meade Clinical Centre. During the appointment the SHCF patient will be accompanied during the appointment by a SHCF health professional, rather than a DOC custodial staff member. Within the SHCF health centre DOC custodial staff are always present, but patients are seen with the clinician in a clinical room, without the custodial staff directly present in the clinic room, unless their presence in the clinic room is indicated due to the security risk.

Throughout the consultation if any treatment changes are indicated, for example a change of medication, the SHCF health professional can request that the WDHB clinician send a fax to SHCF immediately and this will enable the SHCF registered nurse to link with the DOC GP and initiate treatment plan changes in a timely manner.

Following the consultation, the SHCF health professional may also be able to spend time with SHCF patient to assist with the patient’s understanding of the consultation outcomes.

## 5.3 AVL consultations held

A total of eleven SHCF patients had AVL appointments during the pilot period (6 July 2017 – 17 Nov 2017). Of these patients, nine agreed to participate in the research evaluation, no reasons were recorded for those that declined.

The consultations were scheduled with a total of nine clinicians from four specialty areas: Renal (1 clinician), Respiratory (2 clinicians), Community Alcohol and Drug Services (CADS) (3 clinicians), and Forensics Mental Health (3 clinicians).

Whilst the number of first and follow up appointments across all WDHB specialist services scheduled for patients at SHCF ranges from one to four per day, only patients with follow-up appointments with four clinics were included in this study. Any SHCF patient with a First Specialist Appointment (FSA) with these clinics were not included, as these continued to be via face to face consultation at WDHB.

## 5.4 Results from SHCF patient surveys

The findings from the SHCF patient surveys are outlined in this section. The nine SHCF patients who agreed to participate in this study were asked to rate ten questions on a 5point Likert scale, which ranged from a rating of very poor (1) through to a rating of excellent (5). The patients were then asked to complete three “Yes” or “No” questions regarding their thoughts on future use of telehealth (see Appendix 5 for SHCF patient survey).

All SHCF patients felt that the voice quality was average (n = 1), good (n = 3) or excellent (n = 5). The visual quality was found to be slightly better than the audio quality (see Table 1), with one patient feeling is was average and all others reporting that it was excellent (n = 8). The bandwidth and speed of IT connectivity was important in ensuring the quality of the voice and visual quality of the AVL system.

***Table 1: Voice and visual quality***

0

1

2

3

4

5

6

7

8

9

very poor

1

poor

2

average

3

good

4

excellent

5

**Number of SHCF patients**

**Rating**

The voice quality of the

equipment?

The visual quality of the

equipment?

The majority of patients felt that the length of time that the specialist spent with them during the appointment was average (n = 1), good (n = 3) or excellent (n = 5).

All SHCF patients experienced good or excellent interactions with the specialist. They reported that the specialist was good (n = 2) or excellent (n = 7) at explaining the treatment.

Likewise, the thoroughness, carefulness and skillfulness of the specialist was either good (n = 3) or excellent (n = 6). All patients felt that the specialists were excellent at providing courtesy, respect, sensitivity and friendliness. (n = 9). Privacy was respected and found to be good (n = 1) or excellent for patients (n = 8). Similarly, most patients felt that the staff were excellent at answering their questions about the equipment (n = 8), whilst one patient felt this aspect was average.

Overall, the patients’ treatment experience appeared to be very positive, with 2 patients saying that the experience was good and all others (n = 7) reporting that it was excellent.

This was reinforced by the yes/no questions pertaining to future use of telehealth technology (see Table 2).

Most patients (n = 8) would use telehealth again and most would consider using telehealth when released from custody. All patients (n = 9) said that they would recommend telehealth to another person.

***Table 2: Future use of telehealth***

0

1

2

3

4

5

6

7

8

9

10

Would you use telehealth

again?

Would you consider using

telehealth for health

appointments when

released from custody?

Would you recommend

telehealth to another

person?

Number of SHCF patients

Yes

No

## 5.5 WDHB and DOC Staff Interviews

Thirteen WDHB and DOC staff were interviewed in November 2017, including six clinical staff representing four clinical areas - renal (n = 2), respiratory (n = 1), CADS (n = 1) and Forensic mental health (n = 2); three WDHB non-clinical staff in leadership and management positions, and four DOC staff representing administration (n = 1) and clinical staff (n = 3. The interviews ranged between 21 and 54 minutes with an average time of 34 minutes and resulted in 137 pages of transcript.

A guided thematic analysis (Braun & Clarke, 2006) was conducted across the data set, giving full and equal attention to each data item, to identify and analyse repeated patterns of meaning (themes) within the interview data across four domains – clinical, service utilization and provision, technology and infrastructure, financial and cost benefit.

## 5.6 Analysis of Evaluation Domains

The results of the pilot were analysed against the four domains discussed in the Evaluation Criteria and Framework discussed in section 3.1 of this report (also see Appendix 2):

1. Clinical,
2. Service utilisation,
3. Technology/infrastructure and 4) Financial/cost benefit.

Survey and interview data was collected to triangulate perspectives and included the patient surveys, and qualitative interviews with the 13 participants from WDHB and DOC.

### 5.6.1 Evaluation Domain 1: Clinical

***Overall experience of patients:*** The data collected from patients’ surveys identified that the quality of care provided via telehealth was acceptable to patients. Most indicated that they would be happy to use telehealth again. Despite the small number of patients included in this pilot study, it appears that telehealth was a safe, effective and efficient means of accessing health services.

*It’s meeting patients’ needs. The other important thing is, contrary to what most people say, patients like it, patients want it. They’re happy to use it. Provided you [show] them how to use it and the system works, they’re very happy to use it.*

*{WDHB participant}*

***Overall experience of clinicians (DOC and WDHB):***Most clinicians (nurses and doctors) across both organisations had positive experiences with the telehealth pilot. The participants felt that telehealth enhanced patient care by providing a patient-centric service, which facilitated an increased quality of care, timely and quick clinical decision making and reduced clinical risk as the patients were potentially waiting less time for consultations and decisions.

*These health benefits [to the patient] you cannot really quantify. The way you quantify is that your patient stays healthy; they’re up to date with their care. That’s how you quantify it. It’s not about figures; it’s not about how many percent or something. It’s how they stay healthy and they’re given timely care, and that’s how I want to quantify it.*

*{DOC participant}*

***Perceptions of safety (patient):***Whilst the patients’ perceptions regarding safety were not objectively measured in this pilot study, thereduction in travel and external appointments outside of SHCF may improve the safety of patients. Normally, a patient would be transported in handcuffs from SHCF to the WDHB appointment, which can be uncomfortable.

*You have to understand, an inmate patient when they go out they have to be escorted by security officers, and they will be wearing handcuffs and waist restraints and GPS. {DOC participant}*

*The safety issues we have as well with patients coming in with two guards sitting out there. A lot of people are quite frightened. I looked at it and I thought, wow, we can now deliver a service to these prisoners that’s humane.*

*{WDHB participant}*

***Perceptions of safety (DOC and WDHB):***The WDHB participants felt comfortable and safe with this type of consultation; that is, they did not feel threatened or intimidated. Although appointments took place in the health centre, there was always custodial staff present for safety reasons.

SHCF can facilitate up to two patient transfers per day to WDHB and there is obvious concern for the security and privacy of patients in transit and whilst at the DHB. This is mitigated with telehealth consults, which remove the need for patients to leave the prison to travel to WDHB and the extensive paperwork required to facilitate this.

*With Telehealth yes, we can still stick to two patients being sent out every day but the use of Telehealth is unlimited depending on the availability of the specialist on the outside and the appointments that are booked in for Telehealth. There’s no limit to it. And we don’t have to worry about costs. We don’t have to worry about trips and travel and security. {DOC participant}*

*For example, if you’re driving on the roads on wet cold, wintery morning and it’s foggy, there’s dangers of car accidents. You’re bringing people into the hospital. We really know that there are quite a few bugs in the hospital, unfortunately, and so you can expose them to the bugs.*

*{WDHB participant}*

***Quality of care:*** There are several areas where the quality of patient care is enhanced with the introduction of telehealth as an alternative method of receiving health care for prisoners.

***Presence of SHCF nurse during appointment:***One aspect that the DOC and WDHB staff felt enhanced patient care was the presence of the DOC registered nurse, who fulfilled three roles. First, they were a manager, managing the consultation process, patient and clinical room (and contents). Second, they acted as an observer providing continuity of care for the patient; and third, as ‘translator’ for the doctor requesting information and advocate for the patient with medical questions.

*Most of the time, my experience with Telehealth most of the patients appreciated having someone sit with them to act as an advocate. {DOC participant}*

Because the telehealth consultation is conducted in a standard clinical room within the SHCF health centre, a security issue (with equipment such as sharps and computers) arises with the patients, and so a prison nurse sits with every patient throughout the whole consultation. As a result of the nurse being present, a) the patient is better informed about their own health as they have the opportunity to ask the nurse about aspects of their own health/consultation, b) the specialist has opportunity to have basic examinations conducted on the patient at that time (for example, blood pressure and temperature), c) the nurse and health unit at DOC is party to the official health discussion rather than having to wait for the letter or hear via a custodial officer or prisoner themselves, explain the medical situation and changes to medication routine, and d) is able to direct the medication regime that is implemented at the time rather than two weeks letter in response to a traditional, hard copy letter. Thus, the right people know the right information in a timely manner.

*All I had to do was specify what they [SHCF clinician] needed to do, so they made sure all the bloods are done, all the results are chased up already for me and they did all the blood pressure measurements; they are very capable nurses at the other end.*

*{WDHB participant}*

Overall this role was considered very useful for all parties and contributed to a patient-centric model of care. Further, the nurse acting as a ‘translator’ was better informed about the patients’ health than DOC custodial officers who are present during face-to-face consultations at WDHB.

