DIGITAL REHABILITATION IN PRISONS

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DISCLAIMER

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FOREWORD

Around the world, criminal justice systems are facing the challenge of rehabilitating prisoners effectively to reduce reoffending rates and create safer societies. Innovative digital technologies show promise in providing access to rehabilitation programmes and flexible, effective prison-based interventions. However, the integration of technology requires a balance between digital and in-person modalities and a commitment to human rights and ethical considerations.

Since April 2023, UNICRI has been working on a research project with the support of the United Nations Asia and Far East Institute for the Prevention of Crime and the Treatment of Offenders (UNAFEI) and the Government of Japan to investigate the potential benefits of digital technologies for prisoner rehabilitation. This aligns with UNICRI's strategic priorities to promote the rule of law, safeguard access to justice, and leverage new and emerging technologies to address crime.

The Nelson Mandela Rules emphasize the importance of providing prisoners with access to education, vocational training, work, and other assistance to facilitate their successful reintegration into society.

The recent global COVID-19 pandemic highlighted the challenges faced by prison administrators in delivering these services, increasing interest in the use of technology to address these issues.

Therefore, UNICRI is exploring the impact of innovative technologies on prisoner interventions to improve their effectiveness and support rehabilitation. Our research focuses on examining the use of technology within the prison environment and its impact on rehabilitation, with the aim of benefiting both prisoners and staff.

We believe that by carefully selecting appropriate technologies and implementing them ethically and with a human-centred approach, we can realize our shared vision of a more effective and rehabilitative criminal justice system. This approach aligns with our strategic priorities and embodies our shared aspirations for a future where technology serves as a cornerstone for enhancing the dignity, rights, and rehabilitation prospects of those within the criminal justice system.

Leif Villadsen
Acting Director, UNICRI

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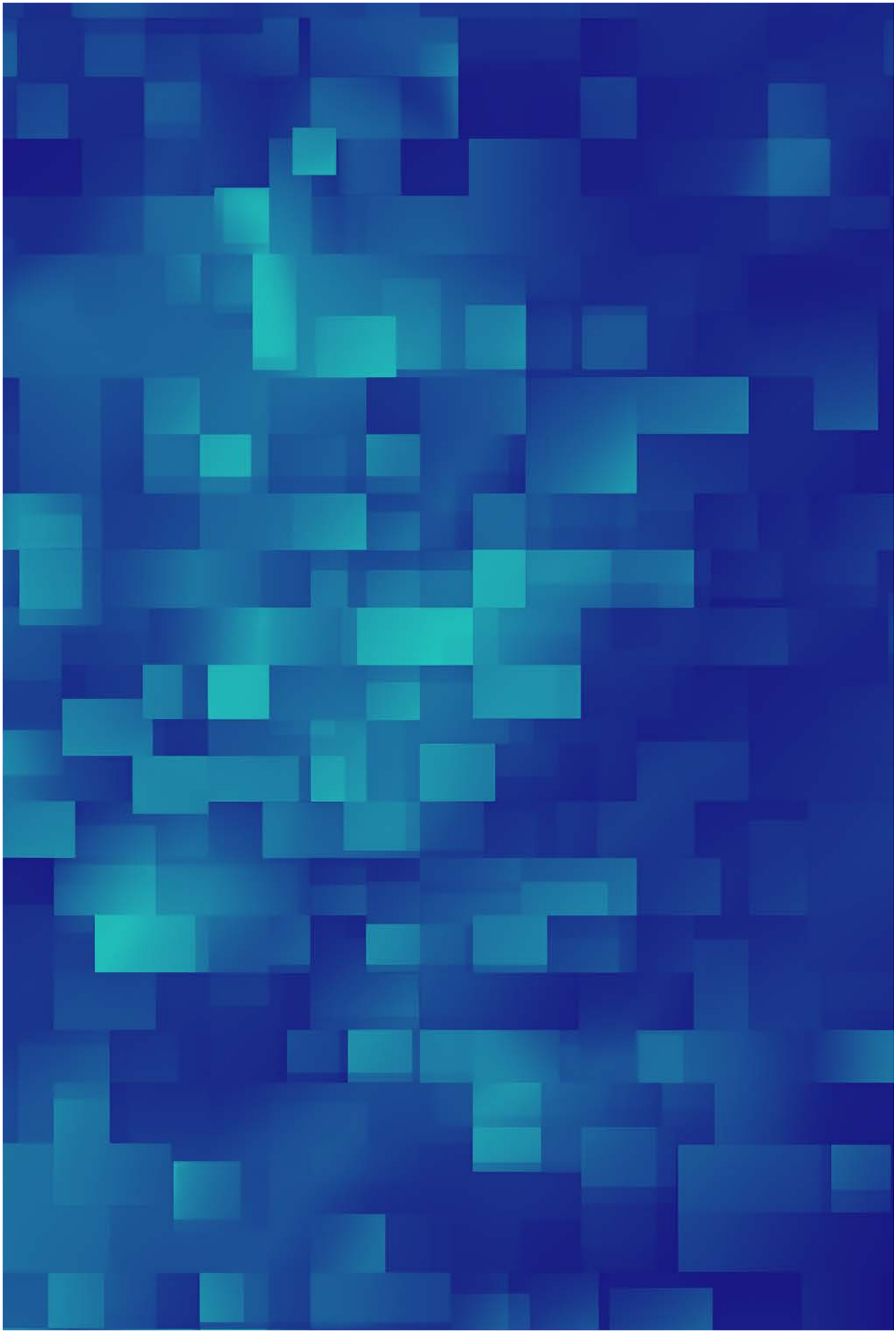

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PART 01

02

1. INTRODUCTION

1.1. Scope and Purpose of this Report

This report examines the potential benefits and risks of introducing new technologies in prisons to facilitate prisoner rehabilitation.[1] It aims to assist policymakers, practitioners, and those responsible for the design and delivery of rehabilitative programmes to understand how to leverage technologies to support prisoner rehabilitation in an effective and ethical way.

As with many forms of human services over the last decade, the delivery of prison programmes and services is being transformed in response to digital technology. An area of intensive development revolves around digital applications to support prisoner rehabilitation. Some prison authorities now have access to a wide range of digital platforms to deliver education, vocational training, and a variety of therapeutic and behaviour change interventions. There are also applications to facilitate prisoners maintaining their connections with families and to support their transition from prison back into the community. Digital rehabilitation has some important potential benefits that include more accessible, enriching, flexible and cost-effective delivery of services, but also poses some significant ethical, technical, and operational challenges.

This report provides guidance across three broad areas:

- The ethical principles that should guide the use of digital rehabilitation in prisons;
- Planning for the development, implementation, and continuing provision of digital resources to support rehabilitation; and
- The applications and systems that can be used to support rehabilitation, reduce reoffending, and promote desistance.

Part I of the report sets out the ethical, methodological and practice framework and includes four chapters: *Ethical Principles, Methodology, Understanding Digital Rehabilitation* and *Developing a Digital Rehabilitation Strategy*. *Part II* examines the different forms of digital rehabilitation comprising of *Education and Vocational Training, Self-Service, Treatment and Behaviour Change, Re-entry, Family Contact and Support,* and *Staff Engagement and Training*. *Part III* concludes the report by setting out some of the *Next Steps* in the journey towards digital rehabilitation.

This report builds on the Background Paper prepared for the Workshop on "Reducing reoffending: identifying risks and developing solutions" at the 14th United Nations Congress on Crime. The Background Paper noted that technological advancements offer new opportunities for prisons to deliver education programmes to prisoners, while the widespread use of electronic devices provides a cost-effective solution for prison-based services.[2]

While digital rehabilitation necessarily involves some engagement with digital resources and services (computers, tablets, video-conferencing suites, e-learning systems), it should not be assumed that digital rehabilitation is only possible if jurisdictions make costly investments in digital infrastructure, including equipment and architecture. Many of the examples in this report involve the use of the same digital platforms that have become a part of everyday life. The intention of this report is to present guidelines and options that will enable prison agencies, at different levels of digital maturity, to select a development pathway appropriate to their needs and those of the people in their custody.

1.2. Rehabilitation and Digital Rehabilitation

Rehabilitation can be described as the process by which individuals change their criminal behaviour and lifestyles by acquiring the skills and values that lead to a life without crime. Within a framework developed by the Global Programme for the Implementation of the Doha Declaration[3] in 2015, there was a significant push towards developing rehabilitative opportunities. UNODC's roadmap to rehabilitation states:

> *…the provision of rehabilitation programmes in prisons, which foster the willingness and ability of prisoners to lead a law-abiding and self-supporting life upon release, are crucial to reduce recidivism and to improve public safety—the ultimate objective of any sentence of imprisonment.*[4]

This is a "strengths-based" way of thinking about rehabilitation that recognises that the best way to create a safer society is to assist people in prison to adopt more fulfilling and socially integrated lifestyles. It recognises that people who have been in prison have obligations to respect other people's entitlements to safety, well-being, and freedom, and that they are also entitled to the same considerations. A significant idea here is that people need to be

able to fully participate in civic society after their release from prison, with strong family and community connections.

Rehabilitation is a core focus of the international standards for the treatment of prisoners. This is made explicit in the first section of the United Nations Standard Minimum Rules for the Treatment of Prisoners (the Nelson Mandela Rules), which states that the purposes of imprisonment are primarily "to protect society against crime and to reduce recidivism" and that these purposes can only be achieved if prison authorities provide rehabilitative services and support designed to ensure the reintegration of imprisoned persons into society after their release.

Rehabilitation is also highlighted in the United Nations Rules for the Treatment of Women Prisoners and Non-custodial Measures for Women Offenders (the Bangkok Rules), where Rule 4 states that: "*All prisoners should be allocated, as far as possible, close to their homes or places of social reintegration, in order to facilitate communication with their families, as well as agencies and services used to enhance their social rehabilitation, taking account of their caretaking responsibilities, as well as the individual woman's preference and the availability of appropriate programmes and services*." This signals the importance of gender responsive support that accounts for the challenges different groups of prisoners face during imprisonment, for example the need to sustain relationships with their children and participate in their children's lives.

United Nations and Internationally Recognised Rules and Principles

This report draws on the ethical and human rights principles relating to the treatment of prisoners, including:

1. The Standard Minimum Rules for the Treatment of Prisoners (the Nelson Mandela Rules), and in particular:
    a. Rule 4 that relates to the importance of rehabilitative programmes for prisoners as a way to ensure that they are able to lead a law-abiding and self-supporting life after release;
    b. Rule 5 that calls for prison regimes to seek to minimise any differences between prison life and life at liberty;
    c. Rule 24 that calls for prisoners to enjoy the same standards of health care that are available in the community, including access to necessary health-care services free of charge;
    d. Rule 58 that relates to prisoners' ability to communicate with friends and family;

e. Rule 88 that calls for the treatment of prisoners to emphasise their continuing part in the community; and

f. Rule 89 that calls for the individualisation of the treatment of prisoners;

2. General Assembly Resolution 58/183 (December 2003) on human rights in the administration of justice, and particularly the call for increased attention to the special needs of women in prison;

3. General Assembly Resolution 65/229 (December 2010), the United Nations Rules for the Treatment of Women Prisoners and Non-custodial Measures for Women Offenders (the Bangkok Rules), i.e. 70 rules that set out instructions to ensure humane treatment for women prisoners is assured. Gender specific responses are crucial as women prisoners are subject to deprivations and treatment that differ to male prisoners;

4. General Assembly Resolution 69/172 (December 2014) on the human rights of persons deprived of their liberty;

5. A range of regional principles and standards related to the treatment of prisoners, including the Principles and Best Practices on the Protection of Persons Deprived of Liberty in the Americas, the revised European Prison Rules, the Kampala Declaration on Prison Conditions in Africa, the Arusha Declaration on Good Prison Practice and the Principles and Guidelines on the Right to a Fair Trial and Legal Assistance in Africa.

1.3. What is 'Digital Rehabilitation'?

Digital rehabilitation is the application of digital technologies to provide rehabilitative services, or to support people engaged in rehabilitative programmes. Digital rehabilitation in prisons includes the provision of services and support to people in custody or transitioning out of prison, to enable them to live fulfilling lives back in the community. This means that rehabilitation should provide people with job and life-skills through education, including vocational training, or address the specific causes of offending, like alcohol and drug abuse, or violence. The design and implementation of rehabilitative programmes should utilise an ethical, morally driven and rights-based approach. The use of digital technologies can enhance these efforts.

When considering digital rehabilitation, it is crucial to consider the role those digital technologies play in contemporary life. Digital skills are integral to being a fully functioning member of the community, and rehabilitation should equip prisoners with those digital competencies. Reisdorf and Rickard[5] have proposed a model of digital rehabilitation that links rehabilitation theory with ideas about digital inequality. Their model guides this report in showing how digital tools can help people in prison address social, economic, and psychological issues. The model identifies five corresponding fields of rehabilitation related to everyday life, namely economic, social, personal, cultural, and health (see Figure 1). These fields feature offline and online components that are closely intertwined in technology-dependent societies. The authors argue that for successful reintegration into society, the digital inequality faced by people in prison must be addressed.

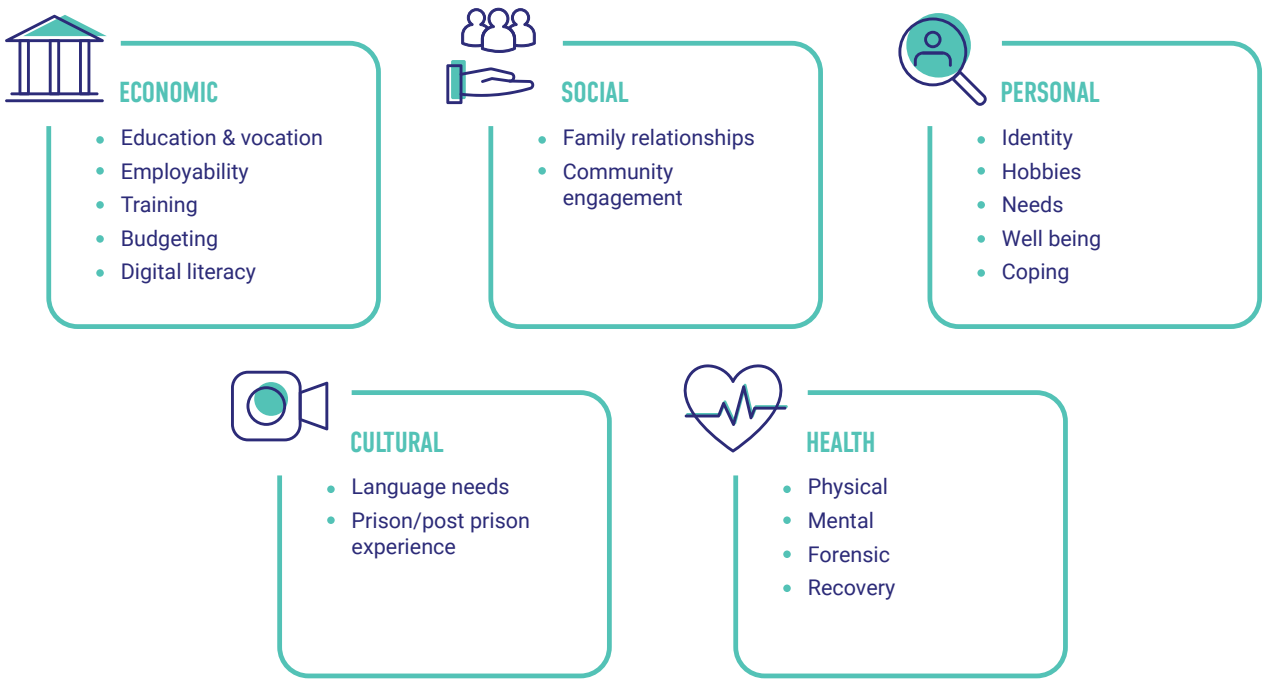


Figure 1: Summary of the "Corresponding Fields" outlined in *Digital Rehabilitation: A Model of Re-entry into the Digital Age*

1.4. Forms of Digital Rehabilitation

There are four main forms of digital rehabilitation:

- *Computer-based learning and vocational training*: This group includes all forms of education delivered to prisoners, from basic literacy and numeracy to higher degree programmes, as well as education and training specifically designed to equip prisoners with job skills. These can attract qualifications upon successful completion. Digital learning and training can also be provided to prison staff.

- *Computer-based treatment and behaviour change interventions*: This group includes individual and group-based interventions designed to provide assessment, treatment or support for mental health problems, alcohol, and drug abuse, and sexual or violent offending.

- *Digital Reintegration:* Digital applications to support prisoners when they *re-enter the community* after completing their time in custody. These applications include monitoring and surveillance ones, informational resources, tools to assist in accessing services in the community, and applications that provide people with ongoing recovery support.

- *Digital communication channels:* Communication technologies to support *written or verbal interactions* between prisoners, practitioners, and family members. These include email, messaging, telephony and person-to-person videoconferencing platforms.

Digital service networks facilitate the above four categories of digital rehabilitation within prisons. These networks can be in the form of fixed kiosks, tablets built into the cells, shared spaces in the prison, portable laptops or tablets that have a wireless connection to a prison network. Digital service networks can allow prisoners to access a range of internal resources and services on a 'self-help' basis and can also be used to deliver education and vocational training, treatment and behaviour change interventions, release preparation, and email or video-communication with practitioners or family members.

2. ETHICAL PRINCIPLES AND HUMAN RIGHTS

A key aim of this report is to promote the ethical use of digital rehabilitation tools and systems in a way that is human rights compliant and centred around the needs and well-being of prisoners. Knight and Van De Steene[6] recognised the need to ensure that digital prisons do not harm prisoners. They identified a series of six guiding ethical principles for digital prisons:

1. Legality,
2. Privacy and transparency,
3. Normality,
4. Equality and fairness,
5. Proportionality, and
6. Agency.

These provide a valuable framework for assessing how services are responding to risk, digital inequalities, needs, and public safety in the context of prisons.

These principles all play critical roles in shaping the experiences of prisoners and the efficacy of prisons adopting digital technologies for rehabilitation.

The Principle of Legality

- Imprisonment raises questions about prisoners' digital rights and their impact on rehabilitation. Compliance with human rights law in prison policies related to digital opportunities is crucial. Ownership of data and digital creations made by prisoners requires careful attention and alignment with the law.

The Principle of Privacy and Transparency

- Transparency and accountability are crucial to address concerns about fairness and humanity in decision-making processes, particularly in the use of AI and big data. Bias in the application of AI to different groups of prisoners requires consultation, consent, and visibility. It is imperative to balance privacy rights with algorithmic decision-making to ensure rehabilitation journeys occur without causing further harm. This applies to social interactions on the telephone, email, or video calling.

The Principle of Normality

- Digital normalization can have a positive impact on the behaviour and well-being of prisoners. The ability to use digital resources to perform daily tasks such as making appointments, contacting services and family, managing shopping, finances, and personal affairs is crucial for self-determination and responsibility.

The Principle of Proportionality

- Various forms of digital rehabilitation can collect user data, which can lead to further surveillance. In prisons, this can lead to an increase in existing harms associated with imprisonment. Therefore, it is crucial to ensure that data retention and management related to rehabilitative activities is proportionate and purposeful. Additionally, it is necessary to have terms and conditions for participation in these services to protect users' rights and prevent harm such as bias and further deprivation.

The Principle of Equality and Fairness

- Unequal access to technology worsens digital competence disparities for prisoners and hinders reintegration. The digital divide limits rehabilitation in a digital world. Prisons can help by enhancing digital skills, including financial management, family support, and health care. This also includes teaching responsible use of digital resources.

The Principle of Agency

- Although digital services in prisons offer immediate benefits, they can restrict an individual's choice and agency, hindering opportunities for personal growth and restorative processes. For instance, inmates may have limited access to educational and training programmes or may not be able to communicate with their families in the ways they prefer. However, digital resources can also promote self-determination and encourage individuals to take responsibility for their restoration and recovery. This may include listening to calming music, reading books, learning new skills, pursuing hobbies, or accessing supportive networks like family and social welfare services.

The technologies involved in digital rehabilitation are neither inherently good nor bad, but are embedded with the values that drove their design and implementation. These technologies also have the potential to create new and sometimes unpredictable values, which in turn can influence the behaviours of the people that use them, and the outcomes that are generated. Thus, the processes for adopting digital platforms for prisoner rehabilitation must be consistent with these ethical principles to steer rehabilitative reform and ensure digital rehabilitation does not precipitate further harm to those in prisons.

2.1. Human Rights and Digital Rights

The use of digital technologies raises important issues relating to human rights, including freedom of expression, privacy and freedom from digital surveillance, protection from discrimination, and the right to access digital services. Specifying and exercising these is inevitably more complicated in prisons where many basic human rights like liberty and freedom of movement are restricted. These restrictions can limit or even prevent rehabilitative opportunities.

The United Nations formulated a Roadmap for Digital Cooperation[7] that sets out principles to protect human rights in the digital domain. These include:

- Placing human rights at the centre of regulatory frameworks and legislation on digital technologies;
- Creating human rights-based domestic laws and practices for the protection of data privacy;
- Adopting safeguards to protect digital identity; and
- Protecting people from unlawful and unnecessary surveillance.

UN Resolution 69/172 of 18 December 2014, entitled "Human rights in the administration of justice"[8] states that persons deprived of their liberty shall retain their non-derogable human rights and all other human rights and fundamental freedoms. Access to digital technologies is also a central issue in the achievement of the UN Sustainable Development Goals (SDGs).[9]

The challenge around the implementation of digital rehabilitation in prisons is to ensure that these principles are preserved when digital platforms are developed or adapted to deliver rehabilitation services. There are four areas of concern when considering the digital rights of people in prison:

1. Balancing digital rights with the need to ensure adequate security and public protection;
2. Providing access to digital technology as part of the normalisation of prison regimes;
3. Addressing digital inequality;
4. Safeguarding personal information.

