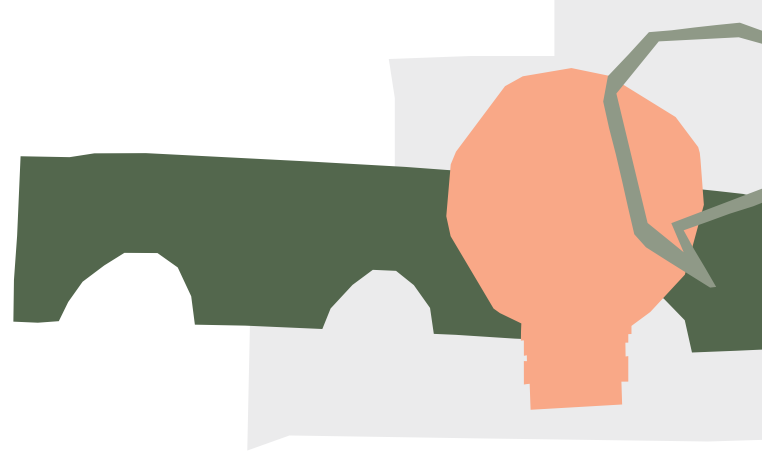


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## Digital futures in youth mental health

POLICY LAB

**Digital technologies offer significant potential for improving the delivery of mental health care. Realising this potential will require rapid testing and evaluation of emerging technologies to enable evidence-informed policies. Artificial intelligence (AI) and the utilisation of integrated datasets have been identified as priority technologies.**

### ARTIFICIAL INTELLIGENCE

AI has the potential to enhance the personalisation and precision of mental health care for young people. Standards are needed to provide transparency and accountability for how AI is used. Government policy has a role in facilitating collaborative innovation and development. AI-assisted personalisation and precision has the potential to support more timely and better clinical decision making and will empower young people to engage more meaningfully with care.

IMPROVED CARE

### DATA INTEGRATION

The potential of integrated data to improve service system design and delivery is widely recognised. Internationally, data-informed quality assurance systems have seen tangible improvements to care. Expanded investment in tools, systems and processes is required to maximise the potential of data integration to improve service systems. Leadership and improved coordination from funders and data custodians across a range of jurisdictions is required.

BETTER SERVICES



## Digital technology in youth mental health

Digital technology is used in delivering youth mental health care, with broad support among young people and clinicians.(1) The potential of digital technologies to improve youth mental health care include: augmenting face-to-face care, (2) personalisation and precision of treatment, (3) service monitoring and modelling, (4) removing accessibility barriers, and increasing cost-effectiveness. (5) The fast pace of change, however, can “make it challenging for governments to design and implement appropriate policy and regulatory frameworks.”(6) In Australia, youth mental health policymakers have recognised the potential gains of implementing digital versions of existing treatments and services. However, targeted policy solutions are needed to further advance development and support implementation of new digital initiatives.

To maximise this potential, government policy, service design and clinical practice needs to adapt to these changes. This adaptation requires bridging the “evidence-to-policy divide” through “meaningful two-way exchanges”.(7, 8) The Policy Lab model was designed to facilitate this exchange. The Policy Lab model was developed to facilitate the incorporation of knowledge and evidence into the policy development process.(7)

### Identifying priority technologies

The Policy Lab began with a background presentation on the current state of digital technology in youth mental health care in Australia and the policy context for implementing and regulating the technology. Participants then worked in table groups to identify emergent technologies and the varying stages of the development. Groups then selected the most promising technology for improving service provision, clinical practice, and young people’s experiences. Finally, all participants were asked to vote for the priority technology in each category. These became the focus of the policy development process.

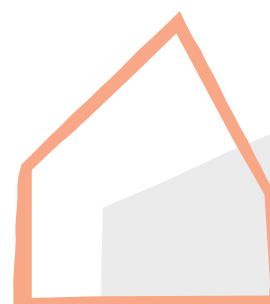
### Policy development

The development of policy solutions is a two-stage process. The three components of a policy are workshopped by Policy Lab participants through facilitated activities, and this data is then analysed post-workshop to develop policy solutions. During the Policy Lab, participants initially identified barriers to a developing and implementing new digital technologies in youth mental health care, and then enablers. Finally, the mechanisms – the how or who – by which barriers can be overcome and enablers supported. These components were then analysed and draft policy solutions were circulated with participants for review.

### Key principles

The Digital Futures in Youth Mental Health: Policy Lab was informed by four key principles.