*The officers that accompany them often don’t really know them, never mind their healthcare history, so it’s quite hard to get one individual for continuity of care.*

*{DOC participant}*

***Selection of patients:***The participants involved in this pilot selected patients that they felt were appropriate for telehealth consultations: specifically, for routine follow up consultations, for educating patients about medication, for stable patients and for those who did not need physical assessments.

*I haven’t used it for anyone who’s a brand-new referral or I’ve never met. I think you could, as in the technology is the technology, isn’t it? But whether or not that will be the right thing to do, I’m not sure. There’s nothing like a face-toface assessment, at least for the first time, because you’re building up a potential treating relationship and also, I guess the prisoners, in my mind, it’s my assumption that there will be some prisoners who will think, you can’t even be bothered with me, to be frank. That’s mostly to do with the prisoner’s background. They’ve often been rejected, they quite often don’t trust. {DOC participant}*

***Patients better informed about their own health:***It was felt that patients were better informed about their own health with telehealth due to their ability to ask questions to the prison nurses at the time of or immediately after the consultation. This is particularly important because literature and research shows that prisoners have distortional higher health needs than the general community and opportunities to extend their health literacy are enhanced with using AVL. Whilst in custody telehealth consultations can provide a valuable opportunity to better stabilise and manage chronic conditions, and the patients themselves can actively contribute to this.

*Also, the [SHCF clinicians], they’re listening and can also explain stuff to the patients afterwards. The patient might walk out and go, I didn’t quite understand. Even that side of it rather than the patient being in the back of a van on the way going, what did he say?*

*{DOC participant}*

***Timely access to health care and treatment changes:*** The WDHB and DOC participants perceived that telehealth provided a patient-centric service. They felt it facilitated timely and quick clinical decision making and reduced clinical risk, as the patients were potentially waiting less time for consultations and decisions.

*If it’s something to do with his treatment plan or whatever, it’s updated then and there. It’s that timeliness and being patient centric.*

{DOC participant}

*If, for example, they [WDHB clinician] change their [SHCF patients] medication and it’s on Telehealth, then the nurse would say, this is our fax number, can you fax it here or can you fax it directly to our pharmacy, but could it be there by 2:00 pm so that we can commence it tonight? Rather than in two weeks’ time and we get a letter going we recommend this, this and that, and then we have to put it in front of our GP. Again, we only have GPs onsite three days a week so, again, that delay, delay, delay potentially which isn’t in the best interest of the individual. {DOC participant}*

During this pilot, DOC developed a protocol to support the implementation of telehealth, which included a list of clinical requirements for each of the clinics involved in the pilot. This ensured SHCF health staff were aware of what clinical tests were required for each of the four clinical areas involved in this pilot. This enabled the clinicians to complete these in advance of the appointment, which ensured the appointment flowed well and gave the WDHB clinicians’ information required to make any clinical and/or treatment decisions.

*When you’ve got a registered nurse at the other end they can do a whole lot of things for the clinicians so the usability of it is quite high.*

*{WDHB participant}*

***Continuity of care:***Telehealth also facilitates continuity of care, as patients are able to see the same clinician via telehealth. In addition, the continuity of care can be maintained, as patients can be seen in the community by the same clinician, both before and after their time in custody.

*The whole process of continuing treating the patients in the community then seeing them in the prison or through Telehealth then after they are released from the prison just provides continuity of care.*

*{WDHB participant}*

***Patient-centric service****:* The WDHB and DOC participants perceived that telehealth provided a patient-centric service. The option of telehealth means the barrier of geography is reduced and patients can access the care they require in a timely manner.

*One of the patients he was already stage 4 cancer, and he told the same story – “it just drains me, every trip [to WDHB], I feel like I need two days to recover. I just don’t want to go, I’d rather just quietly die and that’s it.” Again, if we had Telehealth it would be much easier.*

*{DOC participant}*

***Perceptions of reduced clinical risk/adverse effects*:** This pilot did not collect data on adverse effects or issues of clinical risk, but this would be worth considering in a longer-term project.

*It actually in some ways had reduced a lot of clinical risk because what it’s allowed people to do is to have clinical oversight when they couldn’t have the physical oversight. {WDHB participant}*

There have been issues with adverse effects with patients whilst on external appointments outside of this pilot period, but there were no concerns noted during this pilot period.

*I had a situation where I had to ring the prison a couple of years back and tell them not to come because somehow the wife of the [SHCF patient] had found out his appointment was happening that day and it’s not safe [to proceed with the appointment]…..That’s putting not only the public at risk but the guards at risk and the prisoner at risk. I see this [telehealth] as a very secure way of delivering an appointment.*

 *{WDHB participant}*

The sections above indicate how telehealth can improve quality of care, it could therefore be expected that telehealth could also have a role in the reduction of clinical risk, as patients would be accessing more timely health service provision. To evaluate this, longitudinal studies would be required.

***Privacy and security (including health information):*** From the SHCF patient perspective, WDHB and DOC staff felt that when prisoners come to hospital they are defined and perceived as *prisoners* by their clothes, guards and handcuffs. Being escorted into a hospital in handcuffs accompanied by prison officers is humiliating and degrading for them, but telehealth preserves their dignity by being focused on prisoners as patients rather than as prisoners because they do not have to meet the general public.

*Amongst the participants [SHCF patients], the most common comment that I’ve heard from them is that they appreciate doing this for the reason that they feel their dignity is not being undermined. You have to understand, an inmate patient when they go out they have to be escorted by [custodial] officers, and they will be wearing handcuffs and waist restraints and GPS. To some, it is a degrading experience.*

*{DOC participant}*

One long term consequence of patients being seen in a face-to-face consultation at the WDHB was described by a prison nurse:

*I had a couple of people with master’s degree who got here [in prison] because of money issues, for a short time. For them it was really important that nobody see them outside. After all, New Zealand is a small country and people from Hamilton, many people know them, and I can understand the embarrassment because they still hope to re-establish their life [and career] when they are released, but if somebody saw them with chains in the hospital there is no way to re-establish a relationship with these people.* *{WDHB participant}*

*Telehealth in the prison is a positive thing. Actually, the security thing as well, that’s a big positive.*

*{DOC participant}*

There is a need to invest time in the development of correct processes, documentation and policies to ensure telehealth consultations run effectively. For example, there is a need to develop a policy to highlight how to manage prescriptions with telehealth consultations. Currently, the prescription must be signed by the WDHB clinician, therefore they must print out the prescription, sign it and fax to the WDHB. The may be a more streamlined and secure means of managing this process.

*I can’t actually type on a computer and transmit that data to a pharmacy direct. I have to physically sign something and send it straight to the pharmacy. {WDHB participant}*

It was also noted that both organisations need to be aware of patients’ rights; that is, what is being recorded and who knows what about the patients.

*Privacy is probably managed better with Telehealth than with transporting a prisoner. {DOC participant}*

***Confidence:***Both WDHB and DOC have been very fortunate to have passionate people engaged with and directing this project, who bring a desire to make health better for the patients. In the words of one participant who succinctly summarised the cooperation seen on the pilot programme:

*I think it [the telehealth pilot programme] has also helped each other understand their worlds a little. Because Corrections is a different world to health, and health obviously is different to Corrections, they’ve got different requirements. It’s been good in just helping everybody to understand each other’s world, and that’s helped more understanding and ability to go forward*

*{DOC participant}*

*Virtual health doesn’t just involve virtual patient care. It involves virtual support, virtual professional interaction and virtual learning [for staff]. {WDHB participant}*

### 5.6.2 Evaluation Domain 2: Service Utilisation and Provision

***Changes in service utilisation:***

***Impact of equipment:*** SHCF currently have two health clinic rooms with AVL installed. The AVL equipment is currently located within a standard clinic room within the SHCF health centre. These clinical rooms are not just AVL consultation rooms, they are used for any type of health appointment, and therefore they contain standard clinical equipment such as stethoscopes and swabs, for example.

Having designated AVL systems located within the SHCF health centre has ensured health appointments can be prioritised. Whilst there are demands on space within the health centre because they are utilised by a range of internal and external health providers, the dedicated AVL in a health setting has ensured DOC can accommodate appointments, with little or no changes required. There was a need to manage the health clinic room bookings to ensure AVL availability. In addition, the patients needed to be managed prior to, during and after their AVL consultations.

*Again, it goes back to finding space. Some days, we have lack of rooms for them and that’s where Telehealth helps with that.*

*{DOC participant}*

***Reduced rescheduled or cancelled appointments****:* All SHCF patients will be offered an appointment when they reach the top of the wait list, however the appointment must take place at a time when transport is available. Therefore, there is often a need to reschedule an appointment at a mutually agreeable time, which causes a delay in the provision of health care for the patient.

*I have to ring and change that [the appointment] because I’m full, the dates aren’t available. Then it’s trying to fit in with what they’ve got available without the appointment stretching out weeks.*

*{DOC participant}*

In addition, as SHCF can only accommodate two planned external appointments per day, there is a need to prioritise the appointments, which can also cause delays in health care provision. This prioritisation may occur prior to the day of the appointment, which allows WDHB to re-allocate the appointment time, but they may also occur on the day of the appointment, which means the appointment is unlikely to be able to be filled by another patient.

Telehealth provides the opportunity to reduce the rescheduled and/or cancelled appointments and consequently enables more timely provision of health care services.

*Springhill, we can only do two planned external appointments Monday to Friday per day, so one in the morning and one in the afternoon, which as you can imagine with a site this size, can be quite a juggling process. {DOC participant}*

***Type of patient:***WDHB clinicians were unanimous in their belief that telehealth was not suitable for a first consultation, and that the patients needed to be carefully selected for telehealth appointments. They felt that it was important to consider which patients would be best managed via telehealth, as not every follow up appointment can be via telehealth.