2.1.1.
Balancing digital rights with the need to ensure adequate security and public protection

Maintaining security is a significant driving concern of prison management. Traditionally, all forms of communication with the outside world are strictly controlled, and some forms (like mobile phones) are completely prohibited. There are very real risks to security and public safety that arise from the introduction of digital technologies, including the potential to organise or commit new crimes, or harass or intimidate victims outside the prison.[10] A variety of technological solutions have been developed to mitigate these risks. However, the degree to which digital access rights should be restricted to maintain sufficient security remains a pertinent question.

Part of the answer should be that any restrictions on digital access should be proportionate to the level of risk involved. While it might be reasonable to greatly restrict access to a person with a history of internet-based offending or of harassing victims, the same level of restriction may not be appropriate for a person with a history of minor offending. The restrictions on digital access should also take into account the interests of other rights-holders including victims, children and other family members, and prison staff. The UN Committee on the Rights of the Child has recommended that jurisdictions should provide e-mail or video-calls to facilitate contact between prisoners and their children, where this is in the best interest of the child.[11]

2.1.2.
Providing access to digital technology as part of the normalisation of prison regimes

The principle of normalisation (that is, the idea that the living conditions in prison should resemble the outside world as much as possible) is an important starting point for any discussion about the provision of digital rehabilitation. This principle has become much more salient as access to digital technology has become a central element in everyday social, commercial, and employment processes.

This principle stands in contrast to the deprivation model of imprisonment. People in prison are deprived of a range of personal, social, and economic opportunities, and these forms of deprivation can lead to long lasting psychological and social harms – sometimes referred to as the "pains of imprisonment."[12] In the context of routine digital interactions, the pain of digital deprivation reduces social contact and intimacy, cognitive stimulation, autonomy, and security. This exacerbates the pains of imprisonment and compromises opportunities to begin a meaningful rehabilitative journey.

2.1.3.
Addressing digital inequality

Digital inequality – i.e., the differential access to digital resources, skills and opportunities, and the benefits that flow from them – is recognised as an important component of social inequality.[13] The problem of digital inequality is especially pronounced for women, young people, and people in low-income countries. For many people in prison, digital inequality has been a persistent feature of their lives, and imprisonment further reinforces this inequality. Whilst there is positive momentum in some jurisdictions, access to digital technologies and the internet for prisoners remains the exception. Prisons are digitally poor, and the effect of this poverty is experienced across large parts of the world. Failure to allow prisoners to develop and practice digital skills means that they may experience alienation and disconnection from services and their community, adding to the difficulty they face when they re-enter society.

2.1.4.
Safeguarding personal information

As digital systems and tools gradually become integrated into prison service systems, new challenges around data security and privacy have started to emerge. These are challenges that are familiar to digital users in technology-dependent societies around the world: providing secure access to applications across a variety of hardware systems, sharing data with service agencies while also preventing the accidental or criminal disclosure of personal information, and securing systems from external attack. It is already clear that in some areas, most notably monitoring and support applications, there is the potential for digital systems to create new risks and harms to people on community supervision. Recognising the importance of safeguarding personal information and providing users with digital security knowledge and skills are important elements in any digital rehabilitation strategy.

3. METHODOLOGY

Although there is a growing body of research into digital prisons and digital rehabilitation applications, this is among the first global studies that explore the idea of digital rehabilitation. This is therefore an exploratory study designed to engage with a range of experts in this arena. Based on published knowledge and official networks, an Expert Group comprising 19 volunteer professionals was created to contribute to this study. These experts included practitioners from a range of relevant areas, policy makers and leaders, industry partners and developers, human rights leaders, and people with lived experience of prisons. Each expert was interviewed to explore their perspectives and practices in relation to digital rehabilitation.

This report is based on interviews with members of the Expert Group and is supplemented by published materials from various sources, all cited in the document. The study's inclusion criteria align with a broad and diverse understanding of digital rehabilitation, excluding material solely related to security, surveillance, or monitoring technologies such as closed circuit television (CCTV), body-worn devices, drug and contraband testing devices, body scanners, and biometric systems. While these technologies impact the welfare of individuals in prison regarding safety and risk, the report's focus is on explicit practices and services directly equipping individuals in prison with rehabilitative opportunities that they specifically benefit from.

Considering the above, a thematic analysis was conducted following the overall aims of this research and underpinned by key theoretical models. As a result, the presentation of this report is structured around the conceptual model of digital rehabilitation, as described by Reisdorf and Rikard. The aim is to describe how different technologies contribute to the diverse and varying affordances that *explicitly* facilitate rehabilitation, such as education, vocational training and behaviour change. The role of staff (including their digital skills and engagement) was significantly highlighted as instrumental in the delivery of digital services. *Part II* of the report is a culmination of this analysis and covers the following topics:

- Digital Education and Vocational Training
- Self-Service- Kiosks and In-cell Devices
- Treatment and Behaviour Change
- Re-entry and Transitional Support
- Family Contact and Support
- Staff Digital Engagement and Training

Each chapter in this report ends by providing recommendations for specific Good Practices associated with the topics. The model for providing guidance is informed by guidance from the World Health Organization (WHO) on documenting and identifying best practices. As a result, following analysis and expert review, these recommendations of good practice address *effectiveness, efficiency, relevance, ethical soundness, sustainability, possibility of duplication, partnership, community involvement,* and *policy commitment*.[14] A summary of suggested activities for implementing digital rehabilitation in prisons is presented in **Chapter 5** of this report, and these generally apply to all types and modes of digital rehabilitation regardless of the intensity and reach of a service's digital strategy.

To complement the content of *Part II*, 11 case examples were chosen based on one-on-one interviews with volunteer experts and publicly available materials, including group interviews with project teams. The accompanying narratives, co-authored with the project leaders, aim to illustrate different themes and offer readers insights into the initiatives' objectives and achievements. The case examples are descriptive and illuminative, providing readers the chance to explore further outside the report. They are categorised by themes such as digital strategy, treatment and behaviour change, education and training, re-entry, and family contact and support. Notably, there are no case examples for staff digital engagement and training or self-service. A system of approvals ensured accuracy and permissions for using case examples in the report.

Part III of this report provides insights into future developments, and the policy and research challenges involved in shaping rehabilitation supported by digital services. Lastly, the study's finalisation process involved circulating a draft of the report to the Expert Group for feedback on accuracy, quality, and rigour, helping identify the scope and limitations of the exploratory research.

3.1. Limitations

This study marks a consolidated reflection based on exploratory research with experts actively involved in developing digital rehabilitation services and solutions. The exploratory nature of the research has identified possible routes to develop practice and policy in this arena.

As will be outlined in *Part II* of the report, some forms of digital rehabilitation are supported by a much more substantial evidence base than others. For instance, education and vocational training as well as treatment and behaviour change programmes have attracted more investment in research and evaluation. In contrast, areas such as re-entry, family contact, self-service and staff engagement and training have not benefited from as much empirical enquiry. *Part III* highlights the importance of extending the portfolio of research in this space.

The need to be attentive to different cohorts of digital users, and generating different bodies of knowledge to understand hard and soft measures is crucial. Overall, the report's limitations include:

- There are substantial variations in the evidence base across different aspects of digital rehabilitation.
- Similarly, there has been limited empirical inquiry into a range of associated issues like user engagement, user experiences, and the implementation of digital rehabilitation in correctional settings, which may limit the depth of understanding and the ability to draw robust conclusions.
- This report did not consider technologies exclusively related to security, surveillance, or monitoring, which may lead to an incomplete picture of the broader digital landscape within prison settings.
- While the membership of the Expert Group was designed to include a wide range of perspectives, it is possible that biases or gaps in knowledge and experience still remain.

4. UNDERSTANDING DIGITAL REHABILITATION

The digital transformation in prisons is part of a more general digital transformation of *government*. This arises from the integration of new digital technologies into the delivery of government functions and services, and their impact on the interactions between citizens, government, and politics. These new systems and relationships are often described as E-government and are characterised by continuing and rapid change. This transformation is much more complex than simply the replacement of old 'analogue' processes and systems (like paper forms and over-the-counter service interactions) with new digital versions that are faster and more convenient but provide essentially the same outcomes. E-government involves a paradigm shift in the way government works that affects not just how services are delivered, but also the relationships between citizens and government, the policy values and principles of government, and the way that data is used to inform policy and actions. This transformation process has been described as "reimagining the way in which governments design and deliver services."[15]

To properly understand digital rehabilitation and make decisions about how to design, adapt, and implement its applications and platforms, it is important to engage with some fundamental questions about what the digital transformation process means. The extent to which services can transform with digital technologies is a question of readiness - the capacity and capability to work digitally. In this chapter, we examine the digital technologies that have been used for rehabilitation, the distinction between different forms of digital applications and platforms, the developers and providers of digital rehabilitation products, and the importance of user engagement in the digital domain. The chapter also provides a general summary of the strengths and benefits of digital rehabilitation as well as the risks and challenges that may arise.

4.1. Digital Technologies

Digital technologies can take a wide variety of forms and it is important to distinguish between the technology objects involved, and the possibilities for action that these digital technologies provide to users.[16] This section reviews some of the distinctive hardware involved in digital rehabilitation, while the next section examines ways to engage with digital technologies. As with much in the digital world, the boundaries between technologies are often blurry and some systems and products do not readily fit into the typology presented here. Multi-purpose platforms that provide a wide range of digital services in a variety of contexts are becoming increasingly common.[17]

4.1.1. Devices

- ***Kiosks*** are fixed digital terminals that provide access to a dedicated institutional information technology (IT) system, usually via a touchscreen interface. They are typically located in a common access area of a prison. They provide prisoners with 'self-service' access to a range of functions that include sending and receiving emails, ordering from the prison canteen, making medical or other appointments, checking account bank balances and transactions, and arranging visits.

- ***Digital Tablets*** are touchscreen devices (usually Android-based) that may or may not be hard-wired into prisoners' cells. In some cases, people in prison can enjoy the mobile benefits of the device and take them in and out of their cells. They usually have some restricted connectivity either to the internet or to a prison intranet. The tablets may have a physical keyboard to facilitate input. Tablets provide access to a variety of services that (depending on how they are configured) can include all the services available from kiosks, plus education, therapeutic or behaviour change interventions, messaging services such as text and voice calls, and music or video entertainment. These devices can sometimes also provide access to a limited set of 'whitelisted' internet sites,[18] typically resources to support time in prison or preparation for release. Digital tablets typically have limited storage capacity and may not allow for multi-tasking.

- ***Secured laptops and desktops*** are another digital access solution that can be made available in or outside prisoners' cells. Secured laptops and desktops can run standard operating systems and applications including web browsers. The laptops and desktops may be 'secured' by physically removing or blocking any external memory ports; running specific software that secures and monitors the security of the device; and modifying group policies and applications to prevent the user from changing system settings or accessing non-approved websites. Secured laptops and desktops are often used for education and vocational training that operates through a learning management system which may be installed directly on the device or operate from a prison or educational institution server. These technologies may or may not provide access to the internet. They are useful for higher level education as they allow for multitasking and have physical keyboards.

- ***Video-conferencing suites*** (sometimes referred to as booths or alcoves) are dedicated spaces where individuals or groups can have private video-conferencing sessions. These are used for consultations with legal, health, mental health, or other service providers, or for virtual therapeutic or rehabilitative programme sessions.

- ***Telephony*** can be made available inside prison cells or in communal areas. There is typically a charge for calls. Some of these services also include Short Message Service (SMS) or email messaging services. All calls can be subject to monitoring, and it is usual to have contacts approved by prison services for safeguarding concerns. Rules for monitoring vary across jurisdictions.

- ***In-cell Televisions*** are sometimes used to broadcast dedicated prison focused channels. This content is often co-produced and/or made exclusively for prisoner audiences, and may also include video, text, or radio content. Much of the bespoke content is made to strict editorial guidelines based on educational, restorative, and rehabilitative aims.[19]

4.2. Digital Dependency and Digital Affordances

An important concept in digital rehabilitation is the degree to which an application is dependent on digital technology.

The simplest form of digital rehabilitation involves the *digitisation* of an existing rehabilitation resource – for example, when a programme manual or resource that was originally created in a hard copy or video format is simply translated into a digital form such as a PDF. In this case, the digital technology may make the distribution of the resource easier but otherwise adds no value.

Digitally enhanced rehabilitation uses the technology to enhance the delivery, flexibility, accessibility, or effectiveness of the rehabilitation. An example of digitally enhanced rehabilitation is the delivery of a group-based alcohol or drug treatment programme using a video-conferencing platform in combination with an electronic whiteboard to present programme materials. This allows the participation of people who are physically distant from one another (an accessibility enhancement), allows group facilitators to monitor the engagement and progress of participants (a delivery enhancement), and provides a way to deliver content that is specific to the treatment needs of individual participants (a flexibility enhancement).

The most complex forms of digital rehabilitation are those that are *dependent* on the affordances of the digital technology and that can only be delivered using these methods. Examples of digitally dependent affordances include the geo-tracking affordances of smartphones, the Augmented Reality (AR) and Virtual Reality (VR) technologies to deliver vocational training or other programme content, and self-help, Artificial Intelligence (AI)-based apps for people with mental health problems.

Another important way of thinking about digital rehabilitation is to consider the possibilities for action that these technologies provide to users. These possibilities for action are often described as the *affordances* of digital technologies. Affordances can also be thought of as how digital technologies can help users to solve problems or achieve their goals. Affordances are not fixed or static features of a technology, but rather are a function of the way users engage with the technology. One familiar example of an affordance associated with digital technology is the way a mobile phone provides the user with the possibility of perpetual contact. That is, one of the primary affordances of a mobile phone is not just the mobility of the device *per se*, but rather that it allows the user to access a wide range of communicative interactions across many aspects of daily life.

4.3. User Engagement

In planning for digital rehabilitation, it is necessary to move beyond only thinking about technologies (tablets, video-conferencing platforms, laptops) and consider the relationships between the technologies and their users, and the possibilities for action they create. An important feature of technologies used for digital rehabilitation is that they often involve both practitioner users (clinicians, programme staff, custodial staff) and end users (prisoners and their families), and these groups may engage with the technologies in different ways. 'Engagement' refers to the interaction and relationships of users with digital applications, and to the degree of affective and cognitive investment in the interaction by the user. While one of the advantages of digital rehabilitation is enhanced access to programmes and interventions, this is only of benefit if users engage with these in a meaningful, sustained, and productive manner.

4.4. Advantages of Digital Rehabilitation

Providing prisoners with rehabilitative opportunities is both a responsibility and of practical value. It is widely accepted that programmes should be judged on the strength of empirical

evidence about their effectiveness in achieving their intended goals. A key tenet of evidence-based policy is that there needs to be an understanding of 'what works, for whom and under what conditions.'[20] There is strong evidence to show that rehabilitation can produce better life outcomes for prisoners, and ultimately, lower rates of recidivism.[21] The implementation of technology into prisons is challenging, so in order to make it feasible, there needs to be significant advantages.

To date, there have been very few large-scale outcome studies of digital rehabilitation. The only area where there have been multiple rigorously controlled outcome studies involving prison populations is in computer-assisted drug treatment interventions (see Chapter 8), where several large-scale studies[22] show positive outcomes for participants' quality of life, mental health, and severity of substance dependence. Another source of evidence is systematic and scoping reviews that combine evidence from several studies. A scoping review of digital health interventions (including tele-psychology and tele-psychiatry) for mental health, substance use and concurrent disorders in criminal justice populations, found generally positive results,[23] but at this early stage in the development of digital rehabilitation, it is premature to look for a substantial and consistent body of evidence.

Increased Accessibility and Efficiency

Another set of benefits is associated with the accessibility and efficiency of rehabilitative interventions. The provision of rehabilitation programmes is often limited by a variety of practical factors. It can be expensive to deliver services using conventional face-to-face delivery methods, and some forms of rehabilitation require skilled, professional practitioners who are often in short supply. Where programmes are delivered in a group format, it can be difficult to organise for all the participants to be in a single place at the designated time. In situations such as disasters or infectious disease outbreaks, delivering programmes in person can be difficult. Digital forms of rehabilitation allow some of these delivery constraints to be ameliorated. By delivering interventions directly to prisoners in structured formats, it is possible to increase the supply of rehabilitation at a reasonable cost.

Countering Negative Effects of Imprisonment

However, the benefits of rehabilitation programmes can be offset by the deleterious effects of imprisonment. Segregating prisoners from the wider world and depriving them of essential rights increases the likelihood that they will become assimilated into prison culture. Imprisonment exacerbates inequality and compounding digital deprivation limits former prisoners from flourishing following re-entry into society. In this context, digital rehabilitation can help breakdown this sense of isolation and exclusion from society.[24] This aligns to the Nelson Mandela Rules following the basic principles set out as the Standard Minimum Rules - that people in prison should be treated according to their needs.[25]

Personalized and Innovative Approaches

Digital rehabilitation also provides an opportunity to rethink the provision of therapeutic, transitional support, training and education services and healthy family relationships to prisoners. Rehabilitative engagement no longer needs to be restricted to just the time spent face-to-face in a classroom, therapy session or programme group, but can continue whenever the person has access to a tablet or computer. It is also possible to envisage rehabilitation that is specifically targeted at each person's needs – individualised and targeted to their life circumstances. Some of the most exciting developments in rehabilitation are taking place in the digital domain. For instance, while the use of virtual reality, augmented reality, and artificial intelligence is still largely experimental, these rehabilitative methods hold out the opportunity to help to address drivers of serious problems that give rise to offending and provide engaging forms of education and vocational training.

4.5. Challenges of Digital Rehabilitation

The benefits of digital rehabilitation need to be weighed against the risks and challenges. Some of these are a function of the novelty of this field and its characteristic rapid change and innovation.

Regulatory and Policy Lag

New products and systems become available faster than regulatory systems and policy frameworks can be established, leading to uncoordinated development. The pace and speed of the development of digital services and interactions means that often policy, legislation, and practice lag behind.

Data Security and Privacy Concerns

There are also significant issues about data security and the ownership and protection of personal information that need to be resolved. Decisions about the selection of digital products and services are hampered by the dearth of agreed-upon standards for what constitutes a good digital app for prison staff or clients, guidance on how to make judgements about quality, and a scant evidence base.

Integration with Existing Infrastructure

Some risks and challenges arise because digital products and services often need to be integrated into existing facilities and practices. In many prisons, there are long-standing restrictions on digital technologies, and security protocols for dealing with digital risks are based mainly on elimination. Few prisons were built with digital infrastructure in mind, and retrofitting this can be expensive. 'Self-help' service systems and in-cell tablets can present challenges for custodial staff in prison management. Ongoing maintenance is often not acknowledged in costing solutions and systems can quickly become out of date.

Perceptions and Attitudes

There are also important challenges that arise from the attitudes and beliefs that prisoners, staff, and the public have about digital equipment and services. Prisoners may feel that they lack the knowledge and skills to use digital technologies. Staff may feel that digital systems are a threat to their authority or even their jobs as they are perceived to be driving efficiency rather than delivering rehabilitative outcomes. The public may see the provision of digital rehabilitation as a 'reward' that prisoners do not deserve.

4.5.1. Security Risks for Digital Rehabilitation

Digital rehabilitation presents a range of security risks that need to be carefully managed. There are three general forms of security risks:

Risks from the criminal misuse of digital technology

Where digital technology permits communication between prisoners and the community, there is the potential for it to be used for illicit activities, such as planning escapes, coordinating criminal activities, domestic abuse and stalking or engaging in digitally-enabled fraud or other forms of cybercrime.

Any prison digital rehabilitation systems should also be supported by robust network monitoring systems and firewalls to prevent unauthorized access to the internet or external networks. This should include control over internet access points and continuous monitoring of network activities. Note that communication using digital platforms can take many forms including the use of message boards and chat rooms. Prison computers or devices should be regularly monitored to prevent the installation of malware or tools for illegal activities.

Risks of victimisation to users of digital rehabilitation

All forms of digital technology involve potential risks of victimization from identity theft, online fraud or digital bullying. Prison users of digital platforms face most of the same risks of victimisation as external users and may be less aware of these risks and the steps required to respond to them.

Educating users about these victimization risks should be a key component of any strategy to address digital inequality. This should include advice on sharing sensitive information such as Social Security numbers, passwords, and financial details online, the use of unique passwords and multifactor authentication whenever possible, and the risks associated with unsolicited emails, messages, or calls requesting personal information.

Risks to digital rehabilitation software systems and personal data

Digital rehabilitation systems may store sensitive information about users, including health and mental health data and their progress in rehabilitation programmes. In the case of digital prisoner rehabilitation, there may also be risks associated with disclosure of their prisoner status or criminal history. If these systems are breached, it could lead to the exposure of confidential data.

To mitigate these risks, it is important to implement robust cybersecurity measures, regularly update and patch systems, conduct thorough risk assessments, provide training to staff on cybersecurity best practices, ensure compliance with privacy regulations, and constantly monitor and improve the software security. Additionally, employing encryption techniques, multi-factor authentication, and regular security audits can help bolster the security of these systems.