1. **Care for young people:** the onset of most lifetime mental disorders is before the age of 25 years making early intervention and recovery a focus of youth mental health care.
2. **Collaboration:** working together increases the potential for innovation and achieving implementation.
3. **Knowledge sharing:** building new connections between experts and policy workers supports evidence-informed policy.
4. **Solution focus:** policy development responds to issues with a focus on achieving improved outcomes.



## Policy lab findings

### Digital technologies identified

Digital technologies include “tools, systems and devices that can generate, create, store or process data ... programmed to perform various functions”.(9) Current digital technologies in youth mental health care, such as telehealth, apps, wearables, and moderated social and therapeutic platforms, have been enabled through advances in telecommunications. Emerging technologies are being enabled by advances in computing power, large datasets, and artificial intelligence. These will drive future innovation. Emerging technologies have the potential to advance the provision of youth mental health care.

Two priority technologies for advancing youth mental health care were prioritised and developed into policy solutions.

1. Using AI to personalise youth mental health care and experiences; and
2. Maximising the potential for data to improve service-system design and delivery.



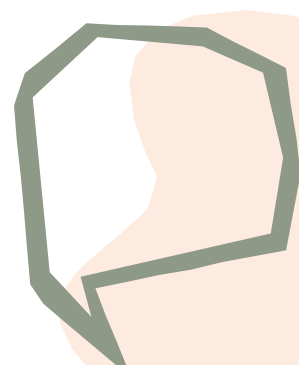
### Using AI to personalise and improve the precision of youth mental health care and experiences

Participants identified the potential of AI to improve a young person’s experience of mental health care. It was also recognised by participants that the way in which AI is developed and implemented was important too. This focus includes how young people will be able to manage their mental health, and how digital technology will be incorporated into clinical practice. Additional considerations included how to measure outcomes and regulate treatment models, and the changes to service models and funding that would be required.

Participants also had questions about how development will be funded and how to address the potential risk for errors. These questions highlight the importance of the developmental phase of this technology, and the need for policymakers to be informing the direction of development.

### Maximising the potential for data to improve service-system design and delivery

Integrated datasets and their design will be central to improving service system design and delivery. Participants identified that this would require top-down cultural change within organisations, with a focus on collaboration. Demonstrating the potential of integrated data and how this supports government priorities would contribute to the policy case. Delivering on the potential of integrated datasets through collaboration will be strengthened by adopting standardised approaches and funding models that support collaboration. Participants acknowledged that considerations of safety and privacy was an issue that would need to be addressed.



## Policy solutions

Direction	Rationale	Outcome	Mechanism
<b>Using AI to personalise and improve the precision of youth mental health care and experiences</b>			
<p>AI has the potential to personalise and improve the precision of mental health care for young people.</p> <p>Standards for AI models are required to provide transparency and enable review.</p> <p>A collaborative approach is required to enable evidence-based innovation, development, and implementation of AI models in youth mental health.</p>	<p>Personalising youth mental health care has the potential to support engagement (including family and other supporters).</p> <p>Personalisation and improved precision have the potential to increase the relevance of treatment for young people, complement face-to-face care, enable a young person's role in shaping care, and improve treatment adherence.</p>	<p>Decision making and fidelity in youth mental health care is improved, and clinicians are supported in the delivery of care. Young people are more engaged in their mental health care.</p>	<p>Government policy leadership for scientists and industry to produce AI decision-making tools for clinically-administered youth mental health application.</p> <p>Funding models are required to support collaborative innovation, development, and implementation.</p>

Direction	Rationale	Outcome	Mechanism
<b>Maximising the potential for data to improve service-system design and delivery</b>			
<p>To realise the potential of data to improve service-system design and delivery requires leadership and coordination from data custodians.</p> <p>Key enablers in maximising the potential of data include:</p> <ul style="list-style-type: none"> <li>• young people's perspectives;</li> <li>• clinician engagement;</li> <li>• data standards; and</li> <li>• service quality and efficiency.</li> </ul>	<p>The potential for data to be used in unlocking ongoing improvements in service-system design and delivery faces a significant challenge from legacy issues. Overcoming these challenges requires investment in human and system resources, and integration to build the pillars of a data eco-system collaboratively. These pillars are data collection, quality, standards, integration, and access.</p>	<p>Maximising access to, and use of, integrated data within and between service systems, requires expanded investment in tools, systems, and processes that support standardised collection, storage, analytics, accessibility, interoperability, and productive utilisation.</p> <p>Benefits are demonstrated within the mental health sector (young people, clinicians, services) and beyond (intersecting sectors, that is, education, and across government).</p>	<p>A consortium approach, across government, research, and private sectors, is required to maximise resource investment and capacity in data integration to improve service systems.</p>



## Participants

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