*If I don’t really need to physically examine a patient, I could easily deal with them over the phone sometimes or video link.*

*{WDHB participant}*

*Definitely for outpatient appointments, follow ups and that sort of stuff. I’m not sure about FSAs, which is first specialist appointment, because a lot of the time the clinician will actually want to visually see something or touch. {WDHB participant}*

***Transient population:*** There is a logistical challenge of working with a transient prison population. This cohort is very mobile with many prisoners coming and going from SHCF each day. Thus, there is considerable difficulty in logistics aligning a patient’s long-standing WDHB appointment; especially for those with chronic conditions, with the patients’ geographical location, which could be in any one of the 16 prisons in New Zealand. A rollout of the use of AVL for telehealth appointments across all prisons would reduce this challenge as the patient could have a telehealth consultation at the appointed time regardless of location.

*The whole process of continuing treating the patients in the community then seeing them in the prison or through Telehealth, then after they are released from the prison just provides continuity of care and it’s a very satisfying job. {WDHB participant}*

***DOC staffing resource implications:***

***Custodial staff:***The introduction of AVL to accommodate health appointments can reduce the amount of travel to WDHB appointments for DOC custodial staff. The savings associated with this are outlined in section 5.6.4 below. This resource can therefore be deployed to other areas/activities.

*The reason being is that we are limited to a certain number of patients that we send out, because sending patients out will entail at least two to three officers to accompany a patient*

*{DOC participant}*

***Health centre staff:***The health centre administrative and clinical staff are required to complete paperwork for all external appointments. With reduced appointments on site at WDHB the amount of staff time spent completing paperwork is reduced. In addition, telehealth may result in reduced rescheduled or cancelled appointments, as mentioned above, creating savings in the time spent arranging these changes.

*We have problems… rebooking appointments and that makes it difficult to provide quality timely care. This is where Telehealth has actually improved significantly the delivery of specialist care. {DOC participant}.*

During this pilot each patient was accompanied by a SHCF nurse, as outlined above. This would not normally occur with WDHB follow up consultations, therefore the introduction of AVL means that SHCF nurses will be utilised before, during and after the consultation, whereas previously, there was no resource allocated to attend WDHB consultations.

***WDHB staffing resource implications:***

***WDHB administration:***The use of telehealth means that the WDHB booking clerks are not required to make as many changes to clinic appointments. The appointments are still required to be generated, but the regular changes to accommodate SHCF are not required, which results in less time resource (time) spent on changing appointments.

***WDHB clinicians:*** The WDHB clinicians felt telehealth did not save them time during the consultation, and indeed could be more time consuming with, for example, the extra administration (e.g. faxing prescriptions), for which no extra secretarial support was provided.

For the WDHB clinicians that attend SHCF for appointments with patients, the introduction of AVL for these consultations reduces the need to travel to SHCF, which has implications for the amount of time spent travelling.

*It allows clinicians as well to reach out and manage their patients without having to leave their facility.*

*{WDHB participants}*

***Impact on DOC staff workload/patterns:***

***Custodial staff:***Telehealth appointments require less transport; therefore, it is likely that the custodial staff will either transport other priority patients to other external appointments, or alternatively they may be used for other custodial tasks, which may include rehabilitation activities for the patients.

***Health centre staff:***There is a reduced need to spend time completing paperwork for external appointments. Staff can use this time in other ways, which in some cases may be the setup of the AVL equipment for the consultation.

*So basically, we have problems rebooking, rebooking appointments and that makes it difficult to provide quality timely care.*

*{DOC participant}*

With the introduction of AVL SHCF nurses will spend more time accompanying patients during WDHB consultations, which is a change in practice. In addition, the SHCF nurse may be asked to complete some preparatory work to support the WDHB clinician, either prior to or during the consultation, which is another change in practice. Similarly, the SHCF will often spend time following the consultation with the patient explaining the outcomes of the consultation and this is a further change to the current way of working. Despite these changes all DOC participants felt that their role supporting the patient during the AVL consultation was good use of their time as it results in better understanding of the patient’s condition by the SHCF clinicians and by the patients themselves. This in turn, may result in better health outcomes for patients and/or a different therapeutic relationship, with an increased focus on selfmanagement.

Opportunities for larger scale changes to the provision of health care within SHCF were also raised:

*In prison when patients want to communicate with health they usually write us a request which is called a health chit. We get so many health chits with requests for appointment or dates when appointments will happen, so I believe if we have telehealth running as business as usual, like appointment every day or a few times a week, then we will have more people going to the specialists, so I hope we will get less requests from patients. Some of them really want the appointment as soon as possible they keep writing every day, so the nurses have to go and collect these health chits and communicate with the patient and reply to the health chit and file the health chits. So simply by not having that many health chits it will free up nurses’ time.*

*{DOC participant}*

***Impact on WDHB staff workload /patterns:***

***WDHB administrative staff:*** With the introduction of telehealth, the WDHB administrative staff would be able to spend less time making changes to appointments, rather their time would be spent on setting up the telehealth consultation.

***WDHB clinical staff:*** The introduction of telehealth for SHCF appointments provides WDHB clinicians with an alternative service delivery method. Whilst this may not be appropriate for all patients, it will provide the clinician with a different, safe and clinically appropriate option. This may require some upskilling, but this is usually accommodated within day-to-day activities.

*This just facilitates my work actually, keeping in touch with the patients and all of that, but it hasn’t really changed my way of working in a big way.*

*{WDHB participant}*

For WDHB staff that use telehealth instead of travelling to SHCF for appointments, there will be increased productivity as they will have reduced travel and increased clinical time.

More timely provision of health care may also result in better management of health by individual SHCF patients. This may result in better health outcomes and potentially fewer avoidable hospital admissions over the longer term.

*It allows clinicians as well to reach out and manage their patients without having to leave their facility. That is obviously very important because it means you can have one video or two video consultations with the patient, not have to travel but also you have a normal workload day, so you get more clinical throughput, it allows greater productivity.*

*{WDHB participant}*

***Change in uptake of services:***

***Type of patient:***Currently, this pilot only included follow up patients that were chosen by the clinician. There is potential to expand this, however it is key that the clinical staff develop criteria for their area of practice. With this in mind, it may be appropriate for some areas to utilise telehealth for FSA appointments, depending on the criteria developed.

***Increased professional development opportunities for staff:*** This pilot provided an opportunity to develop teamwork within and across both organisations by improving the quality of communication between all members of the team. For example, booking clerks of both organisations needed to understand each other’s constraints and so appointments for telehealth were coordinated early.

In future, AVL could facilitate multidisciplinary team meetings with or without the patient present, but the services and organisations would need to carefully coordinate this. Telehealth provides many opportunities for staff to access and participate in professional development activities. This may result in savings in time spent travelling and may improve team work and networking opportunities that were previously not easy to access. This is not just limited to DOC staff, WDHB staff would be able to access DOC staff for their input and professional opinion.

*Telehealth can actually be an avenue for our nurses as well, because sometimes we cannot just send or nurses to the hospital for in-services and training, so Telehealth education sessions might be of use.*

*{DOC participant}*

### 5.6.3 Evaluation Domain 3: Technology/Infrastructure

***Training required:***Training to use the technology, was predominately via on-the-job learning and was minimal. WDHB clinicians that were familiar with the use of telehealth were able to integrate SHCF telehealth appointments into their normal clinic without issue. For the WDHB clinicians that were unfamiliar with telehealth one to one support was provided at the first SHCF telehealth consultations by the WDHB Telehealth Coordinator.

The DOC health professionals included in this pilot were the Health Centre managers and team leaders. This meant only a small number of staff supported the AVL consultations. These staff received on the job training via support from the WDHB Telehealth Coordinator or through learnings during the one-month trial period. In addition, the DOC staff involved in this project provided support to each other, to ensure trouble-shooting occurred in a timely manner and any learnings were shared.

*The clinicians were trained on how to use Jabber, which is what we use. That’s all gone extremely well.*

*{WDHB participant}*

There was also a perception among a small number of WDHB participants of individual and organisational resistance to change in the adoption of telehealth. Going forward, this could be resolved with sharing of good practice, the use of champions, professional development for clinicians, booking clerks and patients, to improve understanding of how technology can support service delivery.

***Frequency of technology use*:** Using telehealth frequently appears to increase the confidence of the users. During the trial month it was identified that if IT connection was not possible due to technological issues or user inexperience then the consultation would not be able to take place, which significantly impacted the quality of care for the patient. The solution identified was to ensure all telehealth appointments were accompanied with a telephone number for the associated clinic. Whilst this solution enabled the appointment to take place, it was not optimal as it extended the duration of the appointment and added stress for the clinicians and patient.

In addition, telehealth was used for a select group of patients. Not all follow up patients with the four identified clinics were involved, which had an effect on the frequency of technology use throughout this pilot project. The clinicians identified patients that would be suitable for telehealth consultations based on their knowledge of the patients.

*My colleague and I basically handpicked [SHCF patients] from our caseload who we thought might suit, as in they would consent, they were well enough, and we’ve met them before. {WDHB participant}*

***Ease of use:*** The participants from DOC and WDHB felt that the technology was easy to use, and it was very rare for the equipment not to be working. Patients appeared to be positive about the experience and both the clinician and patient were comfortable with having the consultation from a distance. The process ran very smoothly for most participants and this increased the confidence of all parties involved.

*It’s been a learning curve for us all, and I think for the hospital as well. It becomes easier as you go along.*

*{SHCF participant}*

***User satisfaction:*** Most of the participants found the technology to be user-friendly and they were well supported in their use of it. The AVL equipment performed as expected and with increased use the participants appeared to have an increased confidence and satisfaction with telehealth. Patients reported that the voice and visual quality was above average, and most would use it again, which indicates they were satisfied with this type of consultation. The bandwidth and fast speed of IT connectivity was important in ensuring the user satisfaction with the technology.

*I thought the technology was good. The camera’s quite wide. The voice recognition, no one seemed to have to shout. I was surprised at the quality of it. I thought it was a good quality.*

*{WDHB participant}*

The technology utilised was safe and secure so there were no issues regarding these aspects throughout this trial.