Maintaining digital security in a prison environment can be challenging due to the resourcefulness of some prisoners and the evolving nature of cybersecurity threats. A proactive and adaptive approach that combines technological solutions with well-defined policies and ongoing training is essential. Failure to identify these risks and take preventative action can be an important barrier to the adoption of digital rehabilitation. Any digital security strategy should be part of an overall security strategy that restricts prisoners' rights (including their rights to digital access) only to the extent necessary to protect the public, other prisoners, and staff.[26]

5. DEVELOPING A DIGITAL REHABILITATION STRATEGY

Digital technologies have the potential to significantly reshape the way that correctional agencies provide rehabilitation to prisoners. However, there are profound challenges involved in this transformation and the ad hoc adoption of programmes and technologies is potentially problematic due to the rapid pace of development, difficulties of integrating digital interventions, the paucity of sound evaluation data, and the underdeveloped state of regulatory frameworks. The key challenge facing prisons is not the technological problem of implementing digital methods and processes, but rather the integration of these platforms into the values, methodologies, workflows, and operations of the sector, and creating a sense of inclusion, engagement, and ownership amongst users.[27] This in turn requires coherent and strategic planning of policies for digital technologies.

There are two primary questions to consider in developing a digital rehabilitation strategy. The first question is *"what is the scope of this strategy, and how does it relate to our goals and priorities, level of digital readiness, and the resources that are available*?". This report sets out three digital rehabilitation pathways that represent different approaches to integrating digital technology into the rehabilitation process.

The second question is "*how do we get there?*". This report sets out a digital rehabilitation development strategy framework that has two parallel streams that address the policy and technology issues involved, and an assessment of what rehabilitation services should be delivered digitally, and to whom. This framework is not a 'how to' guide but rather a set of issues and principles to consider when developing a digital strategy.

5.1. Digital Rehabilitation Pathways

Digital rehabilitation pathways are general approaches or methods adopted by prisons to integrate digital technology into their rehabilitation programs. These pathways reflect the variation between jurisdictions in their goals and priorities, their level of digital readiness, the nature of their existing rehabilitative programmes, and the technology and other resources that are available. These are 'ideal types' that represent different ways to think about how digital services can be integrated into an agency's rehabilitation strategy. We can classify these pathways into three general types:

- ***Transformational pathways:*** Transformational pathways involve a fundamental reconceptualization of how rehabilitation can work in prisons, combined with an

investment in the digital resources required to give prisoners access to a wide range of self-help and rehabilitative interventions. This approach envisions transforming prisons into environments that foster learning and growth, through the support of digital tools accessible directly within their cells.

- ***Enhanced rehabilitation pathways***: A second development pathway involves adopting digital rehabilitation as an adjunct or supplement to existing rehabilitative activities. Digitally enhanced rehabilitation pathways build on the strengths of existing programmes and use the affordances of digital technology to increase the delivery, flexibility, accessibility, or effectiveness of those rehabilitative techniques. This pathway is most clearly evident in the way that digital education and vocational training have been used to enhance more traditional classroom forms of learning and can also be seen in the way that digital treatment and behaviour change applications are used to supplement face-to-face modes of service delivery.

- ***Adaptive pathways***: Not all digital rehabilitation pathways need to involve large investments or highly complex or specialized applications and technology. Many involve relatively simple adaptations of available digital technology to support rehabilitative activity. Probably the most frequently used element in prisons' response to the COVID-19 pandemic was standard video-conferencing software. The necessity to establish virtual channels for professional and family contact in a very short timeframe meant that prison authorities were obliged to seek a solution that could be implemented quickly and with minimal investment in technology. Adaptive pathways can also be appropriate where the goal is to provide services to people who do not have access to specialized technologies.

The case examples that feature in this report illustrate a variety of pathways to implementing digital rehabilitation.

Case Example 1:
A Holistic Digital Strategy (Finland)

Finland introduced a new prison concept – *Smart Prison* – with an overarching aim to create a "prison as a learning environment for a life without crime" with the support of digital services provided through personal laptops. Finland's prison service aligns its strategy with the goal of improving prisoners' rights and rehabilitative outcomes. This is achieved by leveraging digital technology and providing a versatile and normalised learning environment.

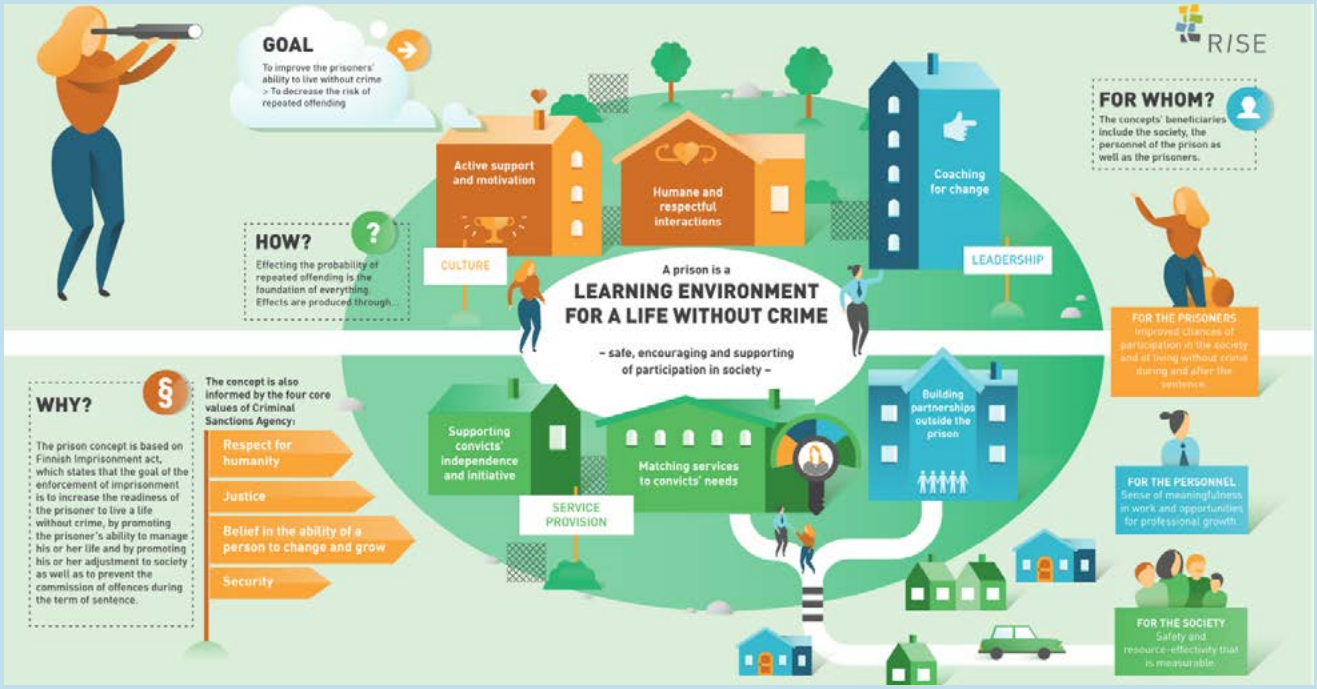


Image Source: Prison and Probation Service of Finland

The project was set up between 2018 and 2022, starting with a women's prison in 2021 and extending to two additional male prisons in 2022 and 2023. The primary cell devices are laptops and tablets, which are available for young and short-term prisoners. The laptops come with a software system called Doris, which provides limited access to outside rehabilitative services through web-based solutions and video calls.

In Smart Prison, prisoners can use the cell devices for communication, managing affairs inside the prison, and limited interactions with the outside world, including contacting healthcare services, authorities, and cooperation partners. The device has restricted internet access via a whitelist, but prisoners can request access from the prison authorities to websites that meet a specific need for their rehabilitation and learning. Users are regularly asked to give feedback on the digital services. The devices facilitate access to education through platforms like Moodle and offer online shopping. They also provide access to various online mental health programmes, self-help materials, office tools, e-books, and audiobooks. In Hämeenlinna, a prison for women, there are additional digital services, such as VR programmes for rehabilitation, and prisoners are involved in training AI as prison labour, which also builds literacy and digital skills.

The focus of Smart Prison is on using digital technology to enhance learning and support prisoners in their rehabilitation and reintegration efforts, with flexibility to respond to local needs and the diverse languages spoken by prisoners and staff.

Image Source: Prison and Probation Service of Finland

Case Example 2: Transforming Prisoner Rehabilitation for Digital Reform in New South Wales (Australia)

Image Source: A Corrective Services NSW Strategic Document (https://correctiveservices.dcj.nsw.gov.au/documents/research-and-statistics/csnsw-researchstrategy-transform-rehabilitation-technology.pdf)

The Transforming Offender Rehabilitation Through Digital Technology strategy was introduced by Corrective Services New South Wales (CSNSW) in Australia in early 2023. The strategy is designed to leverage digital technologies to increase the rehabilitative impact of the New South Wales (NSW) prison system. The aim is to create new programmes or learning initiatives and support systemic changes that open up new opportunities for staff, change the prisoner experience, or amplify current positive initiatives. The strategy recognizes that simply providing access to digital technologies will not be enough to transform rehabilitation. Instead, there is a need to develop and curate a range of tools, applications, and programmes that engage prisoners in activities associated with desistance and rehabilitation outcomes.

The *Transforming Offender Rehabilitation* strategy is embedded within a broader digital policy framework that includes the roll-out of prisoner android tablet devices, regular video conferencing family visits, interactive online group programmes and dedicated alcove spaces that allow individuals to attend online activities without distraction. CSNSW began the implementation of the Digital Restart Fund (DRF) funded investments in November 2021 and nearly all prisons in NSW had in-cell tablet technology available by the end of 2023.

The strategy recognises that applying digital technologies to rehabilitation requires productive research and development collaborations between corrections practitioners, researchers, and technology specialists. It identifies a variety of specific practice areas where digital technology can support rehabilitative change in the prison context. These include digitally enabled education, the role of digital technologies in creating better prison environments, the provision of external online rehabilitation services, incorporating user experiences to enhance digital inclusion and impact, and the role of digital technology in the construction of meaning and positive identity. The strategy also addresses a range of overarching system considerations, such as how Aboriginal knowledge and connections can be supported on digital rehabilitation platforms, the effective management of system security, and the ethical implications of introducing digital technology into prison environments.

The *Transforming Offender Rehabilitation* strategy is distinctive in that it looks beyond the immediate technical and procedural challenges of implementing digital platforms in prisons and addresses the longer-term cultural, regulatory, and systemic impacts of digital reform. In this respect, it provides a prisons' perspective on many of the same concerns that arise in relation to the wider digital transformation of government.

5.2. The Strategy Development Process

Irrespective of the chosen pathway, the digital rehabilitation strategy development process remains fundamentally the same. It should be designed to be flexible, allowing for customization based on the organization's level of digital maturity.

For organizations at the early stages of digital adoption, the process focuses on laying a solid foundation, establishing basic digital capabilities, and prioritizing initiatives that deliver quick wins. For those at a more advanced stage, the emphasis shifts towards optimizing existing digital processes, innovating with new technologies, and leveraging data analytics for strategic decision-making. This flexibility ensures that the strategy development process remains relevant and effective across varying degrees of digital sophistication.

An effective digital rehabilitation strategy involves two parallel streams of development:

- **A policy and technology delivery framework.** This sets out how digital rehabilitation will take place within a prison system and is intended to align the overall approach with the agency's goals, resources, and digital capabilities.
- **A rehabilitation needs assessment process.** This determines what digital rehabilitation services will be delivered and to whom.

This digital rehabilitation strategy development process is set out schematically in Figure 2. Each of the stages in this process are discussed in more detail below, although there are some key over-arching ideas to note:

- There is no single approach to introducing digital resources and services into prisons. A one-size-fits-all blueprint for development and implementation cannot exist, and a strategy appropriate for one jurisdiction cannot simply be exported to another.
- Digital rehabilitation needs to be based on clearly stated ethical principles and with an understanding that digital initiatives can do good but also have the potential to create or exacerbate various forms of digital inequality and harm.[28]
- Effective rehabilitation requires an understanding of the needs of the people to ensure that the services and resources delivered are best suited to assist people on their journey to desistance and to adopt fulfilling and socially integrated lifestyles.

- Rehabilitation needs should determine the tools and systems that are selected and the technology solution that is chosen to deliver them. Decisions should be driven by human needs rather than the enticement and promise of technology.

- Digital rehabilitation is a rapidly developing area, and there are few proven tools and services. Any digital rehabilitation strategy must include systems to evaluate the results of tools and systems that are implemented, and processes to refine policies, technology and service systems based on this knowledge. Adopting an evaluative culture will ensure that user needs are met while ensuring ethical rigour.

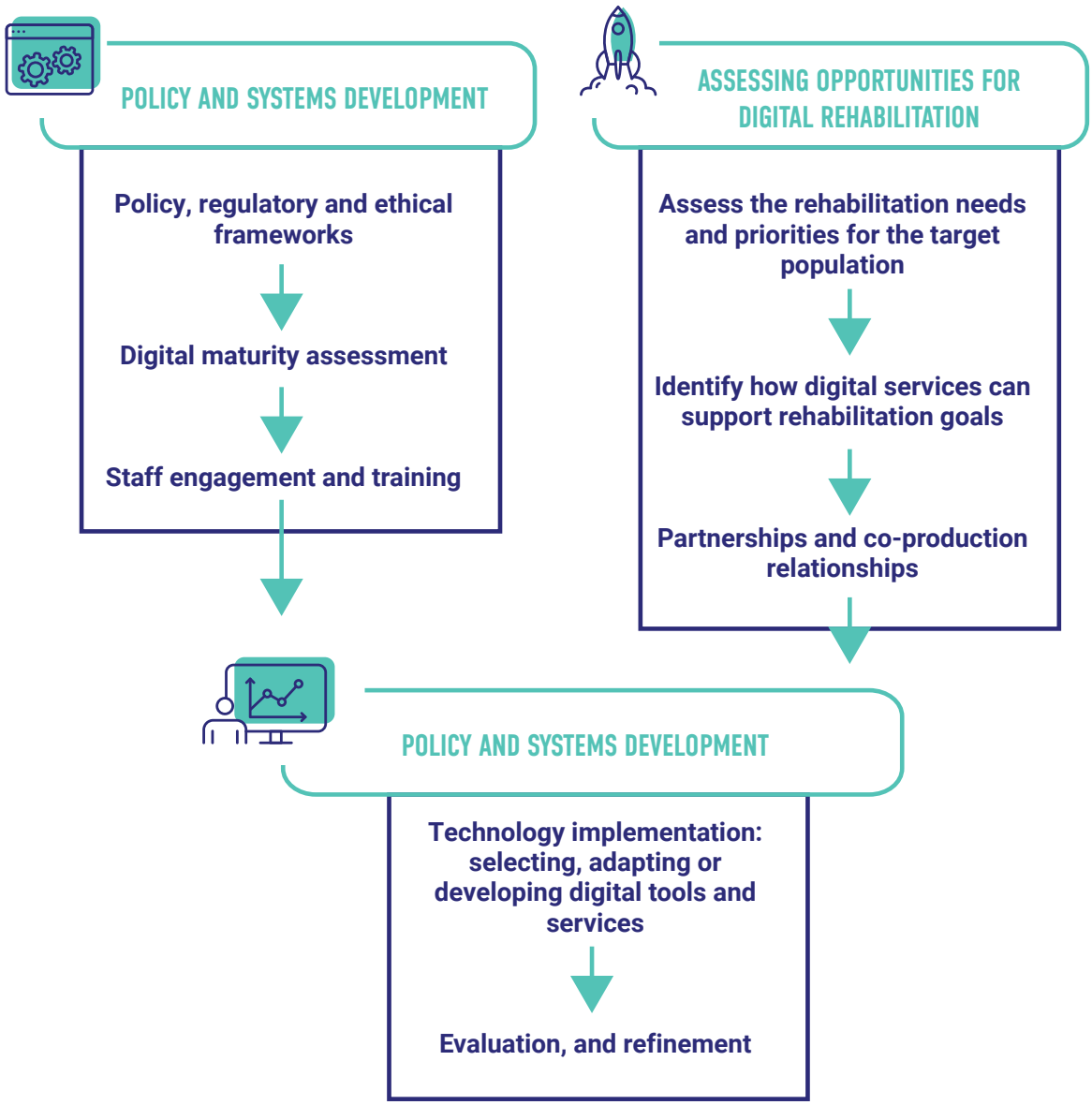


Figure 2: Digital Rehabilitation Development Strategy

5.3. Policy and Systems Development

The chapters and subchapters from 5.3 to 5.5 delineate the various steps outlined in Figure 2 above, corresponding to the strategy development process.

5.3.1. Policy, Regulatory, and Ethical Frameworks

The treatment and care of people in prison is of utmost importance and the introduction of digital technology in prisons necessitates an "ethics of technology."[29] Any process of digital reform and the ethical discourse surrounding digital technology in prisons needs to address both its potential to cause harm and its capacity to facilitate rehabilitation and positive change. Chapter 2 of this report sets out six ethical guiding principles for digital prisons: legality, privacy and transparency, normality, equality and fairness, proportionality, and agency. These 'ethical guardrails' need to be at the centre of any digital rehabilitation strategy[30].

Safeguarding the privacy and security of sensitive information is paramount. The policy framework for a digital rehabilitation strategy also needs to take into account the data protection provisions that apply to digital services. There are important differences in the regulatory regimes that apply in different parts of the world, and there are also special regulatory regimes that apply to certain service sectors like health and financial services. The most widely used regulatory framework is the European Union (EU) General Data Protection Regulation (GDPR).[31] GDPR was designed to enhance individuals' control and rights over their personal information and to align digital data protection to EU privacy and human rights laws. The GDPR provisions apply to all states in the EU and form the model for digital data regulation in a range on non-EU countries. More recently, the regulation of Artificial Intelligence has emerged as a significant concern (see Chapter 12).

5.3.2. Digital Maturity Assessment

Jurisdictions and the needs of the people in them differ, as do the political and economic contexts for delivering justice within specific regions. As a result, there are different approaches to offering digital services to supporting rehabilitative journeys for people in prison. The digital readiness (maturity) of a prison service[32] is a measure of where an organisation stands in the digital transformation process, and how ready it is to embark on this process successfully. Digital maturity is dependent on several factors: the needs of *incarcerated people*, the *prison culture*, the needs and priorities of the *organization*, its *technological capability and capacity* and

the role of *evaluation and research* activities. These dimensions address important standards and techniques such as ethical guardrails, person centric and strength-based approaches.

The activities performed by prison services to support digital readiness can be *explicit* (directly providing and delivering end users with a service) or *implicit* (creating the space to plan, implement and maintain digital infrastructures and services). If they are to enhance the maturity of their service delivery to support rehabilitation, there are important ingredients and activities required to ensure rehabilitative opportunities are secured. This is typically conducted in-house, but this work can involve external partners if prison services are supporting ongoing delivery of a digital platforms such as communicative opportunities to realise family contact or therapeutic interventions to trigger positive behaviour change.

Global research on the digital maturity of prisons[33] identified that there are broadly three types of digital capacity types:

- ***Preparers*** take a strategic approach to their digital activity but operate in silos, they desire stronger partnerships and collaboration. Their strategy is driven by efficiency. However, they avoid risks with new projects and operate under caution. Projects do not expand to whole service or wider roll out.

- ***Progressors*** are citizen centric in their strategy and aspire to a joined-up digital service (see Smart prisons). They work across and with departments but there are significant barriers, such as limited and timebound investments (See Case Example 4). They actively develop, pilot, and sometimes evaluate their efforts.

- ***Leaders*** are co-creators of cross government digital strategies. Their work is informed and developed by expertise and research, including end user experience. They are data driven. They acquire clear access to investment and demonstrate strong rehabilitative agendas.

Understanding where they are on their maturity journey helps services tailor their efforts towards rehabilitation assisted by digital tools.

5.3.3. Staff Engagement and Training

A critical element in any digital rehabilitation strategy for prisons is ensuring that the staff members who will be involved in delivering or supporting these initiatives have positive attitudes to the technology, understand the objectives and processes involved, and have the requisite knowledge and skills. Implementing a digital rehabilitation strategy involves some

significant changes to traditional modes of prison management. Custodial, programmes and other professional staff members may be resistant to adopting new technologies, particularly if they see them as having been imposed without consultation, or as a threat to their status or job security.

Some key staffing considerations in developing a digital rehabilitation strategy are:

- Inadequate digital skills can be a challenge for staff members as well as prisoners. Any digital rehabilitation strategy should include a training and development component to build staff members' expertise and skills.

- Delivering digital rehabilitation interventions may require finding staff with specific digital skills and expertise.

- The introduction of self-service digital systems has the potential to change the way that staff and prisoners interact with one another by reducing the amount of time spent on routine administrative duties, and limiting the degree of direct contact between staff and prisoners.

- There are security and other risks that arise when digital systems are introduced into prisons. Staff need to understand these risks and have the skills and tools to deal with them.

Chapter 11 of this report sets out some of the ways that digital tools and services can be used to encourage staff members to contribute to an enabling digital culture in prisons.

5.4. Assessing Opportunities for Digital Rehabilitation

5.4.1. Assess the Rehabilitation Needs and Priorities for the Target Population

A digital rehabilitation strategy should be one component of a wider rehabilitation strategy. A comprehensive rehabilitation strategy is likely to involve a range of delivery modalities that include individualised person-to-person services, group-based activities in classrooms or treatment groups, resource-based supports like the provision of housing, as well as digital services. A needs assessment is the starting point for all forms of effective rehabilitation. This is partly about ensuring that people receive the services and resources that are best suited to assist them on the journey to desistance and to adopt more fulfilling and socially integrated lifestyles. This 'matching' function of assessment is captured in Rule 4 of the Mandela Rules

which calls for rehabilitative programmes, activities, and services to be delivered "in line with the individual treatment needs of prisoners."[34]

Needs assessments are also about identifying the life goals and other forms of motivation and the networks of family, community and support services that encourage and sustain rehabilitation. Needs assessments are mainly focused on the recipient of rehabilitative services but can also extend to the needs of other participants in the rehabilitative process – prison staff, programme providers, prisoners' families and associates, and in some cases the wider public. All these actors are critical to the rehabilitation process.