*It’s a secure link, it’s encrypted, it’s as secure as doing a consultation with the person sitting next to a clinician in a room.*

*{WDHB participant}*

***Actual versus intended usability of technology****:* Most clinicians acknowledged the great potential of telehealth to enable clinician to clinician support and/or professional development. They expressed interest in using AVL to support other non-clinical uses, but the benefits of this were not realized during the pilot period, largely due to the limited pool of WDHB users at this point in time.

There was also acknowledgement that telehealth and the use of technology to support health clinicians has much more usability and potential than is currently being realised.

*I think technology is the way forward. In other specialties, not only can you do a virtual consult, but you can pre-program the computer algorithms. It could be a simple algorithm to remind the physician that when you see this patient don’t forget to make sure that you ask for urine sample, or don’t forget to make sure that you do a blood pressure not only while sitting down but standing up.*

*{WDHB participant}*

*From an international point of view, I’m looking to extend this [telehealth] further to provide virtual specialist international clinics…. In the third world, Fiji for example. {WDHB participant}*

***Virtual wait room management:*** Participants noted an ongoing challenge for organisations as to how to manage virtual waiting rooms; for example, how to keep patients in different locations in a virtual queue, and how to inform them the clinic is running late.

*On the actual day, if your clinic at the DHB is running late, we [DOC] don’t necessarily find that out.*

*{SHCF participant}*

***Perception of Technology****:* This pilot identified that the individual clinician’s perception of technology as a barrier or an enabler determined the uptake for participants and patients. Those that were comfortable and familiar with technology in health settings appeared to be more confident and willing to adopt the technology.

*The use of Telehealth, actually there’s no bounds. The only limitation is of course if we set limits to it.*

*{SHCF participant}*

***Technical problems:***The trial period helped to iron out any technical issues and was a key step in the process of adopting telehealth. The only technical problems were related to users’ inexperience. No network faults were reported during the pilot period.

*We could see the patient, hear them, they could see us, but they [SHCF] couldn’t hear us, and we didn’t realise that there was a mute button here, which was apparently activated.*

*{WDHB participant}*

***Technology effect on processes and work practices****:* As highlighted in the descriptions of the service delivery models, the AVL model has a more efficient work flow. Staff reported that there was some additional administrative work required at the time of the consultation (faxing prescriptions), however the technology facilitated more timely provision of healthcare.

WDHB booking clerks liaised with the DOC health centre administrator to ensure that all bookings were arranged in advance of the appointment. Whilst this required some additional administration coordination, this was not felt to be any more that what would be required for appointments at WDHB, as these take a significant amount of coordination to arrange.

*It’s made it easier in the sense that you don’t have to send that person [SHCF patient] out.*

*{SHCF participant}*

### 5.6.4 Evaluation Domain 4: Cost/Benefit

Due to the small numbers involved in this pilot project and the short duration, it is difficult to quantify potential financial savings of conducting telehealth consultations with DOC. Therefore, this section provides some calculations of the aspects that are quantifiable, to highlight the known costs and associated savings that could be realised with AVL appointments.

***Capital expenditure****:* In order to instigate AVL within the SHCF Health Centre there are capital expenditure costs required in the set-up phase, which includes the purchase of the AVL equipment, the establishment of the network and connections to secure IT systems, the purchase of licenses to use the IT programmes required.

***Operational expenditure:*** This includes the maintenance costs associated with the equipment, network and IT systems, licenses. The costs associated with the current service model, compared with the AVL model are outlined below. These include time, travel costs and staffing costs.

***Travel time****:* Table 3 outlines the total travel time to attend an appointment at WDHB is 3 hours return. Some initial appointments may be up to 60 minutes in duration and some follow up appointments can take 10 minutes, therefore an appointment time of 30 minutes has been used in these calculations, as this is commonly the time allocated for follow up appointments. It should also be noted that any wait times have not been included, for example, if the clinician is running 30 minutes late, this has not been accounted for, as this is entirely dependent on how the clinic is running on the day of the appointment.

An AVL appointment will take the duration of time spent with the clinician, which can vary dependent on the nature of the consultation. An average time of 30 minutes has been used in these calculations.

***Table 3: Time required to attend a WDHB appointment versus AVL appointment***

|  |  |  |
| --- | --- | --- |
|   | **Time required (hours)**  | **AVL appointment (hours)**  |
| Travel time  | 3  |   |
| Consultation time  | 0.5  | 0.5  |
| TOTAL TIME  | 3.5  | 0.5  |

***Travel costs****:* Table 4 outlines the costs associated with travel. Any travel for external appointments outside of SHCF has associated costs, which the Department of Corrections calculate as costing $0.74 per kilometer. The total travel cost associated with an appointment at WDHB is $103.60.

AVL appointments have no travel time associated with the appointment.

***Table 4: Travel costs required to attend a WDHB appointment versus AVL appointment***

|  |  |  |
| --- | --- | --- |
|   | **Travel costs**  | **AVL appointment**  |
| Distance (km)  | 140 km  | 0  |
| Rate per km ($0.74)  | 0.74  | 0  |
| TOTAL TRAVEL COST  | $103.60  | 0  |

***Staffing costs:*** Table 5 highlights the staffing costs required to accompany a SHCF patient to WDHB for an appointment. The number of staff required to accompany a patient depends on the security rating of the patient. The least amount of staff involved is 2 custodial staff and 1 driver and the most amount of staff involved would be 4 custodial staff and 1 driver.

All patients participating in an AVL appointment on-site at SHCF are accompanied by a SHCF registered nurse. In some situations, the WDHB clinician attends an appointment at SHCF and in these situations WDHB will be required to pay for staffing costs, travel time and travel costs.

It is worth noting that there are some staffing costs not reflected within the table below. The WDHB clinician time is not identified, for two reasons. Firstly, the appointment between the WDHB and SHCF patient would be part of a normal clinic for the WDHB clinician. Therefore, there are no additional costs or savings associated with either type of appointment, so these are not reflected below. Clinical staff did note that there was some need to complete additional paperwork following appointments, such as completion of prescriptions, which are then required to be faxed to SHCF/pharmacy. These are also not reflected, as this process is part of the normal clinical administration associated with an appointment and would normally occur either via handwritten/printed prescriptions that would be handed over to a patient at the time of the appointment, or via the letter to the GP/referrer, and there is potential to further streamline these processes to support AVL appointments.

***Table 5: Staffing costs required to attend a WDHB appointment versus AVL appointment***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | **2 custodial staff** **+ 1 driver** **(3.5 hrs)**  | 1. **custodial staff**

**+ 1 driver** **(3.5 hrs)**  | **4 custodial staff** **+ 1 driver** **(3.5 hrs)**  | **AVL** **appointment** **(0.5 hrs)**  |
| Custodial staff ($27 per hr)  | $189  | $283.50  | $378.00  | 0  |
| Driver ($25 per hr)  | $87.50  | $87.50  | $87.50  | 0  |
| SHCF health professional ($29 per hr)  | 0  | 0  | 0  | $14.50  |
| TOTAL STAFFING COST  | $276.50  | $371.00  | $465.50  | $14.50  |

***Total operational expenditure:*** Table 6 outlines the total operational expenditure associated with appointments at WDHB compared with AVL appointments. The total operating costs vary depending on the number of custodial staff required to accompany the patient to the appointment at WDHB. The AVL operating costs are those related to the nurses’ time to accompany the patient during the AVL consultation.

***Table 6: Total operational expenditure costs associated with a WDHB appointment versus AVL appointment***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | **2 custodial staff**  | **3 custodial staff**  | **4 custodial staff**  | **AVL appointment**  |
| Total travel time  | 3.5hrs  | 3.5hrs  | 3.5hrs  | 0.5 hrs  |
| Total travel cost  | $103.60  | $103.60  | $103.60  | 0  |
| Total staffing cost  | $276.50  | $371.00  | $465.50  | $14.50  |
| TOTAL OPERATIONAL EXPENDITURE  | $380.10  | $474.60  | $569.10  | $14.50  |

***Training costs:***During the course of this pilot study, training related to Telehealth for DOC and WDHB participants was on-the-job and therefore was integrated into a normal working day. Some WDHB staff were already utilizing telehealth for clinic appointments and some were not, therefore support was provided for all WDHB clinicians during the initial appointment, by the WDHB Telehealth Coordinator. SHCF had 2 key clinical staff involved in the pilot and their training was also completed on-the-job. These staff supported each other to ensure optimal use of the technology. Any trials were integrated into existing appointments, therefore there was no loss of productivity related to training.

***Other costs:***There are some other costs that should be considered. These include the time required to set up and develop the processes, documentation and policies required to support telehealth clinics for both WDHB and DOC. DOC, in particular, initiated new processes to support AVL use in the health setting specifically related to this pilot and developments such as these require staff time to develop. Meanwhile, WDHB have been using telehealth for a range of other services and clinics, therefore they did not need to develop new processes for telehealth because these are occurring as part of a larger change programme but WDHB may benefit from the development of processes to support telehealth within the DOC context.

The challenge for WDHB and DOC is in the importance of implementing correct processes, documentation and policies to ensure telehealth consultations run effectively. For example, there is a need to provide a policy for doctors in prescribing and documentation when they are not physically handing over prescriptions.

There are other costs that are difficult to quantify, but important to acknowledge. For example, each external visit for a SHCF patient requires the completion of paperwork, which would not be required if AVL was utilised. The administration time is saved and there is reduced risk that this confidential information will be lost during transportation. Another cost is associated with the set-up of the appointments, which takes time leading up to the appointment, as well as time on the day of the appointment.

***Quantifiable savings****:* Table 7 outlines the potential operational expenditure efficiencies that could be made with each AVL consultation.

***DOC:*** DOC could realise quantifiable savings if AVL is utilised for health

appointments. Whilst it is likely that these resources will be reallocated elsewhere, it shows how AVL can support increased productivity and efficiency.

***WDHB:*** WDHB will realise quantifiable efficiencies if the number of staff attending appointments on-site at SHCF is reduced due to the use of AVL.