5.4.2. Identify how Digital Services can Support Rehabilitation Goals

Deciding which elements of a rehabilitation strategy should be delivered using digital tools and services should be based on an assessment of the potential benefits that they offer, but also the risks and harms that may arise. These benefits, risks and harms vary according to the type of digital tools involved and are discussed in *Part II* of this report. However, there are also some over-arching questions about where and when digital solutions are appropriate:

Whether and how offline services should be supplemented by digital services?
Digital rehabilitation will almost always be a supplement to 'offline' modes of service delivery. What will the relationship be between these two service delivery modes? Will the people involved in face-to-face delivery also be responsible for digital delivery? What are the limits or constraints of digital delivery?
What will need to be done to engage service users?
User engagement is a critical requirement for successful digital rehabilitation. How will digital rehabilitation respond to users' strengths, needs and goals? What are the attributes of digital rehabilitation that will encourage user engagement? Are there any features that may discourage user engagement?
Are there ways that digital technologies can assist specific groups of users?
Many people in prison need additional assistance in learning or skills development. Digital technologies can provide neurodiverse learners the ability to work at their own pace, the potential for repetition for those with impaired cognitive function, and text-to-speech functionality for people with limited literacy.

What family and community resources are necessary to support digital rehabilitation?

Digital rehabilitation can assist people in prison to acquire knowledge, skills, and a commitment to desistence, but to be fully effective these capabilities need to be supported in the post-release stage by material resources and family and community engagement.

Understanding and responding to digital inequality.

Digital rehabilitation can help to address digital inequality, but at the same time, inequality can also be a barrier to successful implementation. How are digital skills and capabilities distributed within user groups? Is there a need for digital education to support digital rehabilitation?

5.4.3. Establishing Partnerships and Co-Production Relationships

Establishing partnerships with service users and other agencies involved in rehabilitation is critical to both understanding the needs of beneficiaries and identifying effective digital tools and services to respond to these needs. A key idea in this regard is co-production. Co-production is when professionals and facilitators collaborate with service users and participants in equitable ways to create pathways and resources together to support rehabilitation. Co-production focuses on developing participants' strengths, knowledge, and skills and has a strong emphasis on placing service users at the centre of design and implementation. Co-production can occur within specific projects or as part of the broader development of a digital strategy. For example, in Sweden, the design of the digital strategy was centred around the prisoner/probationer journey, and the need to provide rehabilitative opportunities was embedded into the whole organisational business model.

Another form of co-production involves application developers working with service users to create rehabilitative content. An example of this approach is the development of a series of short animations/clips to support pro-social behaviour and thinking based on cognitive behaviour therapy (CBT) approaches. These materials were co-produced by service users who had spent time in prison, working in collaboration with a psychologist. Feedback demonstrated that this was impactful for the co-creators as well as consumers (other prisoners) of the clips - all of which point towards rehabilitative outcomes.[35]

Co-created digital content can transform the delivery of change-orientated interventions and desistance-orientated conversations in criminal justice services as well as enhance user experience and impact. Service users can have more influence and ensure that digital services align with ethical and innovative principles. Prioritising the voices and experiences of service users underscores the potential to use digital tools that work across prison service settings to support rehabilitation processes. Deploying a co-production approach allows focus on the purposes, ethics, and the "how" and "why" behind the application of technology in criminal justice while recognising the real-world challenges associated with technological innovation in this field.

5.5. Implementation, Monitoring, and Refinement

5.5.1. Technology Implementation: selecting, adapting or developing digital tools and services

Technology implementation involves establishing the systems and platforms that will be used to deliver digital rehabilitation. The form of technology implementation will depend on the kind of strategy pathway that is selected. A *transformative pathway* will involve establishing system-wide digital infrastructure to deliver a range of digital rehabilitation services to prisoners in combination with entertainment, management, security, and other services. Case Examples 1 and 2 involve this form of technology implementation.

A second technology implementation option is to adapt existing digital platforms to deliver rehabilitation services. Examples of this approach include the adaptation of Virtual Campus, a prison education platform, to deliver the Breaking Free Online computer-assisted therapy (CAT) programme for drug and alcohol dependence (see Case Example 4). Even well-designed digital rehabilitation tools and services may need to be adapted if they are to be used in a new jurisdiction or for a different target group. Adaptation may involve changing the language that is used for key terms, any social or cultural references, and features or modes of use of the application that are specific to the age, gender, or other attributes of users. Ideally, any adaptation of an existing application should involve co-production with users.

A third option is to use 'stand-alone' platforms that use standard software platforms as the basis for rehabilitative interventions. 'Stand-alone' platforms often require an internet or mobile phone connection but have the advantage of minimizing the investment in hardware and application development that is required. Examples of 'stand-alone' digital rehabilitation include the Hygiene Street Food programme (Case Example 3) and the two Family Contact programmes (Case Examples 8 and 9).

For some forms of rehabilitation like education, vocational training and behaviour change and treatment, there is a wide range of digital rehabilitation products that are already being used in prisons. In other areas, in particular re-entry and transitional support, the range of applications available is much more limited. Wherever possible, jurisdictions should use services and platforms that meet quality standards and are accredited for their intended use. Unfortunately, there are no agreed quality assessment procedures that apply specifically to digital rehabilitation applications, and existing programme accreditation processes do not address the specific features of digital modes of delivery.

An agency's capacity to implement complex technology solutions may be constrained by its level of digital maturity or the budgetary resources available. However, rehabilitation needs should determine the digital tools and systems that are selected, and then an appropriate technology solution should be chosen to deliver them. The availability of a technology solution should not determine the form or direction of a rehabilitation strategy.

5.5.2. Monitoring, Evaluation, and Refinement

Once a digital rehabilitation strategy has been developed and implemented, it is critical that the experiences of users and the rehabilitation outcomes are carefully monitored and used to refine both the strategy and the specific tools and services. A variety of methods can be used for evaluation and refinement:

- ***Task-oriented feedback:*** where users are asked to give specific and structured feedback after completing a rehabilitation task.
- ***Evaluation of pilot or trial projects:*** a small-scale or preliminary trial of a digital rehabilitation programme is conducted, followed by an evaluation of its feasibility, effectiveness, cost, and any adverse events or consequences.
- ***Monitoring digital engagement and use patterns:*** data driven analysis of existing digital services, embedded into routine activity and performance management.

5.6. Summary

This final chapter in *Part I* of the report highlights the challenges and opportunities of implementing digital rehabilitation strategies in prisons. There is a need for coherent planning, ethical considerations, and understanding user needs. Three general pathways are outlined:

transformational strategies involving a reconceptualization of rehabilitation, enhanced strategies incorporating digital technology as a supplement to existing services and practices, and adaptive strategies making simple use of available technology. All routes require evaluating tools and processes, helping to refine strategies based on user needs and ethical principles on an ongoing basis.

A summary of the suggested activities for implementing Digital Rehabilitation is outlined below:

Develop Policy, Regulatory, and Ethical Frameworks

- Establish ethical guidelines focusing on legality, privacy, transparency, normality, equality, fairness, proportionality, and agency.
- Ensure data protection and privacy through adherence to regulations like GDPR and consider AI regulation implications.
- Align digital services with human rights principles, ensuring fairness, equality, and explicit user consent for data collection.

Conduct Digital Maturity and Readiness Assessments

- Assess the digital service's readiness and maturity level to understand priorities, capacity, and capability.
- Prioritize rehabilitation services based on user needs and existing service delivery gaps.
- Ensure a people-centred approach, assessing technological capabilities and user acceptability, including staff.

Engage and Train Staff and Prisoners

- Build digital skills, addressing gaps through targeted training.
- Promote positive attitudes towards digital rehabilitation.
- Support digital skills development, considering different needs and digital engagement modes across diverse user groups.

Assess Rehabilitation Needs and Priorities

- Conduct comprehensive needs assessments to align digital services with rehabilitation goals.
- View rehabilitation as encompassing digital citizenship, understanding users' digital capabilities and motivations.

Identify Digital Services to Support Rehabilitation Goals

- Evaluate potential digital services for benefits and risks, ensuring they supplement offline efforts.
- Engage users in design and implementation, focusing on user strengths, needs, and goals.

Establish Partnerships and Co-Production Relationships:

- Collaborate with stakeholders and co-create digital content and tools with service users.
- Advocate for flexible, boundary-crossing approaches to digital adoption.

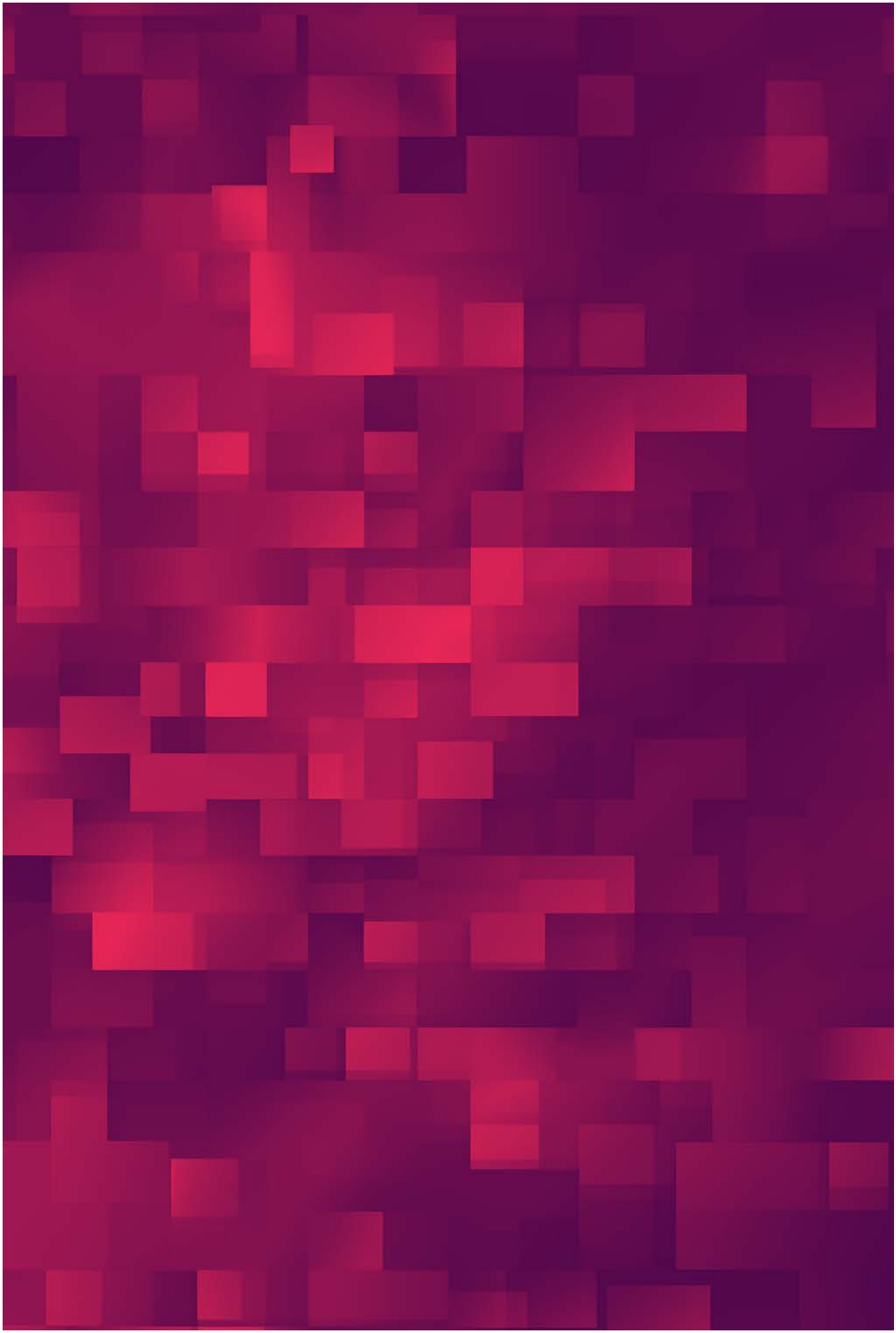
Address Digital Inequality and Promote Access

- Acknowledge and tackle digital inequality and barriers to access.
- Assess cost implications for all involved parties, ensuring access to digital services inside and outside prison environments.

Implement, Monitor, and Refine Technology Solutions

- Choose, adapt, or develop digital tools that meet rehabilitation needs.
- Monitor effectiveness, using feedback and data analysis for continuous improvement.
- Evaluate the impact of digital services on rehabilitation, growing the evidence base and applying quality benchmarks.

Next, *Part II* of the report, presents six thematic chapters that summarize the key activities able to support different dimensions of digital rehabilitation. Most chapters include case examples and further reading to illustrate the material included.



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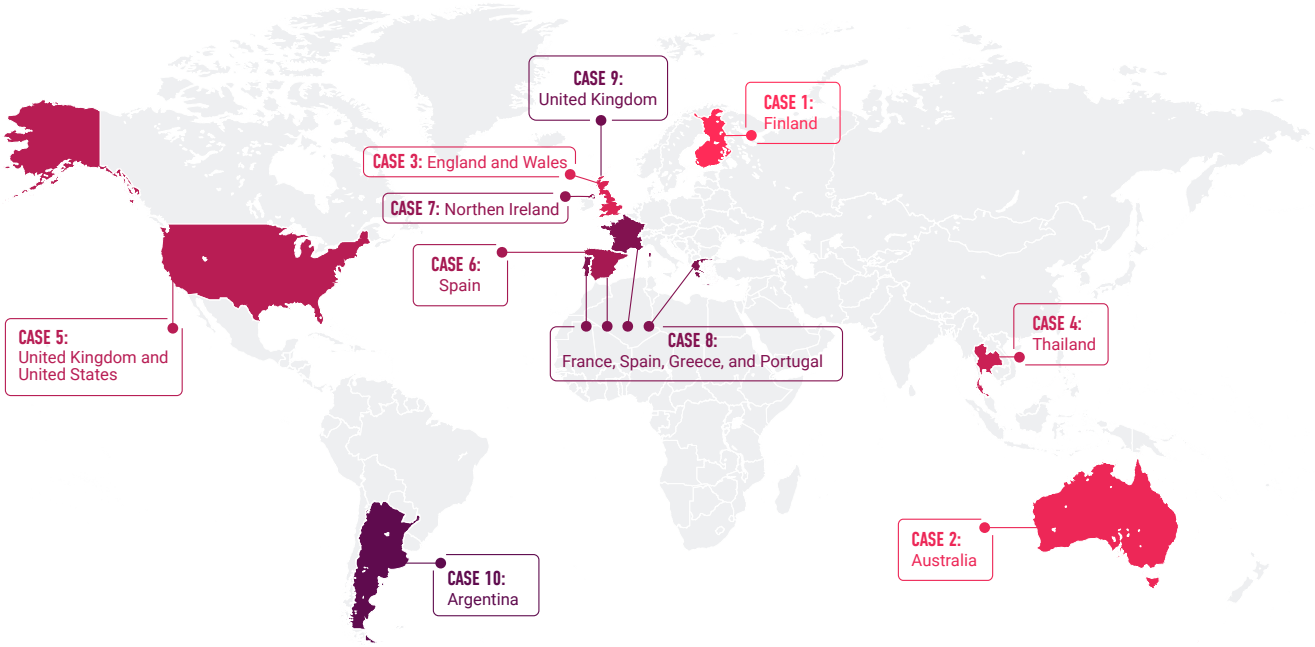
PART 02

03

Part II of the report presents six thematic chapters summarizing key activities and respective Good Practices to support different dimensions of digital rehabilitation. Most chapters include case examples and further reading to illustrate the material.

Table 1 below lists the case examples that feature in this part and the criteria for inclusion. The aim was to include a range and degrees of variation of different criteria of the case examples to understand:

- The type of pathway involved: transformational, enhanced and adaptive
- The kind of digital devices deployed in the case: telephony, kiosks, digital tablets, secured laptops and desktops, video conferencing and VR
- Contribution to rehabilitation: economic, social, personal, cultural and health dimensions of digital rehabilitation
- Intensity of support required to deliver the service based on resources, skills and the sophistication of technological infrastructure and support: low, medium and high.



CASE STUDY	TYPE OF PATHWAY	DEVICES TYPICALLY USED	REHABILITATIVE CONTRIBUTION	INTENSITY OF SUPPORT
Case 1: A Holistic Digital Strategy (Finland) **Digital Strategy for Rehabilitation**	Transformational	Secured laptops Video conferencing	Economic Social Personal Cultural Health	**High**
Case 2: Corrective Services New South Wales (Australia) **Transforming Rehabilitation Through Digital Technology strategy**	Transformational	Tablets Video conferencing	Economic Social Personal Health	**High**
Case 3: Erasmus + ZAPPAR Augmented Reality (England and Wales) **Supporting Learners to Prepare for Life on the Outside**	Adaptive	Tablets	Economic	**Medium**
Case 4: Thai Institute of Justice (Thailand) **Online business development and support**	Adaptive	Tablets and computer assisted	Economic	**Low**
Case 5: Breaking Free Online (United Kingdom and United States) **Computer-directed substance abuse treatment**	Enhanced	Tablets Secured laptops and desktops	Health Personal	**Medium**

Case 6: Catalonia prison services in Spain **Virtual Reality Treatment for Gender-Based Violence Crimes**	Adaptive	VR	Health Personal	**Medium**
Case 7: Probation Board of Northern Ireland **Mobile Phone Supervised Order Support App: Changing Lives**	Enhanced	Tablets Mobile devices	Social Personal Health	**High**
Case 8: France, Spain, Greece, and Portugal **Employment Preparation for Re-entry using Virtual Reality**	Enhanced	VR	Economic	**Low**
Case 9: Hardman Directory (United Kingdom) **Information and Guidance for Re-entering Citizens**	Adaptive	Tablets Secure laptops and desktops	Economic Social Personal Health	**Low**
Case 10: ACIFaD Argentina **Family Contact for Prisoner Families in Argentina**	Enhanced	Telephony Video Conferencing Tablets	Social Personal	**Low**

Case 11: VACRO Australia **Facilitated Family Contact Using Digital Resources**	Enhanced	Telephony	Social Personal	**Low**

6. DIGITAL EDUCATION AND VOCATIONAL TRAINING

Education and vocational training supported by digital technologies are probably the earliest forms of computer-assisted intervention to be made widely available in prisons. This reflects the early adoption of digital platforms in education and training in community settings. Education is a foundational element of rehabilitation[36] and its importance is recognised in a variety of international standards, declarations, and conventions. Rule 104 of the Mandela Rules states that all people in prison should have access to education, with special attention paid to people with literacy difficulties and juveniles.[37] The 2030 UN Agenda for Sustainable Development includes in its Goal 4 – Quality Education – to ensure inclusive and quality education for all and to promote lifelong learning opportunities.[38]

The significance of education is also related to the extreme educational deficits of many prisoners, who often have low education levels, lack key competencies for lifelong learning, and display low motivation, resulting in high dropout rates from training programmes.[39] Education in prison yields a range of important benefits, including increased self-esteem and confidence, improving literacy and numeracy skills, and enhancing job competencies. There is strong research evidence to show that participation in prison education significantly reduces the likelihood of subsequent offending and return to prison.[40]

The provision of computer assisted learning is reasonably well-established in prisons, and like other services, the availability, maturity, and diversification of digital resources was amplified by restrictions mandated by COVID-19. Some educational initiatives and projects aim to address these issues and provide learners with access to digital learning environments which can be on or offline. For instance, a project led by the University of Queensland created a server to deliver higher education through a learning management system and by using computer notebooks prisoners were able to access materials in a secure environment that was not dependent on the internet. This provided learners an opportunity to study at a higher level and at their

own pace.[41] These initiatives align with adult education models, focusing on student-centred, flexible approaches to promote autonomy, self-confidence, and motivation to learn. However, education and training in prisons can be complex, as prospective students are completely reliant on prison services in providing pathways to access. Features of digital readiness are important here – such as meeting needs, forming partnerships with education and training providers, appropriate funding arrangements, and contracting those with suitable teaching and technical skills.

Although there has been significant research on prison education, knowledge of the intricacies of digital delivery and its impact is still evolving at a faster rate than other types of interventions, resources, and services. It is worth noting the progress of digital education and training in prisons when compared to other services and interventions mentioned in this report. While there have been some successes, the primary focus has been on efficiency. However, there are ongoing efforts to increase learner access, similar to e-government models.

This chapter discusses the various types of education and training *supported* and *enabled* by digital resources and services. It provides an overview of the types of education and training that are offered, highlights the advantages and challenges that need to be considered, and offers some practice guidelines.

6.1. Barriers to Digital Prison Education

Prison settings pose significant challenges to prisoners' access to and participation in digital learning environments, which can hinder their social reintegration. Despite the importance of learning and education, the range of educational offerings and the digital technology availability to support learning (in particular, internet access within prisons) are often limited due to safety, security, and institutional constraints both within the prison and the external education provider. Security concerns have led to well-documented restrictions, especially regarding prisoners' access to the internet.