***Table 7: Potential efficiencies associated with initiation of AVL for follow up appointments for patients that would have been accompanied by 2, 3 or 4 custodial staff.***

|  |  |  |  |
| --- | --- | --- | --- |
| TOTAL EFFICIENCIES  | **2 custodial staff**  $365.60  | **3 custodial staff**  $460.10  | **4 custodial staff**  $554.60  |

***Other savings****:* There are a number of other non-quantifiable savings that should be considered. These include:

***Improved health outcomes:***AVL can help reduce wait times, reduced cancelled or rescheduled appointments and can improve patient self-management and understanding of their condition, all of which contribute to improved health outcomes for the patient. These are difficult to quantify, particularly for a short pilot;

however, these are significant benefits that must be acknowledged when considering the cost/benefits of telehealth.

***Patient and clinician satisfaction*:** All patients had a positive experience with this type of consultation. In addition, the clinical staff reported this method of service delivery was patient-centric in nature.

***Patient comfort*:** For patients that suffer during transportation and for those that experience embarrassment or the feeling of degradation during appointments at the hospital, the benefits of AVL are not able to be measured.

***Patient engagement*:** Each visit to WDHB takes at least half a day, which is time that the patient is not able to engage in other rehabilitation activities.

***Support for clinical staff*:** Telehealth provides the opportunity for DOC and WDHB to gain a greater understanding of the different health settings. There are opportunities for staff to be involved in professional development activities, multi-disciplinary meetings and other activities that do not involve patients, such as professional supervision and crisis management meetings and debriefs.

*“My experience is just mind-blowing. I thoroughly enjoyed it, and my wish is I would like to see this progress, move on, because the benefits are ...it’s there”.*

*{SHCF participant}*

***Scalable:***Whilst this pilot had a limited number of clinicians and patients, the model is scalable. With increasing numbers of clinicians and clinics/disciplines utilising AVL and telehealth, there will be increased savings and benefits. Not only can telehealth be used for consultant led clinics, telehealth has potential for other areas, such as nurse-led diabetes clinics or allied health/social work appointments. It is likely that with increased use of telehealth, ways of working will alter and result in increased patient and clinician satisfaction.

***Sustainable:***As telehealth becomes part of business as usual, it is worth considering the ongoing costs associated with technology. To be sustainable there is a need to invest in technological infrastructure and costs associated with supporting this. In addition, there are costs associated with staffing and training. The use of technology does not remove these costs but may allow for services to be delivered in different ways, which can increase productivity, efficiency and effectiveness.

**5.7 Limitations**

The intention of this pilot study was to survey at least 20 patient participants across six clinics, however fewer patients and clinics were involved due to the number of patients that had been referred for specialist consultations.

It is important to note that while there were a limited number of patient participants (n = 9) involved in this study, findings indicated the patient experience was positive. In addition, findings were triangulated with the themes that emerged from interviews with clinicians (n=6) working in four specialty areas across the Waikato DHB.

The DOC interviews included key staff involved in this project, however it may have been beneficial to interview other staff not directly involved in the project, such as the Prison Director, to glean insight into the potential impact of this approach from an organisational perspective.

## 5.8 Concluding remarks

All the participants considered the pilot programme to be successful with unlimited potential for further development of telehealth as a service delivery model for DOC and WDHB consultations. Although some hesitation was expressed in utilising AVL for first appointments, incorporating into appointments the practice of whakawhanaungatanga – the Māori concept and process of establishing culturally meaningful connections – may reassure patients and clinicians in this regard.

Providing telehealth as an option for service delivery ensured a patient-centric model of care, and DOC and WDHB are to be commended for trialling this form of delivery.

# 6 Conclusions and Recommendations

## 6.1 Benefits

This pilot project has identified the following benefits:

**Telehealth benefits patients as it enables:**

1. More timely care – There is increased reliability with attendance with WDHB appointments and more flexibility in scheduling appointments in a timely manner, to meet patients’ needs.
2. Minimised travel – less travel means less stress and increased safety for DOC patients.
3. Fewer cancelled and rescheduled appointments – patients will benefit from improved continuity of care as there are less cancelled and rescheduled appointments when appointments can be accommodated onsite at SHCF.
4. Better health outcomes – patients have improved quality of care due to more timely and better continuity of care. In addition, patients in this pilot appeared to be better informed about their health condition, which may result in better DOC-facilitated and/or self-management.

**Telehealth benefits DOC as it enables:**

1. More flexibility – DOC has better flexibility in scheduling specialist appointments to match DOC staff and service availability
2. Minimised travel – there is less travel required for DOC staff, which means custodial staff can be deployed to other areas/ other priorities. This improves safety for DOC staff, reduces the risk to patients and may reduce stress associated with attending WDHB appointments.
3. Reduced expenditure – whilst there are initial set up costs, there are savings due to reduced custodial time spent attending WDHB appointments. Operational expenditure for health appointments and associated administrative work required for off-site visits is also reduced.
4. Reduced cancellations and rescheduled appointments – this ensures the patients receive better continuity of care and better health outcomes. Administrative workload is also reduced.
5. Increased support for staff – staff are better informed about the individual patient needs. In addition, health centre staff can use telehealth to gain professional support and can gain access to professional development via AVL.

**Telehealth benefits WDHB as it enables:**

1. More flexibility in scheduling appointments – appointments can be scheduled with more flexibility to meet WDHB staffing availability. The need to move appointments to coincide with transport availability is reduced, so WDHB has more flexibility in scheduling clinic appointments.
2. Less stress and increased safety for WDHB staff and visitors – more patients will be seen on-site at SHCF via AVL; and, consequently, there will be less anxiety for WDHB staff and visitors and improved safety due to less frequent face to face consultations.
3. Reduced cancellations – clinic appointments will be better attended with less cancellations or missed appointments, which will lead to better productivity of clinics.
4. Reduction in preventable hospital admissions – better management and health outcomes of patients, may result in a reduction in preventable admissions to WDHB.

## 6.2 Intended Objectives

This pilot project achieved all the intended objectives, as outlined below.

1. ***Improved public safety***

The use of AVL consultations improved public safety, which includes the safety of the WDHB clinical staff, the DOC staff, SHCF patients and the general public. The WDHB clinical staff were able to carry out consultations with SHCF patients and reported that they felt comfortable and safe with this type of consultation. Instead of DOC custodial staff transporting SHCF patients to consultations at WDHB (145km round trip), they transferred patients to the SHCF Health Centre, which was a routine process and much safer for the DOC custodial staff compared to transporting patients outside of the prison. All SHCF patients were happy with their telehealth experience, as for some the trip is draining and this is a barrier to accessing health care. The general public were also safer with the AVL consultation as the patient received their health care onsite at SHCF, rather than at WDHB locations.

1. ***More cost-effective health provision***

The use of AVL for telehealth appointments has an initial set up and training costs for DOC and WDHB and there is a need for both organisations to invest in the purchase of equipment and associated infrastructure to support this method of health service delivery, with associated establishment and maintenance expenditure.

Nevertheless, the use of AVL provides more cost-effective heath provision. There are significant savings for DOC for every AVL consultation that occurs; specifically, with respect to travel and custodial staff costs. Consequently, more AVL appointments can be accommodated, and the staff required to transport patients can either be deployed elsewhere.

1. ***More timely access to clinical care***

Telehealth for DOC patients has the potential to provide more timely access to clinical care. Treatment changes can be initiated in a quicker timeframe, as the SHCF health staff member can ask for prescriptions to be faxed and/or facilitate a treatment plan change with the GP. In addition, more follow up appointments can be accommodated and there are fewer cancellations and rescheduled appointments required. If AVL appointments were available at more DHBs patients could continue to access the care they require regardless of their location within New Zealand, without the need to reschedule specialist appointments.

1. ***Improved access to clinical support resources for DOC health staff***

During this pilot all patients were accompanied at their appointment by a SHCF health professional. This facilitated better transfer of information to the patient and to the SHCF clinicians. Patients benefited from this as they were able to ask the SHCF staff questions and clarification following the appointment, which in turn improved patients’ understanding and self-management of their condition. The SHCF clinicians benefited from this, as they were better able to understand the rationale for any treatment changes and to help with the initiation of these immediately. Whilst AVL was not utilised to enable DOC health staff to gain clinical support during this pilot, there is the potential for this to occur.

1. ***Development of telehealth skills and knowledge within DOC and WDHB*** This pilot has enhanced the knowledge and skills of WDHB and DOC staff. Whilst some WDHB clinicians were already utilising telehealth within their routine clinics, others were provided the opportunity to trial telehealth through participation in this pilot. DOC clinicians had not used AVL for health care provision, so this was a new opportunity for this staff group. Increased exposure and use of the technology is likely to lead to improved confidence and productivity.

## 6.3 Overall recommendations

Overall this project has been successful and achieved all the intended objectives and benefits. A number of recommendations are outlined, specifically that:

#### Department of Corrections and Waikato District Health Board

1. ***Clinics across all four clinical areas continue:*** It is recommended that the clinics involved in this pilot trial continue to use AVL for telehealth consultations. The clinical staff have gained confidence in using the technology for the benefit of patients and the health care they receive whilst in prison.

1. ***Criteria are developed to identify which patients and clinics would benefit from AVL specialist appointments:*** It is recommended that clinicians proactively identify which patients on their caseload are appropriate for telehealth appointments. It was felt follow-ups were the most appropriate; in particular, those that do not involve unstable patients or patients that need to be touched. Patient criteria may need to be developed to help guide clinicians.

1. ***AVL specialist consultations are utilised for first specialist appointments and follow up appointments*:** It is recommended that AVL continues to be utilised to facilitate follow up appointments. Whilst WDHB clinicians felt that telehealth was not suitable for first consultations, as telehealth becomes part of the normal service delivery for WDHB and DOC, FSA should be considered. Incorporating into appointments the practice of whakawhanaungatanga -the Māori concept and process of establishing culturally meaningful connections - may reassure patients and clinicians in this regard.

1. ***Organisation support for telehealth consultations is considered to ensure additional equipment and new ways of working may be utilised to further streamline the AVL consultation process:***It is recommended that in addition to developing clinical checklists, there is a need to identify what equipment and tests are required to support the consultations. For example, spirometry was identified as a useful tool during respiratory consultations but was not essential. As telehealth rolls out there may be a need to purchase some items of equipment to facilitate AVL appointments. In addition, the WDHB reported that there was some extra administration (e.g. faxing prescription) required, with no extra administrative support, so this would need to be considered.

1. ***A DOC-WDHB Steering Group is established to support further telehealth implementation across sites:***During the roll out phase, it is recommended that a Steering Group is established consisting of DOC and WDHB/DHB members. This collaborative approach is essential to ensure the successful integration of new processes.

1. ***Training requirements are considered to ensure staff are supported to make changes to their practice, which results in benefits to the patient, DOC and WDHB:*** During this pilot, training occurred on the job. If the use of AVL consultations were to roll out, it is recommended that a small formal training package be developed to support staff to successfully integrate AVL into their practice. Specific training is required to ensure clinicians (DOC and WDHB) have awareness of: o How to use the technology and trouble-shoot if any issues/concerns o Telehealth/AVL and patients’ rights o Telehealth/AVL and prescription management o Telehealth/AVL and documentation o Telehealth/AVL and DOC prisoner rights

It may be appropriate to use the SHCF participants as ‘champions’ and upskill them to train other DOC staff, which could be completed via AVL.

1. ***Associated processes are developed to support changes in practice, such as communication and prescription management:***It is recommended that DOC and WDHB invest resources into the development of processes to support the integration of telehealth and AVL into practice. The management of virtual wait rooms/virtual queues needs to be explored and ideally this could be developed in collaboration between DOC and WDHB. In addition, prescription management, integrated notes and other changes to ways of working need to be supported and developed. As mentioned above, incorporating the practice of whakawhanaungatanga into appointments should also be considered.

1. ***The learning of this pilot are disseminated widely to interested stakeholders:***To ensure the successful outcomes of this pilot period can be shared widely, it is recommended that WDHB and DOC disseminate the findings widely. By sharing findings, it is hoped that this will encourage uptake and further change in practices.

1. ***The extended use of AVL/telehealth is explored****:* There are many other potential users of the telehealth/AVL technology, however these have not currently been realised. It is recommended that both organisations look at how the technology can be utilised to support other uses, such as multi-disciplinary meetings with/without the patient present, professional supervision, professional development as individuals or groups, participation in Grand Round and other education opportunities.

1. ***A longer-term evaluation is initiated, which should include objective measures of health outcomes such as preventable hospital admissions and readmissions:*** It is recommended that a long-term evaluation be completed to collate and evaluate longitudinal data. This would require the collection of some objective data, which could include:
	* Contacts – the number, type, purpose and instigator
	* Geographic location of appointments
	* Acceptability/experience for patients/staff
	* Staff resource utilisation – travel, time, costs
	* Patient satisfaction
	* Economic/cost benefit
	* Overall quality and timeliness of care
	* Proportion of prisoners who attend consultations (face to face and virtual) overall and by reason for referral, Maori/Pacific Islander status, age, gender, before and after introduction of virtual consults.†
	* Number of care contacts before and after virtual consults introduced (select time periods).
	* Number of prisoners who experience adverse health event (need to define) before and after virtual consults introduced.
	* Number of acute hospital bed days before and after virtual consults introduced.
	* Proportion of prisoners who have one or more acute hospital (re)admission before and after virtual consults introduced (select time periods).
	* Number of GP consultations before and after virtual consults introduced (select time periods) by reason for appointment/long term condition.
	* Number of specialist consultations before and after virtual consults introduced (select time periods). By reason for appointment/long term condition.

†In principle all outcome measures would be analysed overall and in these categories.

1. ***Consideration is given to how telehealth might support the continuity of care for DOC patients, their families and whānau:*** Based on the benefits identified in this pilot study, it is recommended that consideration be given to how to support patients to access telehealth appointments as they exit custody to ensure continuity of care. Consideration should also be given to how the patient can take a leadership role within their family/whānau to encourage greater access to health care

provision. It may be that education is required to support patients so that they can positively influence family/whānau regarding the use of technology in health.

#### Department of Corrections

1. ***DOC health staff continue to accompany patients during AVL consultations*:** There is a requirement that the patient is accompanied during the consultation, due to security issues, and it is strongly recommended that this person is a health professional who knows the patient and their health history.

1. ***AVL specialist consultations are rolled out across other DOC sites*:** It is recommended that the use of AVL technology to enable telehealth consultations between DOC facilities and DHBs is rolled out to other DOC sites.

1. ***Dedicated health AVL infrastructure and equipment is available at DOC facilities:*** To ensure the successful roll out of AVL consultations to other DOC and DHB sites, it is pertinent that health facilities have dedicated health AVL infrastructure and equipment available at all DOC facilities. Organisations need to be technological well prepared in order for telehealth to be successful.

With increased use of AVL there may be a need for SHCF and other DOC sites to identify a booking system that ensures AVL consultations can have priority over other clinic room bookings/appointments.

#### Waikato District Health Board

1. ***AVL specialist consultations are rolled out across other DHBs/WDHB clinics:***It is recommended that telehealth consultations with DOC expand to include a range of other WDHB services, for example nurse-led clinics and allied health clinics. Until such time that telehealth is well integrated into service delivery it is pertinent that careful consideration be given to which services would be most appropriate to initiate telehealth. The clinical checklists developed for this pilot would need to be expanded and others developed on a clinic by clinic basis, hence a staged roll out is recommended.

1. ***Dedicated telehealth infrastructure and equipment is available at WDHB facilities:*** It is recommended that appropriate and dedicated telehealth resources are provided to staff to ensure the successful roll out of telehealth consultations. Staff require dedicated headsets, computer hardware and software to enable appointments to take place. This ideally would be within a clinical environment, so that the telehealth appointment can take place during a normal clinic, but the provision of telehealth hubs may also be worth considering.

1. ***The WDHB Telehealth Coordinator is utilised to facilitate further advances in telehealth implementation within the Waikato:*** To ensure the success of telehealth at WDHB, it is recommended that WDHB utilise the Telehealth coordinator role to support and train WDHB staff in the use of the technology and to effectively disseminate the learnings from pilot telehealth initiatives.

# 7 Appendices

|  |  |
| --- | --- |
| Appendix 1:   | Protocol and Data Collection Methodology  |
| Appendix 2:   | Evaluation Framework  |
| Appendix 3:   | SHCF patient information sheet and consent form  |
| Appendix 4:   | Staff participant information sheet and consent form  |
| Appendix 5:   | SHCF patient telehealth survey  |
| Appendix 6:   | Telehealth interview guide  |
|  |  |

## Appendix 1: Protocol and Data Collection Methodology

Three participant groups were included in this evaluation:

Group 1: Prisoners from Spring Hill Corrections Facility who have participated in Waikato DHB appointments via AVL (patients).

Group 2: DOC staff who provide clinical care and/or support prisoners during AVL appointments (participants)

Group 3: WDHB staff who provide clinical care and/or support prisoners during secondary care AVL appointments (participants)

Two data collection methods were used:

Group 1 - Prisoners - Potential participants will be asked by DOC health staff for consent to participate in the research study. Participants who agree to participate in the research will then be asked to complete a consent form. In addition, a questionnaire will be completed with/without the support of DOC staff immediately following the appointment (see Appendix 1 and 2).

Data collection via: questionnaire/survey, whilst at the Health Clinic within SHCF.

Group 2 - DOC staff – DOC Health and Custodial staff will be asked by researchers for consent to participate in the research study. Before and after questions will be asked.

Data collection via before and after interviews and questionnaire/survey. Interviews may take place at SHCF, Wintec or other mutually agreeable site.

Group 3: Waikato DHB staff – Waikato DHB (WDHB) staff who provide clinical care and/or support prisoners during secondary care AVL appointments will be asked for consent to participate in the study.

Data collection via before and after interviews and questionnaire/survey. Interviews may take place at WDHB, Wintec or other mutually agreeable site.

**Inclusion/Exclusion Criteria:**

Group 1: Inclusion Criteria:

* Current prisoner in custody at Spring Hill Corrections Facility,
* Requires secondary care at Waikato DHB (CLINIC TBC),
* Utilises AVL to access Waikato DHB secondary care during the 3-month trial period,
* Assessed as physically and mentally capable of understanding the research process and giving informed consent,
* Able to understand and communicate using English language.

Group 1: Exclusion Criteria:

* Prisoners who do not consent to participation in research study,
* Prisoners who do not utilise AVL to access WDHB secondary care during 3-month trial period.

Group 2: Inclusion Criteria:

* DOC Health staff, and/or
* DOC Custodial staff, involved with supporting prisoners use of AVL

Group 2: Exclusion Criteria:

* DOC staff (Health or Custodial) not involved in supporting prisoners to use AVL.

Group 3: Inclusion Criteria:

* Waikato DHB health staff who provide clinical care and/or support prisoners during secondary care AVL appointments.

Group 3: Exclusion Criteria

* Waikato DHB staff not involved in support prisoners during AVL appointments.

**Total Participants:**

20 – 50 total across all groups

**Recruitment Process:**

Nearly 65% of prisoners haven’t achieved NCEA Level 1 in literacy and numeracy. Therefore, prisoners who have an appointment using the AVL system were provided information in either a written or verbal format and then asked by DOC Health staff whether they consented to being involved in the pilot. In line with the general population, prisoners were given the option not to participate in the research study. This did not affect their access to the AVL appointment or any other health service.

DOC Health staff recruited participants using the patient information sheet (written or oral). DOC Health staff collated data from prisoners on behalf of the researchers to minimise risk and ensure researcher safety.

DOC Health and Custodial staff were given an information sheet and given the option to participate in the study.

All groups were provided with a clear explanation of the purpose and nature of the research and the participants rights.