The effectiveness of digital technology-based learning in prisons is dependent on various factors such as the level of restrictive culture in the institution, the attitudes of prison staff, and the perceptions of the community regarding the right of prisoners to learn. The prison environment tends to discourage learning due to noise, resource shortages, poor organisation, and a lack of support for autonomous and self-regulated progress.[42] Prison education can be transformative, but it must be tailored to adult learning needs, encourage participation, and foster critical reflection, with or without digital support.

6.2. Digitally Supported Education and Training

The most common form of prison education and training consists of subjects or courses delivered in conventional ways, such as face-to-face in classrooms or workshops. Digital resources and platforms are often used to complement and support learning and to enhance efficiency. This approach allows for a variety of teaching methods and modes of delivery to be synchronized with the learning process, resulting in increased efficiency. This could involve using whiteboards, video, and audio resources at a computer workstation to complete tests or even practice digital skills and competencies. A trial that evaluated text-to-speech software in the context of prisoner education showed a statistically significant improvement in literacy scores after its use.[43]

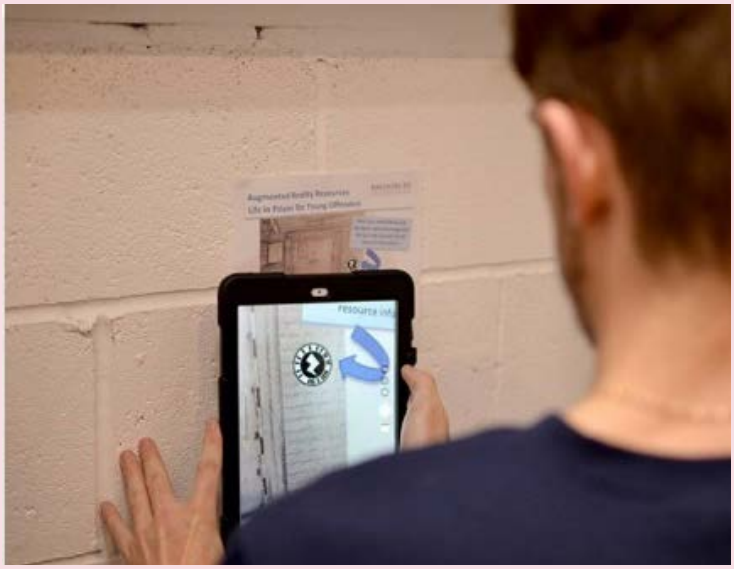
There has been increased momentum following COVID-19 to increase the availability of in-cell technologies. Devices include secured laptops or tablets that are either given to individual prisoner learners or loaned for specific courses. However, this research found that this availability is not uniform across all jurisdictions.

6.3. Augmented Reality and Virtual Reality

Augmented Reality and Virtual Reality are used for a number of reasons, including health, treatment, resettlement and behaviour change programmes. In the case of education and vocational training, it can be used to directly support a specific curriculum with stipulated learning outcomes (see Case Example 4) or support general or informal learning (see Case Example 3). Concerning education and vocational training, to date, AR and VR are not used in isolation, and they usually complement a wide range of curricula in some pilot prisons.

The regions that benefit from this are dependent on external partnerships and funding to enhance educational and training outcomes. These partnerships include inter-regional collaborations with education and training providers, such as colleges and universities, and funding streams from regional or international grant schemes. Therefore, these kinds of interventions are not funded directly by prison services and are often subject to funding cycle deliverables. As a result, they have limitations in terms of reaching bigger cohorts of prisoners. Expansion of such projects presents additional challenges like funding arrangements, expertise, and willing prison establishments.

Case Example 3: Supporting Learners to Prepare for Life on the Outside (England and Wales)



Augmented Reality resources for prisoners can help to develop skills and reduce reoffending. The European Commission's Erasmus+44 programme launched an initiative that aimed to align with government recommendations for smarter use of technology in education within prisons. In this framework, an AR project was introduced to two prisons in England and Wales in 2019. Additional projects were developed in Romania and Belgium. As part of these interventions, the 'Zappar' platform, made available on mobile tablet devices, allows prisoners to access tailored learning content through designated Zapcodes on printed educational and supportive literature. Zapcodes are quick response (QR) machine readable codes that allow users to access multimedia information. The target users of this service are prisoners, staff, and external agencies, all aiming to support prisoners in preparing for life after release. This intervention addresses the lack of rehabilitation support, particularly just-in-time support.[45] Moreover, this project emphasised the importance of digital skills for employment and education.

The Zappar technology consists of two main components: 1) the user side, which involves software, and 2) the service side hosted on a secure cloud server. These components integrate to offer services such as data storage and communication. The secure server is vital for data and service security. The "ZAPPAR Augmented Reality" application is compliant with the European Union's (EU) digital security requirements focusing on data protection, cybersecurity, and related areas. It complies with EU regulations about data management and privacy standards like GDPR, NIS Directive, and the Cybersecurity Act. The project lead commissioned a report to help EU governments evaluate the application's compliance with EU digital security

standards, emphasising measures including secure authentication, encryption, and monitoring for compliance.

For those who are planning to develop similar services, it is important to maintain open communication, secure support from senior management, establish a robust IT infrastructure and Wi-Fi system, engage with potential users throughout the entire development cycle to understand their specific needs, raise awareness about the benefits of augmented reality, and collaborate closely with security departments and other agencies operating in prisons. This approach seeks to provide flexible and interactive learning resources to help prisoners successfully transition into society and become law-abiding citizens. The project underwent a security audit in 2023 by an independent technology company (Benelux Soft) who found the AR solution was secure and compliant with the appropriate standards. They made the following recommendations to ensure future iterations were secure:

1. Develop a comprehensive Information Security policy covering access control, data protection, network security, and incident response.
2. Conduct penetration testing to identify and address vulnerabilities before they can be exploited.
3. Establish a cyber-attack recovery plan for restoring data, repairing systems, and resuming operations after an attack.

6.4. Digitally Dependent Education and Training

Digitally dependent education and training comprises of subjects or courses delivered wholly or primarily using remote methods and a prison-based consolidated platform. The evolution of electronically assisted learning in prisons follows a similar trajectory as that of the outside world. Like digitally supported learning, users can access resources and complete tasks, download materials, and learn in their own time and at their own pace. This form of learning means users can continue to learn after normal classroom hours, including in their cells. This mode of access supports the notion of normalised learning, whereby students can continue to learn outside the classroom. However, risk and security measures can limit this kind of offer and in many ways, this does not match learning experiences of students outside prison.

Whilst many courses offer online resources, prisons do not allow unsupervised access. In these instances, a common solution is to print off the resources. This can be problematic as online resources are prepared to be viewed on screen and can appear obscure when printed on paper. In this sense, the digital interaction is removed from the student. In addition, many online courses require students to have contact with their learning community, such as tutor

or learning peers, however prison restrictions often mean this is denied and thus the learning experience is further compromised.

In attempts to resolve these challenges and offer equitable education and training, some jurisdictions have moved towards distance/remote education in the form of learning management systems (LMS) or virtual learning environments (VLE). Other tools include apps on Android devices. These may be hosted on prison intranet systems or installed directly on laptop or desktop computers to prioritise security. This means a digitally enabled experience is supervised and limited or is only provided offline. Driving this is a wider appetite to move public services like prisons towards e-government architecture and begin aligning IT with the needs of prison organisations – such as efficiency, cost, and data management. Examples of this include Belgium's *Prison Cloud*, England and Wales' *Virtual Campus*, Georgia's *Digital University* and Australia's *Making the Connection* project. These platforms are adapted and secured LMS solutions from external education and training providers. Instead, the design and development were contracted in partnership with the prison or justice services. This was necessary to adhere to rigorous security measures, testing, and data compliance.

Case Example 4:

Digital Skills for Work (Thailand)

The Hygiene Street Food project was established by the Thailand Institute of Justice (TIJ) in 2020, with the aim of assisting prisoners to establish street food businesses after their release. The project provides comprehensive online and on-site training, financial support, and essential resources for business operations. Developing digital literacy amongst participants is a key objective, and the Street Food project includes training in social media to support online business opportunities. Participants can also use the Robinhood food delivery application to support their business.

A total of 35 participants (both men and women) completed the programme during 2020-2022. Participants who engaged in the food delivery opportunity on the Robinhood application experienced a substantial increase in their earnings. This not only enhanced their ability to

support their families but also boosted their self-esteem. Some participants even contributed to the project by passing on their food recipes to the next group. The impact of the "Hygiene Street Food for Chance" project was measured using social return on investment (SROI) analysis to quantify the economic and social benefits and value of the project. The social value generated, calculated as costs saved by both the public sector and the offender from the avoidance of potential reoffending, was 1,165,429 THB, giving a return on investment of 8.2.

The Hygiene Street Food programme illustrates the importance of partnerships in addressing digital literacy. The TIJ partnered with *dtac Net-for-Living*, a digital upskilling initiative that assists merchants and small-scale entrepreneurs to use digital technology to explore offline-to-online business opportunities. The collaboration between TIJ and dtac Net-for-Living and other partners also provides digital literacy workshops in various prisons across Thailand.

Another significant feature of the programme is the innovative methods used to support training in digital literacy. Mobile phone apps are the primary mode for promoting street food businesses through social media, and for the Robinhood food delivery app, but mobile phones are prohibited in prisons. The in-prison training component of Hygiene Street Food used card simulations of mobile phones, with "hands on" mobile phone training taking place after release. Some participants did not have access to mobile phones and SIM cards, and these were provided during and after training. Ongoing support was also provided, particularly during the initial stages of their engagement with digital technology and setting up their business.

6.5. Good Practices

The potential for digital technology to transform education and training in prison settings is exciting. Deploying digital resources is, however, difficult. Prisoners cannot simply sign up for a remote service and engage in a course as distance learners. The numerous challenges that arise with digital solutions in prisons mean that digital learning and training cannot be easily imported from external sources like schools or universities. It requires significant strategic and operational efforts to support the delivery of digital education and training in prisons.

1. **Manage Risk and Security:**

- Whitelisting is a secure but resource-intensive method for providing safe access to the internet. Striking a balance between security and accessibility is crucial. An alternative approach is to tailor internet access based on security classifications, fostering individualized learning opportunities while maintaining security.

2. Meet Needs of Prison Learners:

- Customising content to suit the neurodiverse needs and experiences of prison learners is complex. Off-the-shelf content packages, adaptable to individual needs, provide a practical solution, ensuring compatibility with the chosen technology platform is maintained.

3. Promote Agile Learning:

- In-cell technologies offer flexibility, varied pace, and adaptability. Though initial costs are substantial, the long-term benefits, including resilience against pandemics and staffing shortages, justify the investment. Tablets may not be the optimal choice due to limitations in software and features.

4. Enhance Interoperability:

- Security concerns may lead to interoperability challenges. Rigorous testing and a collaborative approach with established technology providers are essential to ensure successful integration. Partnering with external institutions and following a digital readiness model can enhance interoperability and streamline administrative tasks.

5. Focus on Digital Skills:

- Directing learners to focus on internet searching, app usage, and digital citizenship enhances real-world skills. Understanding the local labour markets is crucial for meaningful opportunities, and partnerships with educators, NGOs, and peers play a pivotal role in building digital competencies.

7. SELF-SERVICE: KIOSKS AND IN-CELL DEVICES

Kiosks and in-cell devices are interactive terminal systems that provide access to rehabilitative and other services without engaging directly with service workers.

Kiosks are shared terminals that are usually located in common areas of prisons, whereas in-cell devices (tablets and laptops) are either located or used in prisoners' cells. In general, kiosks mainly offer "administrative" affordances like checking accounts, shopping in prison canteens, booking family visits, and arranging healthcare appointments, while in-cell devices provide administrative functions in combination with a wider range of communication, education, therapeutic and entertainment functions. Many of these features are app-based. Kiosks and in-cell devices are the prisoner user-facing components of prison IT networks aimed at sharing information and providing access to operational systems.[46]

Self-service technology has seen a rapid uptake in prisons in Australia, the UK, the USA, and many European countries, and Australia, driven by a combination of efficiency benefits, human rights considerations, and the commercialisation of prisoner services. Kiosks and in-cell devices play a significant role in prison rehabilitation in three important ways, which are described in detail in the following chapters:

- They contribute to the normalization of prison life by providing prisoners with a sense of choice, self-determination, and autonomy.
- They impact prison management regimes and the nature of daily interactions between prisoners and staff.
- They play a key role in rehabilitation through the use of fee-for-service applications.

7.1. Normalisation and Autonomy

An important impact of traditional prison regimes is "institutionalisation" whereby prisoners adapt to rigid and restricted institutional schedules and procedures that rarely call on them to make any decisions allowing control over their lives. One consequence is that return to the community can result in a painful process of adjustment that involves feelings of anxiety and dependence.

The 'self-service' nature of kiosk and in-cell applications mirrors the way that many services are delivered via digital platforms in the outside world and gives prisoners at least rudimentary autonomy over their daily lives. Delivering some forms of education, training and therapeutic interventions via in-cell devices also puts prisoners in the position of being more active consumers, with some capacity to choose when and under what circumstances they will engage with these services. A consistent finding[47] of studies of kiosk and in-cell systems is that prisoners report a sense of greater control over their lives, more confidence in dealing with technology-enabled services, and reduced frustration, as well as more generalised improvements in their relationships with family and friends, and enhanced well-being.

The provision of direct access to healthcare, education, and other social services in European prisons has been driven partly by the view that prisoners should have the same rights to digital services as other citizens. However, it remains to be seen whether there is a meaningful impact on digital literacy and institutionalisation.

7.2. Impact on Prison Regimes

In parallel with self-service technologies in the wider community, kiosks and in-cell devices claim to provide efficiency benefits in the delivery of administrative and other services. Prison staff report a range of efficiency benefits, including reductions in staff administrative workloads, reduced food waste and reduced reliance on paper-based processes, as well as a variety of flow-on benefits such as reduced frustration of prisoners, modest reductions in disciplinary procedures, reduced stress on staff and fewer assaults. However, a variety of more subtle and potentially problematic impacts have been documented, mainly relating to in-cell devices.

Researchers at the Belgium-based PrisonCloud found that in-cell computer access could result in vulnerable prisoners spending most of their time in their cells, effectively withdrawing from the public life of prisons. There were also impacts on prisoner management. Prison staff were no longer required to complete paper applications on behalf of prisoners who wanted access to programmes and services and consequently were less able to monitor the emotional state of prisoners. Ease of access to services also created a new set of problems in the form of an 'overload of messages from prisoners'. Whilst the intended affordances directly contribute to rehabilitation, the potential for unintended consequences requires sensitivity to the impact on staff and prisoners' behaviour and thinking.

7.3. Fee-for-service

A feature of kiosk and tablet technology in some jurisdictions is that access to email, video-communications and some other self-service functions is provided on a 'fee-for-service' basis. Prisoners pay a fee for each email[48] they send or videoconference they schedule and may also have to pay a fee for the kiosk or tablet used to send or receive messages. Tablets that operate on a fee-for-service model are also utilized to provide books, movies, and games to users who can either purchase or rent them. Currently, there are efforts to monetize access to certain forms of prison education either through direct payments or by allowing prisoners to access education grant funds. Costs for these services can be significantly higher than users in the community are required to pay,[49] and it is often prisoners' families who pay for the service.

In many countries, prisoners are required to pay to make phone calls or send letters. Typically, they are given a few free calls or letters each month, and any additional ones must be paid for. This follows the usual practice of charging a fee for services, as is common in the wider community. However, there is concern that digital fee-for-service systems can place a heavier financial burden on prisoners and their families. Recent legislation passed in the United States will see federal oversight and regulation of audio and visual communication, regardless of the technology platform involved.[50] During COVID-19 some jurisdictions relaxed fee-paying systems.

7.4. Good Practices

By adopting effective measures that promote normalization and increased autonomy, monitor and mitigate the impacts on prison regimes, evaluate fee-for-service applications, and ensure equal access to digital services, prisons can significantly enhance the effectiveness and humanity of the incarceration experience. These practices aim to empower individuals with greater control over their daily lives, improve operational efficiencies, address financial fairness, and ensure prisoners have access to essential services similar to those outside the prison walls.

Support normalisation and increased autonomy:

- Emphasize the importance of normalising prison life and empowering people in prison with a sense of choice, self-determination, and autonomy over their daily lives.
- Use digital platforms and in-cell applications to provide prisoners with the opportunity to engage in educational, training, and therapeutic interventions.
- Monitor and assess the impact of digital services on prisoners' digital literacy and potential institutionalisation.

Monitor and if required mitigate impact on prison regimes:

- Harness the administrative and service delivery benefits of self-service technologies, and re-direct the staff resources towards more direct engagement in rehabilitation.
- Address potential challenges arising from in-cell devices, such as the withdrawal of vulnerable prisoners from public life and the reduction in staff's ability to monitor prisoners' wellbeing.
- Explore ways to manage the influx of messages from prisoners efficiently, ensuring that staff can respond appropriately.

Evaluate fee-for-service applications:

- Assess the financial burden placed on prisoners and their families due to high service costs, particularly in cases where prisoners' families bear the expense. Consider advocacy work to build community voices.
- Consider introducing regulations and oversight to ensure fair pricing and affordability for essential services.
- Learn from the experiences during the COVID-19 pandemic, where some jurisdictions relaxed fee-paying systems, and evaluate the benefits of such changes.

Promote equal rights to digital services:

- Encourage the provision of direct access to healthcare, education, and other social services in prisons, aligning with the principle that prisoners should have the same rights to digital services as other citizens.

8. TREATMENT AND BEHAVIOUR CHANGE PROGRAMMES

The ultimate goal of prisoner rehabilitation is to reduce the likelihood of further offending by offering a range of programmes that aim to change behaviour that leads directly or indirectly to offending. In addition, people in prison experience high rates of mental disorders and illnesses,[51] and providing clinical treatment and support for these conditions is also an important component of rehabilitation.

The range of treatment and behaviour change programmes, services and interventions in this domain is extremely complex and encompasses general prison health and medical services, specialized forensic psychology and psychiatry services, and individual and group programmes and services that target offending-related thinking and behaviours. This chapter examines digital applications and platforms that provide behaviour change interventions and mental health treatment or support for people in prison. This includes:

- Behaviour change interventions that target alcohol and other drug (AoD) use, as well as sexual and violent offending (including domestic violence);
- Programmes intended to address more general issues associated with interpersonal problem solving, moral reasoning, self-control and perspective taking (often described as cognitive skills programmes); and
- Clinical interventions for mental disorders and mental illnesses like anxiety, stress, post-traumatic stress disorder (PTSD), and other forms of trauma.

8.1 Forms of Digital Treatment and Behaviour Change Programmes

The development of digital treatment and behaviour change programmes for prisoners has been strongly influenced by developments in the e-health and e-mental health sectors, and many of the programmes for prisoners are adapted from interventions that were originally developed for and delivered to the wider community. Many digital behaviour change interventions involve the translation into digital forms of psychological intervention models, especially cognitive behaviour therapy CBT-based interventions.

8.1.1.
Tele-health, tele-psychology, and tele-psychiatry

Tele-health, tele-psychology and tele-psychiatry use videoconferencing[52] to connect clinicians and clients, usually on a one-on-one basis, to conduct assessments, plan or monitor treatment, and provide routine or crisis care. The use of 'tele-services' increased dramatically during the COVID-19 pandemic when conventional face-to-face treatment was restricted or unavailable, and it is now possibly the most frequently used form of digital treatment in prisons. Tele-services provide increased access to patients or clients in remote areas, enhance the efficiency and flexibility of service delivery, and can provide greater safety and security for both clinicians and clients. Both clients and clinicians are generally positive about therapeutic services delivered via videoconferencing, and therapeutic outcomes for common mental health problems like anxiety, depression and PTSD are comparable with those from in-person care.[53]

Although tele-services offer many benefits, there are also a number of challenges and concerns associated with their use. These include poor digital infrastructure within prisons, which can lead to signal disruptions or poor-quality sound and video. Inappropriate client settings, particularly for prisoner assessments, can also pose challenges, as can the difficulty in making accurate assessments of complex mental health issues and managing clients in crisis. Practitioners also report various practice challenges when their work is conducted mainly through online interactions with clients. These include having inadequate contact with colleagues, difficulties in establishing a work-life balance, physical discomfort from spending all day at a desk, and unpleasant interactions with clients.

8.1.2.
Digitally-supported group treatment

Behaviour change interventions, especially those targeting AoD and cognitive skills development, often involve a group of participants working through a structured CBT-based programme supported by one or more facilitators. Videoconferencing technology has also been used to support group-based treatment and behaviour change interventions. Group members may be located in a single prison location, such as a classroom or programme room, or may participate from different locations. If prisons are equipped with in-cell computers or tablets, participants can join group sessions from their cells. Participants interact with the facilitator(s) and other group members through the video conferencing platform, sometimes using electronic whiteboards or message boards integrated into the platform. Group members may also receive hard copy programme manuals that they can use to record personal information, progress notes, or responses they do not wish to share with other group members.

As with tele-services, digitally-supported group treatment provides increased access to participants in remote areas, and greater efficiency and flexibility in the scheduling and

delivery of programmes. It has advantages where participants are in high-security locations or administrative segregation and would otherwise not be eligible to take part in group activities. There is some evidence from community settings that video-delivered group therapies may be as effective as in-person therapies. However, to date there are no outcome studies of this programme modality involving group-based interventions with prisoners. Digitally supported group treatment also shares many of the same challenges and concerns that arise with tele-services, including poor digital infrastructure, inappropriate group settings that compromise treatment confidentiality, and difficulty in managing problematic behaviour by group members.

8.1.3. Computer-delivered treatment

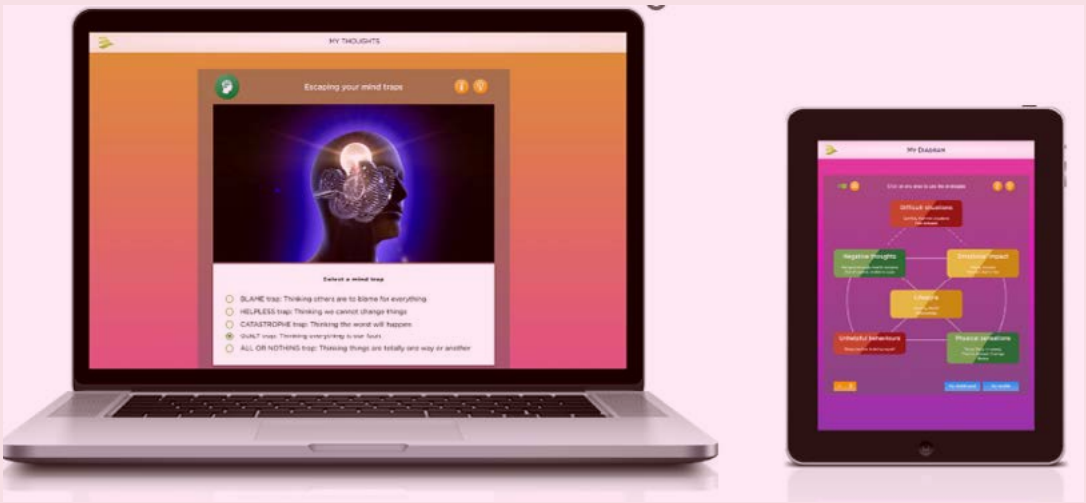
Computer-delivered treatment involves translating a treatment or behaviour change intervention into a computer application that is delivered directly to the participant, either through a desk-top computer or via the internet. The therapeutic content can take a variety of forms, including digitised versions of treatment manuals, self-guided programmes, and purpose-designed interactive interventions. Typically, the programme is structured as a series of self-guided modules that are navigated by the participant with little or no direct involvement by a clinician or facilitator. Participants may receive 'homework' assignments to be completed offline, and some interventions provide for periodic check-ins with clinicians. The intervention may include self-assessment components to identify problems or measure learning or skill development, with the intervention content and delivery being modified accordingly.

Examples of computer-delivered treatment interventions include treatments for substance use like CBT4CBT, the Therapeutic Education System, and Breaking Free Online.[54] The Reactions on Display/Intimate Partner Violence (RoD/IPV) intervention allows users to reflect on their feelings, thoughts, actions and consequences relating to intimate partner violence and practise desirable, non-violent responses.[55]

Computer-delivered treatment offers several advantages over traditional in-person treatments. It provides standardised interventions of consistent quality, can be adapted to meet the needs of specific groups of people or delivery contexts, reduces the costs of delivery, and (if delivered via an in-cell device) 24/7 availability to treatment participants. To date there have only been a limited number of outcome studies that focus on prisoner participants, but studies with community participants generally show that computer-delivered treatment yields outcomes that are comparable with in-person treatments. It is worth noting that for prisoners to access computer-delivered treatment, they must have in-cell devices, otherwise, they would need to wait for approval to access a desktop computer.

Case Example 5:

Computer-delivered Treatment (UK and US)



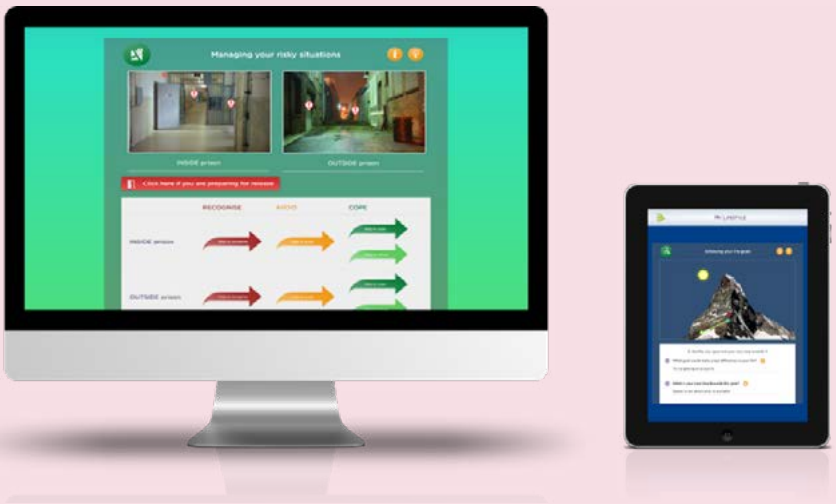
Breaking Free Online (BFO) is a computer-assisted therapy (CAT) programme for drug and alcohol dependence that is available to prisoners in UK and US prisons. The programme targets the links between substance misuse, co-morbid mental health difficulties and offending behaviours, and includes strategies to help prisoners prepare for their release and reduce the risk of overdose and reoffending. BFO was originally developed and tested in community settings and was adapted for delivery in UK prisons in 2014, before being extended to US prisons in 2020. The intervention content is based on a CBT model used in mental health case formulation and is structured around six domains that conceptualise various aspects of biopsychosocial functioning associated with substance misuse.

The BFO application incorporates audio and voice-over, muti-media components, information buttons, psychometric assessments to monitor change and an outcomes dashboard that is also accessible to programme facilitators. BFO was designed to complement and augment in-person delivery but can also be delivered as a self-directed intervention. The programme is accredited with the Ministry of Justice Correctional Services Advice and Accreditation Panel (CSAAP), and the National Institute of Health and Care Excellence (NICE) in the UK. Research studies of BFO in correctional settings have shown that treatment participants show significant improvements in substance use and dependence, mental health, recovery capital, quality of life and biopsychosocial functioning.

BFO illustrates two important features of computer-directed treatment. The first is flexibility in delivery modalities and programme content. Initially, BFO was made available to participants

via Virtual Campus – a prison education IT platform – and delivery was either in a classroom group format or on a one-on-one case management basis. When it was released in the US the delivery modality was as a self-guided programme via in-cell tablets or secure laptops, and this method is now being adopted in some UK prisons equipped with in-cell computer access. The programme content has also been adapted, for people with co-morbid substance misuse and mental health issues, and a Spanish-language version is being developed for US prisons.

A second key feature of computer-directed treatment is the way that digital platforms enhance accessibility and provide continuity of care between secure correctional environments and to facilitate reintegration back to the community. In its self-guided format, BFO participants can access the programme at any time, including at night after lockdown. The rate of uptake for women is high compared to in-person substance misuse treatment services, and the use of audio and multi-media content makes the intervention more accessible to people with limited literacy. Participants can access their BFO account when they move prisons or re-enter the community, allowing them to continue treatment in a variety of situations.



8.1.4.
VR treatment models

Virtual reality technology has been used to treat a variety of offending-related conditions, including general aggression and domestic violence (see Case Example 6), substance-dependency and in the assessment of sexual offenders against children. Immersive VR exposes the user to a real-time digitally-simulated environment that is experienced using head-mounted display goggles and headphones, creating a sense of being present in the artificial environment, together with a limited capability to interact with features of the environment. VR allows the participant to be exposed to situations and stimuli, and to practice positive skills and behaviours. It is typically used as an adjunct to, or to augment conventional methods

of assessment and treatment. The use of VR is a relatively recent development in forensic treatment and many VR treatments should be regarded as trials or development exercises. Much of the research on VR interventions is concerned with refining its use as a treatment tool, and outcome evidence for VR in forensic settings is scant.[56]

Case Example 6:

Virtual Reality for Gender-Based Violence Crimes (Spain)

Since 2019, Catalonia prison services in Spain have adopted Virtual Reality to help with a suite of therapeutic treatments for over 500 male perpetrators of intimate partner violence. Driving this effort was the need for more effective rehabilitation initiatives to prevent future incidents and reduce risk. Coupled with traditionally delivered interventions these digital tools support and add further value to treatment. Whilst traditional programmes address individual needs and adapt to each prisoner's specific circumstances, such services face challenges including short sentences and the need to modify behaviours associated with socially validated masculine identities.

Studies of this programme have shown that VR interventions provide the aggressor with the victim's perspective, and therefore have the potential to improve empathy, increase motivation to change, enhance crime recognition, and train non-violent behaviours, though individual differences among end-users play a significant role in the outcomes. Evaluations of such interventions suggest the following:

- Personalisation of VR interventions is important, as they may benefit different prisoner profiles to varying degrees.

- VR interventions are more effective in low-intensity profiles of gender violence offenders.

The effectiveness of VR is likely to increase with personalised therapeutic interventions. Further research is needed to fully understand the benefits and mechanisms of integrating VR into conventional treatment and its impact on each participant's unique experience.

In Catalonia, there are further efforts to design new VR scenarios with the aim of working on other criminal behaviours or psycho-social problems such as sexual violence, impulsivity, decreasing the level of anxiety in new prison admissions or even improving training programmes for prison staff.

8.2. Implementation Challenges for Digital Treatment

The technology that supports digital health and mental health services has been evolving at an extremely rapid pace. However, the development of practice models incorporating digital interventions, as well as policy and legislative frameworks to guide and regulate their use has tended to proceed more slowly.

8.2.1. Data privacy and security

The digital data generated from treatment and behaviour change interventions may take a variety of forms, including recordings of videoconferencing sessions, clinicians' case notes, psychometric test results, and participants' case plans. All these forms of data represent personal health information and are likely to be subject to the data privacy and security laws

and standards in the jurisdiction where they are held. Their use and storage must comply with the general data protection, as well as any special data security and privacy provisions, such as regulations relating to software used as a medical device,[57] that may apply to health records.

The implementation of digital treatment and behaviour change programmes should recognise that participants have ownership of their personal health information, and that its use should only be with their explicit consent. Data consent procedures should include the following provisions:

- The right to retain and delete any personal health data;
- The requirement to give consent to any use of data for purposes not directly connected with treatment such as research or programme monitoring;
- The requirement to give consent to share data including actions plans and progress reports with other service providers.

8.2.2. Quality standards and accreditation

The increasingly diverse range of digital treatment and behaviour change interventions available for prisoners brings with it the need to be able to assess their useability and efficacy. At present, there are important gaps in quality standards and accreditation for digital rehabilitation applications. Regulatory bodies such as the Food and Drug Administration (FDA) in the USA and the National Institute for Care and Health Excellence (NICE) in the UK provide efficacy and safety evaluations for digital mental health treatments, but these are typically based on their use in the community and may not be relevant for prison settings.

Some correctional agencies have accreditation processes for interventions. Examples include the Correctional Services Advice and Accreditation Panel (CSAAP) for England and Wales, the Offending Behaviour Programmes Accreditation Panel in the Netherlands, and the American Correctional Association standards and accreditation process. However, to date these processes do not include specific requirements for digital interventions. A key consideration in making quality and efficacy assessments is the availability of robust evaluation data on interventions, but such data specific to prison contexts is limited in part because of the rapid pace of development of digital treatment and behaviour change applications.

8.3. Good Practices

Many professional medical, psychology and psychiatric bodies have issued practice guidelines for the use of technology in their practice. The details may vary depending on the specific area of practice, and the privacy and data security regulations that apply, but some general principles are common to many guidelines:

1. **Assess Suitability:**

- An initial assessment should determine whether tele-services are appropriate for the client or patient's needs. In general, technology-based services are not appropriate for people with multiple and complex needs, or who experience severe symptoms of mental disorder, and should not exclusively substitute in-person relationships.
- This assessment should include advice about the nature of tele-services and how therapeutic or other services will be delivered, as well as consideration of whether an appropriate space is available for video-conferencing sessions.

2. **Establish Privacy Protocols:**

- Privacy protocols should be established with the client, including advice about strategies to enhance privacy such as the use of headphones.

3. **Document Informed Consent:**

- Ensure and record explicit client consent for participation in treatments and the handling of their personal data.

4. **Adjust Session Lengths:**

- Modify the duration of digital sessions to mitigate the risk of online fatigue and maintain engagement.

5. Ensure Assessment Integrity:

- Adapt and validate assessment tools for digital platforms, maintaining their reliability and effectiveness.

6. Tele-Services Training:

- Provide practitioners with thorough training in the technical, ethical, and interpersonal aspects of delivering tele-services.

7. Foster Engagement:

- Emphasize trust-building and rapport in both individual and group settings, promoting positive dynamics and participation.

8. Use of Virtual Reality:

- Carefully design VR content to avoid simplistic or potentially harmful scenarios, ensuring therapeutic interventions are supportive and not distressing.

9. RE-ENTRY AND TRANSITIONAL SUPPORT

Supporting prisoners when they exit prison and re-enter the community has been recognised as a critical component of rehabilitation. Prisoners face many practical, social, and psychological challenges in the period after release. These include finding housing and employment, engaging with social support agencies, re-establishing relationships with family and community, and dealing with the ongoing psychological impacts of imprisonment. The inability to overcome these challenges, with consequent failure to successfully reintegrate back into the community, is an important factor in recidivism and return to custody.

One model for providing re-entry and transition support is *throughcare*.[58] In this approach, preparation for release commences well in advance of the person's release date with the aim to ensure continuity of support throughout the release process. Throughcare models are resource-intensive, usually state-funded and often target high risk releasees. A diverse range of community and voluntary sector agencies also provide re-entry and transitional support, both through formal state-funded re-entry programmes and charitable, philanthropic, or humanitarian arrangements. State-sponsored re-entry support differs from that provided by voluntary agencies in several important respects, including in the form of the digital applications developed and used by these sectors.

9.1. Monitoring and Support Apps

Conditional release – that is, where the releasee is under continuing supervision as part of a parole or probation order – adds further complexity to the re-entry process. The responsibilities of probation and parole staff cover many of the elements of re-entry support such as assisting with housing, employment, and relationships. In addition, the conditions of release to parole or probation can include reporting for regular supervision, undertaking treatment, and compliance monitoring, for example, drug or alcohol testing.

A variety of mobile applications have been developed to provide monitoring and support for people on parole or probation.[59] These apps package a variety of functions into a single application that is accessible using a tablet or mobile phone. The functions include those that are primarily designed for compliance monitoring and to support supervising officers, as well as more direct rehabilitative and re-entry case management functions. The mix of functions in these apps varies greatly, with some apps acting primarily as an electronic compliance monitoring device, for example *ConnectComply*, *Shadowtrack* and *Outreach Smartphone*

Monitoring. In many ways, digital compliance monitoring represents an updated version of 'bracelet'-based electronic monitoring (EM), where mobile cellular networks are substituted for the radio-frequency signal connection between bracelet and base-station that is the basis of traditional EM systems. A feature of compliance monitoring apps is that many of them have been developed by commercial technology companies and are marketed as more efficient ways to provide surveillance of justice clients in the community.

Monitoring and support apps also include functions that provide or support a range of rehabilitative services. One example is *Reentry Connect* that provides case management support for re-entry service providers in the greater New York City area, USA. The app provides resources for healthcare services, substance-use disorder treatment, job searching, housing, financial support, childcare, food, and transportation. Examples of other apps include *Socrates 360,* [60] UK; *MyNEoN,* USA; *Utsikt,* Sweden; *Mijn Leven*, *Mijn Risico's*, *Mijn Contacten en Stap voor Stap* (My Life, My Risks, My Contacts and Step by Step), all accessible via the Netherlands Reclassering smartphone portal; and *Changing Lives,* Northern Ireland.

Community correctional centres may offer monitoring and support apps that can be accessed through kiosks or installed on the releasee's mobile device. The supervising officer can access the data recorded on the app. If the app is used for compliance monitoring, the releasee may have to meet certain conditions, such as responding to identification checks and keeping the phone battery charged. Failure to fulfill these conditions can result in the termination of the parole or probation order and return to custody. In some jurisdictions, users are also required to pay a monthly access fee.

Case Example 7:

Mobile Phone App: Changing Lives (Northern Ireland)

Changing Lives is a mobile phone app that is made available by the Probation Board of Northern Ireland to service users. The app is intended to provide service users with easily accessible resources to support their rehabilitation, and thereby assist them to desist from crime. The target groups for the app include people on a variety of supervised orders (extended, determinate and indeterminate custodial orders, probation orders, juvenile justice orders, community service orders). It also includes advice on support for victims of crime. Through theapp, service users can access

information on court orders and licences, track their community service obligations, and record contacts and appointments. The mental health section of the app provides information and contact details for general practitioner and mental health services in Northern Ireland, and advice about managing anxiety and depression, including links to local online support services. The tool incorporates a variety of behaviour change functions including an alcohol diary, a self-assessment module and advice about building resilience and stages of change. The app also has a messaging service to key support staff such as probation officers or helplines for those at risk.

9.2. VR and AR Preparation for Release

Long-sentence prisoners face considerable challenges in preparing for independent living in a world that has changed greatly since they were imprisoned. Ordinary daily activities like shopping with automated checkout, banking using an auto-teller, using a mobile phone, and preparing for and participating in a job interview may involve procedures and technologies with which they are unfamiliar. Many of these situations are difficult or impossible to replicate within a prison. Virtual reality can be used to provide people preparing for release with a virtual experience of navigating through complex life activities and encountering problems and challenges and practicing pro-social responses to them (see Case Example 8 – Employment Preparation). However, VR re-entry training with women prisoners identified the potential problem that structuring re-entry as a set of distinct and separate tasks ignores the complexities of re-entry, especially for people exiting prison after serving long sentences.

Augmented reality applications, where 'tags' applied to re-entry resources can be activated with a tablet or other mobile device that displays video and audio information, can also be used to assist in preparing for release. Both VR and AR applications provide a more personal and realistic approach to supporting release and reintegration back into society.[61] Generally, there seems to be considerable potential to use digital assistive technologies to support people re-entering the community from prison. Assistive technologies are tools and services designed to enable people to live healthy, productive, and independent lives, and to participate in work, education, and family life. While these technologies are usually thought of in relation to health and disability care, they also have potential application for the issues that face people returning to the community.

Case Example 8: Employment Preparation for Re-entry using Virtual Reality (France, Greece, Portugal, and Spain)

Virtual Reality for Training Inmates (ViRTI) arose from the need to enhance the educational environment and expand the training opportunities available to people in prison. ViRTI was developed by a consortium from four countries, France, Greece, Portugal, and Spain, with expertise in prison systems, inmate education and training and interactive learning. As such, the project, led by Innovative Prison Systems (IPS), employed VR technology to create virtual environments focused on educational training specifically in the construction sector, with the goal of raising awareness among participants about various employment opportunities in this field.

Achievements of this project included:

- Compensating for the scarcity of resources (such as laboratories, materials, and tools) in prison facilities.
- Providing people in prison with access to training environments that are not readily available within secure settings.

- Contributing to teaching basic and cross-cutting skills made possible through VR.
- Engaging, through training activities, with a total of 67 male prisoners from partner countries France, Portugal and Spain.
- Adapting the programme to participants' individual needs and backgrounds, to respond to varying levels of prior training experience.

Feedback received suggested that VR was appealing due to its interaction and gamification features , thus mitigating the risk of dropout. Its immersive, and interactive characteristics helped increase motivation and engagement in training and educational programmes.

The impact of ViRTI at the local and regional level is tied to the introduction of VR training in prison systems. This initiative created awareness and a sense of innovation among participants who were previously unfamiliar with VR technology. It has significant advantages in the field of education, particularly for prisoners. The project significantly expanded training opportunities for inmates, increased their motivation to participate in educational and training activities, and raised awareness in the construction sector regarding job opportunities, materials, safety protocols, and essential skills desired by employers.

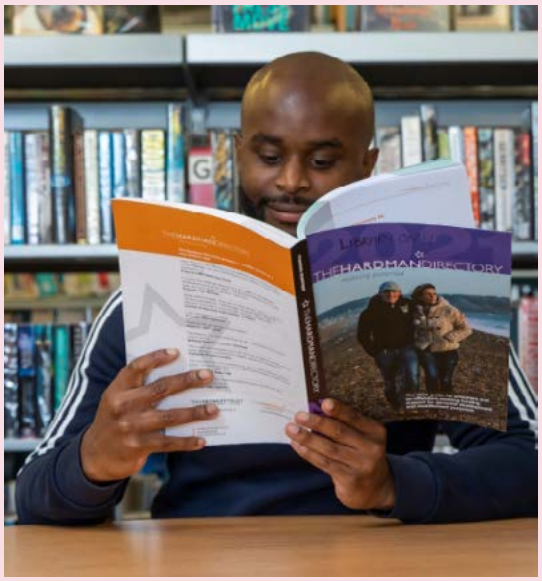
9.3. Support Directory Apps

Many people re-entering the community from prison receive little or no formal re-entry support and are often reliant on a range of general social support services, especially in the weeks or months immediately following release. Support directory apps provide contact details and general advice for health, mental health, housing and other social services, sources of funding, training and education programmes, and agencies and support groups who work with releasees. Support directories can cover services at a national, regional or local level. For example, the Hardman Directory (see Case Example 9) is a PDF format directory that covers services in England and Wales, while the Tarrant County Reentry Resource Directory[62] focuses on services in the Dallas-Fort Worth region of Texas. Support directory apps are typically designed as self-help tools although some include guides to release planning.