## Appendix 2: Evaluation Framework

**Department of Corrections and Waikato DHB telehealth evaluation**

#### Target population

People serving a prison sentence at Spring Hill Corrections Facility who would benefit from access to WDHB health services. Clinics identified: Diabetes, Renal, Gastro, Respiratory, Oncology and Mental Health.

#### Objectives

1. Improved public safety
2. More cost-effective health provision
3. More timely access to clinical care
4. Improved access to clinical support resources for Department of Corrections (DOC) health staff
5. Development of telehealth skills and knowledge within DOC and the Waikato District Health Board (WDHB)

#### Process and its expected benefits

|  |  |  |  |
| --- | --- | --- | --- |
| Service  | Benefits patients  | Benefits DOC  | Benefits WDHB  |
| AVL consultations  | Timely care, more flexibility in scheduling to meet patient needs  | More flexibility in scheduling to match DOC staffing availability   | More flexibility in scheduling to meet WDHB staffing availability, service needs and targets   |
| Minimise travel: less stress/increased safety for patients  | Minimise travel: Less stress/increased safety for DOC staff.  Reduced expenditure: custodial staff time and transportation  | Less stress/increased safety for WDHB staff and visitors  |
| Fewer cancelled or rescheduled appointments  | Reduction in cancellations/resche duling due to prisoner transfers  | Reduction in cancellations/resche duling due to prisoner transfers  |
| Better health outcomes (and self/ DOC health staff managed care)  | Increased support/information available to DOC staff  | Reduced readmissions/  |

#### Evaluation

1. 6-9 months
2. Continuous, initially formative then summative and adopting the principles of action research (Plan, Act, Think [Measure] and Improve Cycles)
	1. Map current model of care and estimate costs
	2. Map resulting model of care and estimate costs
3. Non-exclusive focus on
	1. Improved access to clinical care, particularly timely access
	2. Increased support for DOC health staff to deliver care
	3. Improved patient experience of clinical care

(Note: All of these will require before and after measurements.)

1. Domains of evaluation
	1. Clinical outcomes – including patient experience
	2. Service provision and utilisation data
	3. Technology/infrastructure (DOC and WDHB staff experience)
	4. Financial (cost/benefit)

Evaluation criteria

|  |  |
| --- | --- |
| **Evaluation domains**  | **Criteria**  |
| Clinical  | * Experience of patients, clinicians (DOC and WDHB)
* Perceptions of safety (patient, DOC and WDHB)
* Perceptions of quality of care (patient, DOC and WDHB)
* Perceptions of reduction in clinical risk/adverse events
* Privacy and security (health information)
* Confidence of DOC and WDHB staff
 |
| Service utilisation and provision  | * DOC and WDHB staffing resource implications
* Impact on staff workloads/patterns
* Changes in uptake of services
 |
| Technology / Infrastructure  | * Training required and frequency of technology use
* Actual versus intended useability of technology
* User satisfaction
* Record of daily problems/difficulties with technology
* Effect of technology on processes and work practices (clinical and

administrative for DOC and WDHB staff)  |
| Financial / Cost benefit  | • Infrastructure, support and training costs  |
|  | •  | Cost network, hardware, licences  |
|  | •  | Cost staff time for visits (custodial staff accompanying prisoners, admin processes etc)  |

1. Proposed (but not limited to) these comparisons between program performance data and the preceding 2-3 years of quantitative and qualitative data

* + Contacts – number, type, purpose, instigator
	+ Geographic location of appointments
	+ Acceptability/experience for patient/staff (WDHB and DOC)
	+ Staff resource utilisation – travel, time, costs
	+ Number of AVL contacts – patient/clinician, DOC clinician/WDHB clinician
	+ Patient survey
	+ Economic/cost benefit
	+ Overall quality and timeliness of care

1. Dissemination of evaluation results/report:
	* Department of Corrections
	* Waikato DHB
	* Publication in research peer-reviewed journal, with approval
	* Conference presentation(s), with approval
	* Media reports and fact sheets, with approval

1. Project Timeline

|  |  |
| --- | --- |
| April 2017  | Development of evaluation plan, initiate Ethics application  |
| May 2017  | Development of project  |
| June 2017  | Trial month – ensure connectivity and problem solve any issues  |
| July 2017  | Commence Pilot and Data Collection  |
| Aug 2017  | Data Collection  |
| Sept 2017  | Conclude data collection  |
| Oct 2017  | Commence data analysis  |
| Nov 2017  | Final draft reporting  |
| Dec 2017  | Reporting and project completed  |

The project had three key phases, which aligned with the evaluation phases.

Phase one (April 2017 – July 2017):

Project Development - This phase included the development of the project plan and associated operational requirements. A trial period was included to ensure connectivity was optimized and allowed problem solving to occur.

Evaluation Development – The evaluation plan was developed, and Ethics approval was gained. All the evaluation documentation, including data collection tools were finalized.

Phase two (August 2017 – November 2017):

Project Implementation – This phase saw the implementation of the telehealth pilot with the 6 identified services. All SHCF patients who had follow up appointments with one of the services included in the pilot were assessed to determine whether the appointment could take place via AVL.

Evaluation Implementation – The evaluation moved into the data collection phase.

Phase three (November – December 2017):

 Project Completion – The data collection completed and

Evaluation Completion – This phase involved the completion of qualitative interviews with key participants. Data analysis was completed, and the final draft of the report was developed.

#### Ideas for objective outcome measures measurable before and after implementation of virtual consults

1. Proportion of prisoners who attend consultations (face to face and virtual) overall and by reason for referral, Maori/Pacific Islander status, age, gender, before and after introduction of virtual consults.†
2. Number of care contacts before and after virtual consults introduced (select time periods).
3. Number of prisoners who experience adverse health event (need to define) before and after virtual consults introduced.
4. Number of acute hospital bed days before and after virtual consults introduced.
5. Proportion of prisoners who have one or more acute hospital (re)admission before and after virtual consults introduced (select time periods).
6. Number of GP consultations before and after virtual consults introduced (select time periods). By reason for appointment/long term condition.
7. Number of specialist consultations before and after virtual consults introduced (select time periods). By reason for appointment/long term condition. †In principle all outcome measures would be analysed overall and in these categories.

## Appendix 3: SHCF Patient Information Sheet and Consent Form

#### Research Title: An evaluation of Spring Hill Corrections Facility Telehealth Pilot

**What is the purpose and aims of this study?**

You are invited to take part in the Spring Hill Corrections Facility Telehealth Pilot Evaluation. The purpose of this research is to speed up the time is takes for patients to see a specialist.

This research is about telehealth. Telehealth involves providing healthcare at a distance, such as using Audio-Visual Link technology so that patients can have access from within the prison health centre.

In this research, we aim to find out your experiences of using the Audio-visual Link (AVL). Members of your Health Care Team will also participate in the evaluation to identify their experiences of the process.

**What will participation involve?**

You will continue to receive your usual health care – the difference is that the Waikato DHB

Health Staff member will be based in another location and you will talk to them using the AVL system. The equipment does not make recordings of pictures or of the video of patient and clinician talking.

At the end of your Telehealth appointment Corrections Health staff will ask you some questions, which will take approximately 5 minutes to complete.

**What will happen to the information I provide?**

The information will be kept in a password-protected computer and will only be seen by the research team.

**Do I have to participate?**

Your participation is entirely voluntary (your choice). If you do decide to participate you are free to withdraw from the research at any time up to the final report being written. This will also not affect your continuing healthcare in any way and there will be no penalties.

**Will people know that I have participated in the research?**

You will not be named in the research. In the report your information will be confidential and anonymous and your privacy will be maintained.

**How will I find out about the results of the research?**

We plan to produce a report of the results and publish them in academic journals, so that health providers, other corrections departments and policy makers can hear about them.

If you have any further questions or concerns about the research, please discuss these with the Corrections Health staff.

**July 2017**

**Participant Consent Form**

##### An evaluation of Spring Hill Corrections Facility Telehealth Pilot

I………………………………………….. (participant’s name) consent to being a participant in the above-named research project, and I confirm the following:

1. I have read and understand the information sheet and have been told the full purpose and aims of this project.

1. I understand the nature of the project and why I have been chosen to participate.

1. I understand the benefits that may come from this project.

1. I have had a chance to ask questions and am happy with the answers provided.

1. I understand that taking part in this project is voluntary (my choice).

1. I understand that I may withdraw from the project at any time before the researchers begin their study of the results (without any penalties) and it will not affect my future healthcare.

1. I understand that I will be treated respectfully, fairly and honestly by the researcher/s, and I agree to treat the other participants in the same way

1. I understand that information I give to the researchers will be treated confidentially and my anonymity and privacy are guaranteed.

Participant………………………………………………………..…Date……/……/……

Corrections Health Staff Member.......................................…...Date……/……/……

Lead Researcher…………………………………………………. Date……/……/……

Participant Code: \_\_\_ \_\_\_ \_\_\_

## Appendix 4: Staff Participant Information Sheet and Consent Form

**An evaluation of Spring Hill Corrections Facility Telehealth Pilot**

#### Introduction

You are invited to take part in the Spring Hill Corrections Facility Telehealth Pilot Evaluation. You have been given this information sheet as you are involved in a telehealth consultation with a patient from Spring Hill Corrections Facility.

This evaluation aims to find out the effectiveness and convenience of providing specialist Waikato DHB Health services via Audio-Visual Link (AVL) for Spring Hill Corrections Facility patients; Spring Hill Corrections Facility Custodial and Health Staff; and, Waikato DHB Health Staff.

#### About the study

This research is about telehealth. Telehealth involves providing healthcare at a distance, such as using AVL technology so that patients can have access to health care and clinical support from the prison Health Centre.

In this research, we aim to:

1. Find out your experiences of the telehealth process and AVL
2. Establish if telehealth and AVL use is appropriate for use in Spring Hill Corrections Facility and other prisons.

Telehealth technology is being trialled for 3 months by Spring Hill Corrections Facility and will be accessible to patients and Health Care Teams through the audio-visual link (AVL) system.