A more ambitious form of digital service access involves connecting people exiting prison with e-government service portals. In mid-2023 Georgian prisons commenced as sites for the *Public Service Hall,*[63] a citizen portal to manage people's personal administration and access to around 50 state services. Public Service Halls operate on both self-service and direct service modes. This service has been made available to people in prison to ensure that their civic participation is uninterrupted and important issues remain within their control during incarceration.[64]

Case Example 9:

Information and Guidance for Re-entering Citizens (UK)



The Hardman Directory provides information about support services, funding opportunities, training courses, mentoring programmes and other practical information for people leaving prison in England, Scotland, and Wales. The directory is prepared by the Hardman Trust, a UK-based charity that focuses specifically on the needs of people on long-term sentences. The Trust provides physical copies of the directory to all prison wings and libraries in England, Scotland and Wales. The directory is also available in PDF digital format on the Hardman Trust website. The digital format can be used by releasees, their families and community contacts and by staff and practitioners involved in release preparation and support. Where digital connectivity exists in prison, it can be used on secure prison laptops. An interactive, digital version of the directory is being developed.

The directory is intended as a guide for people preparing for their release and has a strong planning focus. The first section of the directory sets out a release plan written by a long-sentence prisoner, with steps to be taken in the period leading up to and following release. This is followed by topic guides to engaging with a mentor, planning education and training, finding a place to live, getting a job, and dealing with debt. There are also sections on accessing funding support for education and training, business start-ups, household support and emergencies.

9.4. Good Practices

Supporting prisoners' re-entry into the community is crucial for rehabilitation. Ex-prisoners face challenges like securing housing, employment, and reconnecting with society, impacting recidivism rates. Throughcare offers comprehensive pre-release preparation and continuous post-release support, often involving state and voluntary agencies. Technology plays a pivotal role, with apps for monitoring, rehabilitation, and case management, facilitating compliance

and support. Additionally, VR and AR technologies prepare long-term prisoners for societal reintegration, while digital services like e-government portals ensure uninterrupted civic participation. Support directory apps and other digital tools are essential for navigating post-release life, highlighting the importance of integrated re-entry strategies.

1. **Data Security and Privacy Considerations:**

- Implement a comprehensive privacy impact assessment to evaluate the implications of monitoring technologies on individual rights and rehabilitation goals.
- Ensure the deployment of such apps incorporates robust data protection measures that adhere to privacy-by-design principles. This includes encryption, access controls, and transparency in data handling practices.

2. **Efficiency and Resource Optimization:**

- Choose technology that balances functionality with privacy, ensuring the proportionate collection and use of data.
- Evaluate and select monitoring apps based on their ability to meet rehabilitation objectives efficiently without unnecessary data collection or resource expenditure.

3. **User-Centric Approach and Relevance:**

- Prioritize a user-centric approach by directly addressing the privacy and rehabilitation needs of individuals on conditional release.
- Tailor technology solutions to meet these specific needs while safeguarding privacy and rights.

4. Ethical Deployment and Harm Prevention:

- Establish ethical guidelines for technology deployment that prioritize the protection of individuals from potential harm. This includes safeguards against data misuse and ensures that the rights and needs of all stakeholders are respected and protected.

5. Sustainability and Standards Compliance:

- Advocate for the adoption of monitoring solutions that comply with established standards and regulatory frameworks to ensure their long-term viability and legitimacy. This supports the sustainability of digital solutions in the rehabilitation context.

6. Scalability and Replicability:

- Ensure that chosen technologies are aligned with standards that allow for seamless replication and scalable roll-out, facilitating consistent and efficient deployment of digital rehabilitation services.

7. Collaborative Partnerships:

- Foster multi-stakeholder partnerships involving app developers, vendors, prison authorities, and other relevant stakeholders. Such collaboration enables open dialogue and enhances the functionality and acceptance of monitoring apps and re-entry solutions.

8. Community Engagement and Trust Building:

- Engage communities in the development and deployment process to address potential harms and align technology solutions with community values, cultural, and gender needs. Building trust through transparent and inclusive dialogues ensures that monitoring apps and re-entry solutions are accepted and supported by the communities they serve.

10. FAMILY CONTACT AND SUPPORT

10.1 Digital Family and Community Support

Healthy contact with families and communities is vital for rehabilitation. It is well documented that ongoing and healthy family contact is important to assist prisoners to cope with time in prison, avoid or limit the effect of prisonization (the assimilation into prisoner culture), and is a protective feature for successful resettlement. In addition, families who have a partner or child sentenced to prison experience emotional distress and are themselves serving a 'hidden sentence'. Children with one or both parents in prison experience long lasting harms and trauma. Mitigating these harms is at the heart of human rights agendas, and in particular children's rights, as highlighted by the United Nations Convention on the Rights of the Child.[65] The Mandela Rules include a variety of provisions relating to family and community support, including prisoners' access to family via written, electronic or digital communications or in-person visits (Rule 58), the presence of prisoners' children in prison (Rules 28 and 29), and maintaining and improving prisoners' relations with their families (Rules 106 and 107).[66]

Maintaining prisoners' contact with their families yields a range of benefits that include providing better physical and emotional health, contributing to family life, enhancing relationships, and maintaining parental roles and connections.[67] However, there are also significant challenges that include the cost of making calls, lack of access to telephones, unwanted contact and coercive control exercised over family members, as well as privacy and surveillance concerns. Most of the research on the value of communication with families is based on in-person or telephone contact, but more recent studies have shown that video calls yield similar benefits. Research found that having at least one video call significantly reduced the risk of general and felony reconviction, with a positive relationship between the frequency of visits and reduced reoffending.[68] While tablets offered a means of contact with the outside world, prisoners still preferred in-person visits over virtual calls. The complexity of tablet access, technical issues, and associated costs posed challenges. Nevertheless, access to tablets improved digital literacy and provided a sense of connection to society.[69]

The COVID-19 pandemic highlighted the urgent need to maintain social ties and relationships during the period of mandated contact restrictions. Prisons were subject to dual restrictions in the form of mandated security protocols in prison legislation coupled with public health restrictions on social contact, creating a form of double jeopardy for prisoners and their families. Community organizations, advocacy efforts, and multi-agency collaborations can play a vital role in improving access to telephones and developing online resources for incarcerated parents and their families. These digital communication channels met a critical

need during the pandemic and have potential value as supplementary tools for in-person contact or for families facing financial and geographical barriers. It is essential to note that many families of incarcerated individuals in many nations come from vulnerable communities and experience digital poverty, which affects not only their access to support but also various aspects of family life, including education. The ongoing challenge is to increase phone access and support, particularly for economically disadvantaged families. Additionally, gathering and disseminating information about prisoner parents and their children can help community organizations provide evidence-based support in the future.

There are two primary ways to maintain contact with family and community members through digital means. These are telecommunication methods such as phone calls, text messaging, e-letters, and video calls, as well as family interventions facilitated by video calls to promote reintegration (see Case Example 11).

Telecommunication has been expanding for the past 30 years, but it has not progressed evenly across jurisdictions, and many countries still struggle to provide basic telephone contact between prisoners and their loved ones. Case Example 10, *Family Contact for Prisoner Families in Argentina* documents how advocacy and lobbying can help to enhance remote contact between families of those in prison. As the case highlights, encouraging prison practice and policy change can be powerful in securing rights to contact between parents and their children.

Case Example 10:[70]

Family Contact for Prisoner Families in Argentina

In Argentina, the Civil Association of Families of Individuals Detained in Federal Prison (ACIFaD) has been instrumental in enhancing communication between incarcerated parents and their children through visits and calls. Before the pandemic, mobile access was restricted, but ACIFaD's advocacy efforts significantly improved access to telephones and resources for these families.

ACIFaD is committed to protecting the rights of children, especially those with incarcerated parents. It collaborates with local organizations, fostering a supportive network for mothers with loved ones in prison and engaging community advocates, children, and prisoners. The association emphasizes the

importance of involving parents in the design of services, enabling a co-creative process that incorporates the perspectives of children.

eveloped a web-based tool for facilitating conversations between incarcerated parents and their children. The organization receives and responds to around 1,500 requests through a 24/7 hot line and a web-based registry from relatives and prisoners, many of them concerning their children.

> *"It is great that we can now use phones to communicate with our children, the issue now is what to talk about with them, sometimes I feel we do not have issues in common to speak about" (Incarcerated father).*

Prior to this initiative, between 2014 and 2016 ACIFaD assembled a multidisciplinary team to organize "playdays in prison" in collaboration with justice departments. These events involved about 200 prisoners from both provincial and federal prisons and their families.

The project mainly relies on phone and video calls, following advocacy efforts to ensure the right to family contact. It acknowledges the critical role of family involvement in the prison context and organizes awareness-raising, research, and capacity-building workshops to highlight the experiences and voices of affected individuals. Furthermore, the project addresses the enduring impact on children and the necessity of tackling these challenges from both a rights protection and recidivism prevention perspective, targeting prisoners, their families, and children impacted by incarceration.

Challenges such as limited mobile access, distance, malfunctioning scanners, and child-unfriendly screening procedures have hindered contact visits. The pandemic further exacerbated these barriers, yet ACIFaD's advocacy and collaboration with multiple agencies significantly improved telephone access and developed additional support resources for incarcerated parents and their families. This project underscores the importance of multi-agency collaboration and community advocacy in overcoming these obstacles.

Case Example 11:

Family Contact Using Digital Resources (Australia)

Family Visits is a video-visiting program that helps people in prison to maintain meaningful connections with their families, develop positive identities as family members, and support their reintegration into society. The program is run by Vacro, a not-for-profit specialist criminal justice reintegration service provider based in Victoria, Australia. Family Visits recognizes that regular and meaningful video visits offer an opportunity for individuals to build and strengthen family bonds, which can contribute to their successful transition from prison to the community.

The program provides supported video visits between people in prison and their family members at home, along with skill-building workshops and consultations for prisoners. The goals of the program are to provide socio-emotional support to maximize visitation engagement, cultivate positive relationships to improve reintegration outcomes, provide private space to practice parenting and family engagement strategies, and support and coordinate family reunification activities, including exit planning and family support plans.

Family Visits is available to both men and women in Victorian prisons. The program includes assessments to avoid exposure to harmful relationships and to comply with court orders that restrict contact between family members. Participants may engage with the program in up to five stages. The introduction session uses a small group format and includes discussion, practical relationship skills, and reflection. In the follow-up session, participants reflect on using skills to make the most of interactions with family members.

Participants may then elect to discontinue the program or participate in supported family sessions, which include a 30-minute preparation, a 30-minute facilitated video visit, and a 30-minute debrief. Preparation and debrief sessions are available for both prisoners and family members. Sentenced participants may continue to access one or more of these session types until their release. Most sentenced participants receive around four supported sessions. Remanded participants in most locations can access multiple sessions until their release.

While Family Visits is still ramping up at new locations, it is expected to engage approximately 1,450 people per year in introductory sessions and 890 people per year in supported family or individual sessions.

10.2. Good Practices

Supporting family contact with prisoners and their families involves addressing several critical issues. One such concern is *safety and safeguarding*. Prison services and their partners must ensure that all tele-communications between family members prioritise safety. This includes measures to protect the privacy of the involved parties and stringent safeguards against unwanted contact, especially in cases involving domestic violence and coercive control.

1. **Privacy and Data Security:**

- Prioritise privacy by ensuring that all communications between prisoners and their families are private and secure.
- Respect confidentiality, acknowledging jurisdictional and policy variations.
- Allow tele-communications in prison cells, private rooms, or under supervision with appropriate staff.

2. **Informed Consent and Approval Mechanisms:**

- Establish robust informed consent and approval mechanisms for family communications.
- Ensure willingness and full awareness of all involved parties regarding the nature of their interactions.
- Foster prosocial, healthy, and consensual contact.

3. **Technical Infrastructure Management:**

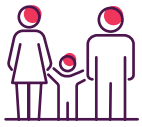
- Recognise the pivotal role of technical infrastructure in facilitating family communications.
- Carefully manage costs associated with these services, particularly for families, to guarantee accessibility for all.
- Strive for efficiency in the utilization of technical resources.

4. Addressing Family Conflict and Parental Rights:

- Address family conflict and parental rights as vital components of family communications. Implement ongoing informed consent processes, considering the dynamic nature of familial relationships.
- Establish approval processes and gatekeeping mechanisms with monitoring and surveillance for appropriateness.

5. Child Protection Measures:

- Prioritise child protection measures in family interactions.
- Collaborate with court and social or welfare services to safeguard children involved.
- Conduct assessments to determine the prisoner's need for healthy contact and pro-social relationships.
- Allow flexibility in contact limits for engagement in family intervention programmes.



6. Comprehensive Approach to Family Relationships:

- Advocate for a comprehensive approach to family relationships, incorporating case conferences and coaching for reintegration.
- Ensure that family contact benefits prisoners and their loved ones.
- Encourage collaboration and co-production to drive digital solutions that meet the diverse needs of families.

11. STAFF DIGITAL ENGAGEMENT AND TRAINING

Staff are key facilitators of digital change in prisons, and they must be included in the digital enterprise through active engagement in the digital change process, and the provision of resources, training, and other skill development. Like prisoners, prison staff and other rehabilitation professionals (educators, therapists etc.) often work in conditions of limited access to digital resources and with limited knowledge of the capabilities, benefits and risks involved in rehabilitation work supported by digital services**. For the full benefits of digital rehabilitation to be realised, staff need to be able to deploy the range of tools and interventions described in this report and have confidence in their role in supporting rehabilitation.** In addition, digital resources can enhance their own professional development.

Staff attitudes and perceptions about the introduction of digital services into prisons are often considered a barrier. Digital technology can significantly ease the administrative burden on prison staff and contribute to a safer working environment. However, there are real security and other practical challenges to negotiate when digital technologies are introduced. The literature on prison staff use of digital rehabilitation technology remains limited and often refers to the need for better staff training and coaching to support delivery of programmes, interventions, and services.

11.1. Staff Contribution to an Enabling Digital Culture

Staff-prisoner relationships are fundamental to brokering and supporting rehabilitative pathways for prisoners, and positive staff attitudes and capabilities in relation to digital services are crucial.[71] The adoption of technology therefore relies on the acceptance of digital change by staff, and the creation of meaningful engagement with digital rehabilitation. Staff in prisons where digital technology has been introduced tend to believe that it has a positive impact on prisoners, and staff who exhibit more positive attitudes towards digital use by prisoners enable a positive and supportive culture of adoption.[72] However, staff support cannot be taken for granted. Trust is a key factor in creating a positive digital culture in a prison environment, both from staff and prisoners' perspectives. Building trust is essential for the adoption of technology in prison settings, especially in digital health care and social welfare services.

The experience of prison staff plays a significant role[73] in technology adoption for prisoners. Evidence from the United States where tablets are used suggests that staff see technology as mainly for communication with family, playing games, and, informally, listening to music. As

a result, their own adoption and use of technology may influence their perceptions of prisoner use. However, prison staff in facilities with greater access to technology tend to view tablets as a positive contribution to both prisoners and the prison itself. Staff in leadership positions are more likely to support technology access, and they can communicate and promote the rehabilitative benefits of digital technology to less senior staff. This includes discussions about costs and benefits as well as challenges.[74] A public attitude[75] survey on this topic highlighted the compelling need for technology to work to help deliver the aims of imprisonment, rehabilitation and public safety. Coproduction methods, brokering working relationships and embarking on digital skills and problem solving together are also valuable for all stakeholders.

11.2. Continuing Professional Development

The professional development of staff is the foundation for the expertise required to undertake their work and contributes to job satisfaction and retention of experienced staff. Boosting understanding of rehabilitation and sometimes skills of specific roles, such as educator, mentor, and therapeutic work, demands tailored input.

Examples of countries that have successfully implemented e-learning initiatives for prisoners include the Czech Republic and Ireland. These countries have made significant progress in expanding their digital educational offerings, while recognizing the growing importance of e-learning for their prisoners. By using Virtual Learning Environments (VLE), webinars, videoconferencing, and regular calls, the Czech Republic managed to increase its e-learning options to cover nearly 40 per cent of its educational landscape. This has not only benefited prisoners, but also helped in the professional development of staff. The demand for e-learning is especially relevant in higher education and lifelong learning. The European Prison Rules of 2006 require prison staff in the Czech Republic to continually enhance their knowledge and professional competence, achieved through their participation in on-the-job courses throughout their careers. Continuing Professional Development (CPD) is helping to foster a culture of ongoing learning and improvement, enabling staff to respond to unique challenges and rapid changes. The need for specialized knowledge in the field is crucial. Much of the digital CPD offer includes gamification to create engaging and interactive learning experiences.[76] This kind of transformation highlights how services can adapt and refresh modes of delivery whilst increasing the uptake of professional development.

Other examples in the USA outline how specialised training can help meet the needs of diverse groups of people in prison. Private training companies in some jurisdictions offer online or hybrid training on over 300 topics. Other training providers include NGOs that offer a range of online materials and webinars. Other studies highlighted advantages and disadvantages

of digital training for staff. Research in Scotland, for instance, found that staff did not enjoy e-learning elements to their training,[77] as they felt that applying their knowledge to practice required face-to-face interaction – particularly around sensitive issues or where prisoners need specialised and supervised work. Another study in Wales found that staff learners may need support following training – particularly around sensitive topics.[78] Online training in Ireland also highlighted the importance of staff learning communities where dialogues between learners can help foster motivation and sharing of good practices.[79]

A key area of development concerns the management of the aging prison population. A recent study outlined how online learning helps staff acquire particular skills and knowledge to support elderly prisoners – especially those at end of life. Outcomes reveal that digital training was acceptable, feasible, and usable among prison staff, who consequently improved their knowledge. Training can help mitigate conflicts between care and custody priorities and ultimately improve relationships between staff and incarcerated individuals, as well as the quality of end-of-life care.[80] However, there is a need for early training in specialised prison career paths.

11.3. Good Practices

In the ever-evolving landscape of prisons, the role of prison officers has become increasingly complex and multifaceted. It is paramount that their training and development keep pace with these demands. Digital learning and training have emerged as powerful tools to equip prison officers with the necessary knowledge and skills, but several key considerations must be addressed to ensure their effectiveness and relevance.

1. **Timing of Training:**

- Encourage staff to accept digital change and create meaningful engagement with digital rehabilitation. Brokering co-creative modes of consultation is crucial to a normalize digital culture.

- Consider the critical factor of timing in training prison officers. Leverage digital learning to tailor training for specific needs, providing comprehensive fundamentals for new recruits as well as continuous professional development for established staff.

2. Participant Selection:

- Address the unique challenge of participant selection for training programmes.
- Mitigate potential biases by ensuring fair and inclusive opportunities.
- Utilise digital learning to provide standardised access to training modules, promoting an unbiased approach to participant selection.

3. Feedback from Prisoners on Training Quality:

- Enhance training quality by seeking feedback from incarcerated individuals who directly interact with prison officers.
- Incorporate prisoner perspectives to gain insights into the effectiveness of training in improving relationships, communication, and overall facility conditions.
- Integrate mechanisms for prisoner feedback into digital training programmes for continuous improvement.

4. Accreditation and Quality Assurance:

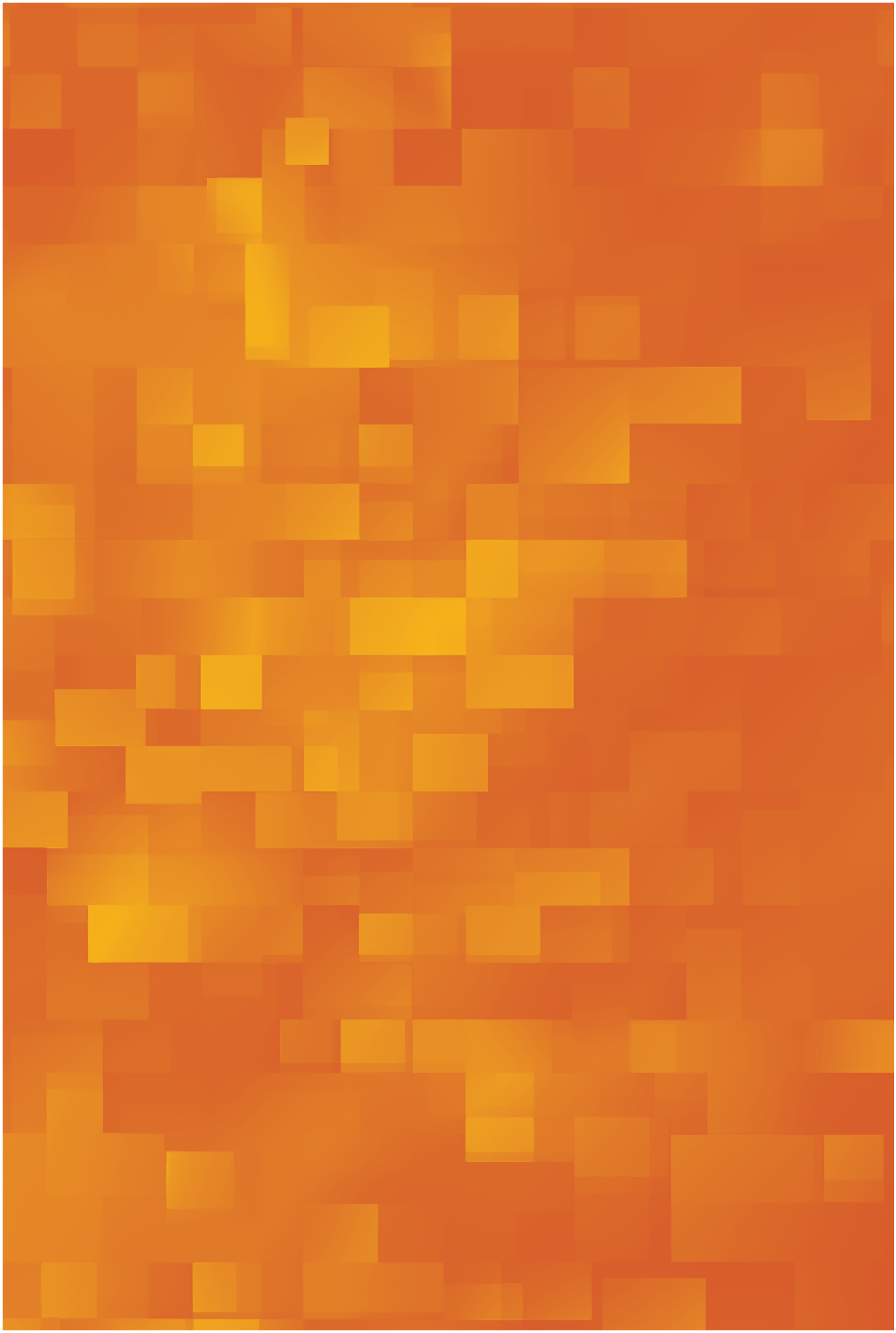
- Subject digital training for prison officers to rigorous accreditation and quality assurance processes.
- Obtain accreditation from relevant authorities, such as justice agencies or educational institutions, to validate content and delivery.
- Continually assess and update approvals and quality standards to meet evolving requirements.