Patients will continue to receive their usual health care – the difference is that the Waikato DHB Health Staff member will be based in another location and patients will talk to them using the AVL system. The equipment does not make recordings of pictures or of the video of patient and clinician talking. Corrections Health staff will be collating data from patients on behalf of Wintec.

Staff (Department of Corrections staff -custodial and health, and Waikato DHB staff) will also participate in the evaluation to identify their experiences of the process.

The survey part of this evaluation project starts in June 2017 and is scheduled to end in November 2017. Your contribution will be during that period only.

#### Participating in this study

Your participation is entirely voluntary (your choice). You do not have to take part in this evaluation. If you choose not to take part, you need do nothing more. You are free to withdraw at any time, before the researchers begin their analysis of the information, without giving a reason, by informing Corrections Health staff.

Staff will be asked to participate in an interview, lastly approximately 1 hour. The interview will be recorded with your permission. The interview will take place at a place that is convenient for you, this will be negotiated with you.

**What is involved in participating in this research?**

* Please read this information sheet and the attached consent form.
* Research staff are available for you to discuss any questions or concerns
* Once you have had a chance to discuss these aspects you can decide whether you wish to participate and, if so, you will sign the consent form.

**What will happen to the information provided?**

The information will be kept in a password protected computer and will only be seen by the research team. You will receive a copy of the transcript so that you can change or withdraw any information before it is used.

**Benefits, risks and safety**

A key anticipated benefit of telehealth consultations is better and more timely access to health care teams.

There may be some inconvenience of spending time completing the interview. We will do what we can to keep this inconvenience to a minimum.

**Sharing the findings**

Researchers will be writing reports about the evaluation and a summary can be made available to you. If you want a copy of the summary report, please say so on the consent form. We also plan to publish the results at conferences and publish them in academic journals so that other health providers can hear about them.

**Confidentiality**

The researchers will take all possible steps to protect your identity and maintain confidentiality. No material that could personally identify you will be used in any reports on this evaluation.

The questionnaires will be kept in a locked cupboard and then scanned and securely stored electronically. We will keep these documents for 5 years after the conclusion of the study and then they will be deleted. Only people with authority to use the questionnaire information (Wintec researchers) will be allowed access.

**Questions, Concerns and Participant Rights**

If you have any questions or concerns about the evaluation project, please ask the Lead Researcher.

**Statement of approval**

This study has received ethics approval from the Wintec Human Ethics Research Group (HERG), which reviews Wintec research projects.

Thank you for considering participation. We look forward to receiving your consent form as soon as possible if you agree to participate.

**July 2017**

**Staff Participant Consent Form**

#### An evaluation of Spring Hill Corrections Facility Telehealth Pilot

I………………………………………….. (participant’s name) consent to being a participant in the above-named research project, and I confirm the following:

1. I have been informed fully of the purpose and aims of this project

1. I understand the nature of my participation

1. I understand the benefits that may be derived from this project

1. I understand that I may review my contributions at any time without penalty

1. I understand that I will be treated respectfully, fairly and honestly by the researcher/s, and I agree to treat the other participants in the same way

1. I understand that I will be offered the opportunity to debrief during, or at the conclusion of this project

1. I have been informed of any potential harmful consequences to me of taking part in this project

1. I understand that I may withdraw from the project at any time (without any penalties)

1. I understand that my anonymity and privacy are guaranteed, except where I consent to waive them

1. I understand that information gathered from me will be treated confidentially, except where I consent to waive confidentiality

1. I agree to maintain the anonymity and privacy of other participants, and the confidentiality of the information they contribute.

Participant……………………………………………………………Date……………

Lead Researcher……………….……………………………...…...Date…………….

## Appendix 5: SHCF Patient Telehealth Survey

##### Telehealth Patient Survey

(based on HealthIT Agency for Healthcare Research and Quality National First Nations Teleheatlh Research Project Satisfaction Questionnaire)

|  |  |  |
| --- | --- | --- |
| **How satisfied were you with:**  |  | ***Please circle your choice***  |
| 1. The voice quality of the equipment?  | Very Poor 1  | Poor  2  | Average  3  | Good  4  | Excellent 5   |
| 2. The visual quality of the equipment?  | Very Poor 1  | Poor  2  | Average  3  | Good  4  | Excellent 5  |
| 3. The length of time to get an appointment?  | Very Poor 1  | Poor  2  | Average  3  | Good  4  | Excellent 5  |
| 4. The length of time with the specialist you saw today?  | Very Poor 1  | Poor  2  | Average  3  | Good  4  | Excellent 5  |
| 5. The explanation of your treatment by the specialist?  | Very Poor 1  | Poor  2  | Average  3  | Good  4  | Excellent 5  |
| 6. The thoroughness, carefulness and skilfulness of the specialist?  | Very Poor 1  | Poor  2  | Average  3  | Good  4  | Excellent 5  |
| 7. The courtesy, respect, sensitivity and friendliness of the specialist?  | Very Poor 1  | Poor  2  | Average  3  | Good  4  | Excellent 5  |
| 8. How well the specialist respected your privacy?  | Very Poor 1  | Poor  2  | Average  3  | Good  4  | Excellent 5  |
| 9. How well the staff answered your questions about the equipment?  | Very Poor 1  | Poor  2  | Average  3  | Good  4  | Excellent 5  |
| 10. Your overall treatment experience using telehealth?  | Very Poor 1  | Poor  2  | Average  3  | Good  4  | Excellent 5  |

Would you use telehealth again? Yes / No

Would you consider using telehealth for health appointments when released from

custody? Yes / No

Would you recommend telehealth to another person? Yes / No

Completed with help: Yes / No Help provided by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Appendix 6: Telehealth Interview Guide

**Kia Ora. My name is…….**

**You would have spoken to my colleague who posted you the information about this study, and arranged this interview time.**

**Do you give permission for this interview to be recorded?** Permission given \_\_\_\_ Interviewer initials \_\_\_\_

**Do you acknowledge that you have received and read the Participant Information Sheet?** Acknowledgement given \_\_\_\_ Interviewer initials \_\_\_\_

**Before we begin the interview are there any questions you would like to ask?**

**Do you acknowledge that you have had the opportunity to ask questions and are satisfied with the answers received?**

Acknowledgement given \_\_\_\_ Interviewer initials \_\_\_\_

**Do you understand that information about you will be kept confidential and that in any publications or presentations the data will be presented in a manner that does not identify you?** Acknowledgement given \_\_\_\_ Interviewer initials \_\_\_\_

**Do you agree to participate in this study as it is described?** Consent given \_\_\_\_ Interviewer initials \_\_\_\_

**Department of Corrections Staff**

During the interview, I will ask you some questions around your experience supporting prisoners to utilise the AVL system for their telehealth appointments. I would like you to speak freely about your experience. You may withdraw from the study during the interview or chose not to answer any questions.

1. Can you tell me about what it means to be a …..(Role)?

Probes: What sort of stressors are there? What satisfactions do you experience? Can you explain how you work with Waikato DHB? What currently works well for you? What doesn’t work so well for you? How do you feel with regards to your personal safety? How do you feel about the quality of care provided in this setting?

1. Can you tell me about how the AVL supports your work?

Probes: How do you feel about the use of AVL? What positives experiences have you had? What are the frustrations with using AVL? How has it changed the way in which you work? How do you think AVL has had an impact on clinical risk/adverse events?

1. Can you tell me about how the AVL supports those prisoners requiring specialist input? Probes: How do you feel about the quality of care using AVL? How do you feel about the privacy using AVL? What works well? Why does it work well? What could be improved? Why doesn’t it work well? Why might it work for some and not others?

1. How has the AVL changed your way of working (or managing the service)?

Probes: Positive or negative experiences? Can you explain how you feel about working with the Waikato DHB in this way? Can you explain whether you feel it helps or hinders team work? In what ways – please explain? What were the additional unintended and/or unexpected positive or negative consequences?

1. Is there anything else you would like to share?

**Waikato DHB Staff**

During the interview, I will ask you some questions around your experience supporting prisoners to utilise the AVL system for their telehealth appointments. I would like you to speak freely about your experience. You may withdraw from the study during the interview or chose not to answer any questions.

1. Can you tell me about what it means to be a …..(Role)?

Probes: What sort of stressors are there? What satisfactions do you experience?

Can you explain how you work with Department of Corrections? What currently works well for you? What doesn’t work so well for you? How do you feel with regards to your personal safety? How do you feel about the quality of care provided in this setting?

1. Can you tell me about how the telehealth supports your work?

Probes: How do you feel about the use of telehealth? What positives experiences have you had? What are the frustrations with using telehealth? How has it changed the way in which you work? How do you think telehealth has had an impact on clinical risk/adverse events?

1. Can you tell me about how telehealth supports patients in custody?

Probes: How do you feel about the quality of care using telehealth? How do you feel about the privacy using telehealth? What works well? Why does it work well? What could be improved? Why doesn’t it work well? Why might it work for some and not others?

1. How has the telehealth changed your way of working (or managing the service)?

Probes: Positive or negative experiences? Can you explain how you feel about working with the Department of Corrections in this way? Can you explain whether you feel it helps or hinders team work? In what ways – please explain? What were the additional unintended and/or unexpected positive or negative consequences?

1. Is there anything else you would like to share?

1. Kerr, P., & Day, K. (2010). Buller Health Telehealth Pilot: Evaluating an opportunity whose time has come.

Greymouth: West Coast District Health Board [↑](#footnote-ref-1)
2. <http://www.tandfonline.com/doi/abs/10.1191/1478088706qp063oa> [↑](#footnote-ref-2)
3. https://www.telehealth.org.nz/ [↑](#footnote-ref-3)
4. <https://ethics.health.govt.nz/system/files/documents/pages/HDEC%20scope%20summary.pdf> [↑](#footnote-ref-4)
5. <https://ethics.health.govt.nz/operating-procedures>pg 11, para 31 - 32 [↑](#footnote-ref-5)