5. Post-Training Support:

- Acknowledge that training extends beyond completing digital modules.
- Provide crucial post-training support to ensure effective application of newly acquired knowledge.
- Establish peer support networks, mentorship programmes, and access to additional resources as integral components of the overall training strategy.
- Utilise digitally enabled networks for ongoing communication and reflection.

6. Practice Challenges:

- Embrace digital learning to address real-world scenarios and practical challenges faced by prison officers.
- Implement interactive simulations, case studies, and scenario-based training to bridge the gap between theory and practice.
- Prepare officers for complex issues, such as managing aging or terminally ill prisoners, foster empathy and professionalism in their approach.



02

PART 03

04

12. LOOKING FORWARD

This report provides a picture of the current state of digital rehabilitation applications, almost all of which have been developed in the last decade. A few of the applications covered here are widely used and supported by a robust evidence base, while others are in the early stages of development. It seems certain that the rapid development trajectory of digital rehabilitation will continue to yield new and more complex tools and services, and that the policy and regulatory infrastructure to support their use will also continue to develop. This chapter looks forward from where we stand now to examine some of the developments that are on the horizon and outlines some key research, policy and regulatory issues that will be necessary to support the continued use of digital rehabilitation.

12.1. Big Data, Artificial Intelligence and Machine Learning[81]

The increase in the computational power available to digital systems has led to a range of applications that use algorithms and statistical models to analyse and draw inferences from patterns in large data sets. Big data, Artificial Intelligence and Machine Learning are now beginning to be applied to a wide variety of problems. Some familiar examples include the use of big data and machine learning to predict users' behaviour and preferences based on their use of social media platforms, AI-based 'digital assistants' and 'chatbots' that are integrated into smartphones and customer service sites, and 'smart' geographic navigation aids. The use of these computational methodologies to support government functions has been referred to as 'algorithmic governmentality'.[82]

At present, the application of computational methodologies to criminal justice functions has been mainly in policing and crime control.[83] A 2020 survey of AI in prisons identified only three jurisdictions where there was activity applying AI to operational tasks (Singapore, Hong Kong, and the UK),[84] and all these instances were small-scale trials or pilots. The areas of potential correctional application that have been identified are primarily concerned with security, risk assessment, and monitoring and supervision.[85] However, it seems inevitable that in the future these methodologies will also be applied to support prisoner rehabilitation. An early development may be in the form of AI-supported health and mental health systems that are incorporated into treatment approaches.

It has been recognised that AI and related digital technologies pose some significant ethical and regulatory concerns. The Council of Europe has drafted recommendations on the ethical and organisational issues relating to the use of these technologies by prison and probation

services.[86] The key principles are to respect human dignity, avoid discrimination and bias, ensure transparency of algorithms, protect fundamental rights and freedoms, and ensure representative data for AI training. The use of AI in electronic monitoring should be limited and staff replaced by AI should be redeployed to tasks that contribute to social reintegration.

12.2 Assessing Digital Rehabilitation Needs

A persistent risk in any form of digital engagement is 'technological solutionism' – the idea that digital technology offers a quick and flawless way to solve complex real-world problems. This report emphasises that progress towards digital rehabilitation should be driven by an understanding of the digital rehabilitation needs and requirements of people in prison, rather than by what technology offers in the way of notional solutions. While there are a variety of methodologies and tools for assessing general rehabilitation needs, at present there are no systematic way to translate these into the digital domain. Digital rehabilitation differs from traditional forms of rehabilitation in some important ways so there is a pressing need to develop such a tool. Moreover, to ensure digital services are meeting needs it is critical that they contribute to rehabilitative outcomes. The findings from this exploration outline key dimensions that could help with the development of this kind of tool.

12.3. Quality Assessment and Accreditation

A key requirement for effective digital rehabilitation is the creation of quality assurance and accreditation frameworks to support informed assessments and decisions about the acquisition, adaptation, creation and use of digital rehabilitation technologies and content. While there are some quality assessment and accreditation processes that apply to behaviour change and treatment applications (see Chapter 8), these do not take into account the specific features of digital modes of delivery. For other forms of digital rehabilitation there is little or no guidance the assist potential users to understand whether a particular product or service is of good quality and likely to yield benefits. Given the relatively specialised nature of digital rehabilitation application, there is little scope for using consumer reviews and ratings as a proxy for quality ratings. The challenges facing potential users is further complicated by the general lack of robust evaluation data on digital rehabilitation.

The health and mental health sectors have both had to deal with the same problem, with the additional challenges posed by the large market for 'self-help' digital applications. Some health

authorities have issued warnings to users of digital applications that provide erroneous or poor-quality information or advice.

The general problem of quality assessment involves three distinct issues:

- Whether an application provides the functionality it claims and is easy to use. This includes whether the information provided by the application is accurate, whether it is based on a sound rehabilitation theory or model, and whether users can readily access its functions and find it engaging to use.

- Whether an application satisfies technical standards of safety and information security and privacy. This includes where and how data is stored and transmitted, and whether the application complies with the relevant information privacy regulations.

- Whether the application delivers the desired rehabilitation outcomes, and whether these outcomes vary across different groups of users.

A variety of quality assessment guidelines, schedules and registers have been developed for health and mental health applications, incorporating systematic assessment against app quality criteria, expert ratings, user reviews and comments and technical assessment.[87] These processes vary considerably in their scope but do provide some guidance to users.

12.4. Research & Evaluation

One of the main obstacles in the effective implementation of digital rehabilitation is the lack of a systematic evidence base derived from research and evaluation. There are three critical areas where evidence is required, as outlined below.

Practice Evidence

Investigating the application of digital rehabilitation tools in real-world settings can reveal user engagement patterns and preferences, highlighting the features that enhance tool accessibility and usability. This exploration is essential for identifying the skills and supports needed to facilitate effective use of these technologies.

- **Recommendation**: Conduct mixed-method research to determine how users interact with digital rehabilitation tools, with the aim to uncover practical insights that can guide the optimization of these applications.

- **Recommendation:** A broader examination of the role of security technologies in prisons is required to understand how they influence the rehabilitation environment. This examination should include both rehabilitative and security aspects and offer a more complete view of the digital landscape's role in corrections.

Evidence about outcomes

More rigorous evaluation processes are required to generate robust evidence about the extent to which digital rehabilitation assists users to learn new skills, change problem behaviours, and strengthen their connections with family and community. Digital applications for surveillance and monitoring, transition to the community, family contact and support, and staff engagement and training are areas of priority for evaluation studies.

- **Recommendation**: Increase research activities to assess the impacts of digital rehabilitation comprehensively, focusing on these priority areas to gather evidence on the tangible benefits and potential limitations.

Assessing costs and benefits

The high cost of delivering person-based services is an important limiting factor in prison programme provision. One of the suggested benefits of digital service delivery is that it can provide similar benefits at a lower cost. However, there have been few attempts to compare the costs and benefits of digital service delivery with traditional methods. Such analysis should consider all costs associated with digital service delivery, including costs to end-users.

- **Recommendation:** Undertake a meta-analysis of existing research to clarify the costs and benefits associated with digital rehabilitation services, considering all related expenses, including those borne by end-users.

12.5. Next Steps

In 2024, UNICRI initiated a new programme to support the development of digital rehabilitation strategies in two pilot countries: Namibia and Thailand. This innovative project aims to enhance the capabilities of these countries in implementing digital solutions within their criminal justice systems to improve the outcomes of prisoners' rehabilitation.

The training programme will focus on the formulation of comprehensive digital rehabilitation strategies, utilizing methodologies to address the unique challenges faced by prisoners. The training will cover several key areas, including:

- Development of Digital Rehabilitation Frameworks: Guiding participants through the process of creating effective digital rehabilitation strategies tailored to their specific country contexts.

- Ethical and Regulatory Considerations: Addressing the ethical implications and regulatory requirements of deploying digital technologies within prisons.

Furthermore, UNICRI aims to facilitate knowledge exchange between Namibia and Thailand, encouraging collaboration and the sharing of best practices in digital rehabilitation. This initiative aims to directly benefit the pilot countries and serve as a model for other countries looking to integrate digital solutions into their rehabilitation strategies.

In parallel with this project, UNICRI will continue to raise awareness about the significance of digital rehabilitation strategies at the global level. Efforts are underway to engage with the international community, leveraging platforms within and beyond the UN to highlight the potential of digital technologies in supporting prisoner rehabilitation and reintegration.

This initiative reflects UNICRI's commitment to fostering innovative approaches to criminal justice reform and rehabilitation, addressing the pressing need for comprehensive, UN-led programmes that can be implemented globally. Through these efforts, UNICRI seeks to establish a solid foundation for the widespread adoption of digital rehabilitation strategies, ultimately contributing to more effective rehabilitation outcomes and the successful reintegration of prisoners into society.

CHECKLIST FOR MOVING TO DIGITAL REHABILITATION

This report has organized rehabilitative digital pathways according to their complexity and reach, and the degree to which they involve fundamental versus incremental reform. The three pathways set out in this report (*Transformational*, *Enhanced* and *Adaptative)* represent general types and the actual pathway for any individual agency will necessarily be shaped by its rehabilitative priorities and technological capacities.

A key consideration in choosing a pathway is the level of digital maturity within a prison service. In this context, activities such as using digital tools for administration, providing educational and therapeutic interventions through digital platforms, and assessing the impact of technology on rehabilitation all contribute to the digital maturity. The intensity and breadth of activities is key here, although even adaptive and enhanced pathways meet important needs and support people in their rehabilitative journeys.

TYPE OF DIGITAL PATHWAY	MOVING TO DIGITAL REHABILITATION
TRANSFORMATIONAL **See:** **Case Example 1** **Case Example 2** **Typical Digital Maturity level:** ***Leaders in readiness***	☑ Create a service-wide shared vision of rehabilitation; ☑ Align to e-government activities and agendas; ☑ Identify sources of state investment (education, employment, health etc); ☑ Establish partnerships with services, suppliers and developers; ☑ Use data to drive decision-making; ☑ Establish comprehensive quality assessment and feedback processes; ☑ Cover all dimensions of rehabilitation; *economic, social, personal, cultural,* and *health;* ☑ Actively manage change and establish dedicated teams with digital skills; ☑ Ensure that rehabilitation, custody management and security teams are represented in decision making; ☑ Be culturally and gender responsive; and ☑ Undertake screening for safety of use.

ENHANCED **See:** **Case Example 4** **Case Example 8** **Typical Digital Maturity level:** ***Progressors in readiness***	☑ Identify the affordances that technology can bring about to supplement existing services; ☑ Identify priority rehabilitation targets including priority user cohorts; ☑ Invest in tailored staff training and engagement; ☑ Monitor quality and user experiences; ☑ Be culturally and gender responsive; ☑ Undertake screening for safety of use; and ☑ Actively manage change.
ADAPTIVE **See:** **Case Example 3** **Case Example 7** **Typical digital maturity level:** ***Preparers in readiness***	☑ Partner with other service providers; ☑ Identify where digital offers an effective way to address gaps in services; ☑ Modest technological maintenance; ☑ Accessibility does not require sophisticated infrastructure; ☑ Understand re-entry challenges and barriers; ☑ Use advocacy groups to build business cases and mobilise resources; ☑ Assess cost implications to prisoners and their families; ☑ Be culturally and gender responsive; and ☑ Undertake screening for safety of use.

ENDNOTES

1 Language used in this report to refer to people in prison is sensitive to the views of negative labelling. The terms prison and prisoner will be used throughout for consistency and global standards adopted by the United Nations. For further insights and guidance, see 'Mind your language': What people in prison think about the language used to describe them - Bidwell - 2023 - The Howard Journal of Crime and Justice - Wiley Online Library

2 Workshop 2. Reducing reoffending: identifying risks and developing solutions* (A/CONF.234/9).（本文）京都コングレス2020.indd (unafei.or.jp)

3 Doha Declaration on Integrating Crime Prevention and Criminal Justice into the Wider United Nations Agenda to Address Social and Economic Challenges and to Promote the Rule of Law at the National and International Levels, and Public Participation (unodc.org)

4 Roadmap for the Development of Prison-based Rehabilitation Programmes (unodc.org) (p1)

5 Reisdorf, B.C. & Rikard, R.V. (2018). Digital Rehabilitation: A Model of Reentry Into the Digital Age. American Behavioral Scientist, 62 (9), 1273-1290.

6 Knight, V., & Van De Steene, S. (2020). The digital prison: towards an ethics of technology. In Prisons and Community Corrections (pp. 57-71). Routledge.

7 For more information about the UN Roadmap for Digital Cooperation see https://documents-dds-ny.un.org/doc/UNDOC/GEN/N20/102/51/PDF/N2010251.pdf

8 Human rights in the administration of justice : (un.org)

9 For more information about the digital aspects of the Sustainable Development Goals, see the SDG Digital Acceleration Agenda at https://www.undp.org/publications/sdg-digital-acceleration-agenda

10 Palmer, E. J., Hatcher, R. M., & Tonkin, M. J. (2020). Evaluation of digital technology in prisons. Ministry of Justice.Evaluation of digital technology in prisons (publishing.service.gov.uk)

11 Committee on the Rights of the Child, 'Report and recommendations of the day of general discussion on "Children of incarcerated parents"' (30 September 2011)

12 Sykes, G. (1958). The pains of imprisonment. The society of captives: A study of a maximum security prison, 63-78.

13 For further information about digital inequality and the steps that can be taken to address it see Addressing the Digital Divide: Taking Action Towards Digital Inclusion. UN Human Settlements Program (UN Habitats), 2021.

14 Guide for Documenting and Sharing "Best Practices" in Health Programmes

15 Brown, A., Fishenden, J., & Thompson, M. (2014). Digitizing government. Palgrave Macmillan.

16 For a more comprehensive analysis of digital technologies in corrections, see Ross, S., Wood, M., Baird, R. & Lundberg, K. (2023) Digital service delivery applications in corrections: A scoping review. Canberra: Criminology Research Council https://www.aic.gov.au/crg/reports/crg-0820-21

17 One example is the Socrates 360 platform, which can be delivered via mobile phone or tablet with or without a network connection. The platform provides a wide range of monitoring, educational and support functions and also acts as a gateway to other forms of rehabilitative interventions like Breaking Free Online.

18 Whitelisting' is a cyber security technique where system administrators compile a list of pre-approved websites that are accessible by end-users on all the devices. All other web addresses are blocked

19 See examples such as WayOutTV (Innovations in Prison: Wayout TV/Way2Learn | PeoplePlus) and National Prison Radio (National Prison Radio - Prison Radio Association)

20 Paul, G. L. (1967). Strategy of outcome research in psychotherapy. Journal of consulting psychology, 31(2), 109.

21 The Washington State Institute of Public Policy publishes summaries of the outcomes of adult offender rehabilitative interventions, measured as the monetised benefit: cost ratio of the intervention. The interventions for prisoners that yield the greatest benefits relative to costs are correctional education (19.74), employment counselling and job training as part of reentry support (16.95), intensive supervision with treatment (16.25), drug treatment during incarceration (14.06 – 10.13), vocational education (11.94), and cognitive behavioural therapy (6.31). See https://www.wsipp.wa.gov/BenefitCost?topicId=2

22 For a summary of evidence about the impact and effectiveness of digital interventions in corrections, see Ross, Wood, Baird & Lundberg 2023 op cit.

23 Leach R, Carreiro S, Shaffer PM, Gaba A & Smelson D 2022. Digital health interventions for mental health, substance use, and co-occurring disorders in the criminal justice population: A scoping review. Frontiers in Psychiatry 12: 2455

24 Digital Technology in Prisons Unlocking relationships, learning and skills in UK prisons ©The Centre for Social Justice, 2021. https://www.centreforsocialjustice.org.uk/wp-content/uploads/2021/01/CSJJ8671-Digital-In-Prisons-INTS-210114-WEB.pdf

25 Nelson Mandela Rules (unodc.org)

26 See Handbook on Dynamic Security and Prison Intelligence, UN Office of Drugs and Crime, 2015. https://www.unodc.org/documents/justice-and-prison-reform/UNODC_Handbook_on_Dynamic_Security_and_Prison_Intelligence.pdf

27 Organisation for Economic Cooperation and Development (2014). Recommendation of the Council on Digital Government Strategies. https://www.oecd.org/gov/digital-government/Recommendation-digital-government-strategies.pdf

28 E-government Survey 2022: The Future of Digital Government. United Nations Department of Economic and Social Affairs. https://publicadministration.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2022

29 Knight, V., & Van De Steene, S. (2020). The digital prison: towards an ethics of technology. In Prisons and Community Corrections (pp. 57-71). Routledge.

30 For a more detailed examination of how technology practices can be aligned with human rights and other ethical principles, see the Responsible Technology Playbook: Tools for the United Nations at https://www.uninnovation.network/innovation-library/responsible-technology-playbook-tools-for-the-united-nations.

31 General Data Protection Regulation (GDPR). https://gdpr-info.eu/

32 The DigiMac model has been developed to help services review their digital transformation activities and/or planning. Further details can be found at: Knight, V., Reisdorf, B. and Van De Steene, S. (2023) Digital Maturity of Prisons: A Global Survey. https://hdl.handle.net/2086/22498

33 Knight, Reisdorf & Van De Steen 2023 *op. cit*.

34 United Nations Standard Minimum Rules for the Treatment of Prisoners, p.7/33.

35 Morris J & Kaur Bans M 2018. Developing digitally enabled interventions for prison and probation settings: A review. Journal of Forensic Practice 20(2): 134–140.

36 See Roadmap for the Development of Prison-based Rehabilitation Programmes, UN Office of Drugs and Crime, 2017.

37 See also the European Prison Rules (2020), Committee of Ministers of the Council of Europe, and the United Nations Rules for the Treatment of Women Prisoners and Non-custodial Measures for Women Offenders (also known as the Bangkok Rules) that includes specific mention of health education for women. The 2020 UNESCO report Education in Prison: A Literature Review includes summaries of national standards and policies relating to prison education.

38 21252030 Agenda for Sustainable Development web.pdf (un.org)

39 Barros, R. M., Monteiro, A., & Leite, C. (2021). An overall picture about academic literature focused on online learning in prison. https://repositorio-aberto.up.pt/bitstream/10216/131558/2/437118.pdf

40 Bozick, R., Steele, J., Davis, L. and Turner, S., 2018. Does providing inmates with education improve postrelease outcomes? A meta-analysis of correctional education programs in the United States. Journal of Experimental Criminology, 14(3), pp.389–428.

41 Farley, H., & Pike, A. (2016). Engaging prisoners in education: Reducing risk and recidivism. *Advancing Corrections: Journal of the International Corrections and Prisons Association*, *1*, 65-73.

42 A systematic review of literature: Barros, R. M., Monteiro, A., & Leite, C. (2021). An overall picture about academic literature focused on online learning in prison.

43 McCulley, Y., Gillespie, C., & Murr, A. H. (2014). Assessing the effectiveness of text-to-speech software in incarcerated adult literacy education. *Journal of Correctional Education (1974-)*, *65*(2), 2-19.

44 Erasmus+ is the EU's programme to support education, training, youth and sport in Europe.

45 Meaning that the support is targeted at the right time of their prison sentence- pre-release - where preparation is needed to reconnect and organise their lives back in the community.

46 The PrisonCloud system introduced into Belgian prisons in 2013-14 is one of the most well-documented on these systems. See Robberechts, J. & Beyens, K. (2020) PrisonCloud: The Beating Heart of the Digital Prison Cell in J. Turner, V. Knight (eds.), The Prison Cell, Palgrave Studies in Prisons and Penology.

47 The evaluation studies of kiosk and in-cell tablet systems referred to in this chapter include: Robberechts & Beyens, 2020; McDougall & Pearson 2020; Thaler, O., Barkworth, J. & Howard, M. (2022). Implementing digital technologies in prisons: A qualitative study of inmate experiences. Mahajan, Y., Sarker, A., Chong, C.S. & Howard, M. (2023) Impacts of digital tablets on trends in correctional centre safety and order: A controlled interrupted time series study. Both available from https://correctiveservices.dcj.nsw.gov.au/resources/research-and-reports/corrections-research-evaluation-and-statistics/research-and-statistical-publications-by-year-of-release.html

48 These systems are better described as 'e-messaging' as the messages often lack features that are standard with email, like the ability to attach documents, photos, or url links, and have limits to the number of characters in the message.

49 US data on the availability and pricing structure of prison e-messaging is available from the Prison Policy Initiative at https://www.prisonpolicy.org/reports/emessaging.html.

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