What successful early intervention looks like across the service system

Paper 1

Prepared for the Victorian Department of Treasury & Finance

Centre for
Evidence and
Implementation

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About CEI
The Centre for Evidence and Implementation (CEI) is a global, not-for-profit evidence intermediary dedicated to using the best evidence in practice and policy to improve the lives of children, families, and communities facing adversity. Established in Australia in late 2015, CEI is a multi-disciplinary team across four offices in Singapore, Melbourne, Sydney and London. We work with our clients, including policymakers, governments, practitioners, program providers, organization leaders, philanthropists and funders in three key areas of work:

- Understand the evidence base

- Develop methods and processes to put the evidence into practice

- Trial, test and evaluate policies and programs to drive more effective decisions and deliver better outcomes

Contents

Table of Contents

1. Introduction

1.1. Key messages

In this paper, we explore the features of successful early intervention systems and ways in which the Early Intervention Investment Framework can be leveraged or strengthened to foster these features in the Victorian early intervention system.

We conclude that to transition to a more balanced service system there's a need for the early intervention system to be expanded and strengthened. We identify seven measures that are necessary for this to be achieved. These are:

- Funding that enables collective early intervention across the system

- Sourcing evidence on 'what works' in early intervention

- Guidance and capacity to implement 'what works'

- Practices and support to de-implement what does not work

- Person-centred approaches that drive service innovation

- Integrated cross-government data systems to drive investment, and

- Embedded data systems that enable quality outcome measurement and evaluation

Each of these is discussed in terms of the rationale for why it's critical to early intervention, the markers of success, challenges, and some pragmatic suggestions for how the EIIF can be leveraged to contribute to system change. We note some challenges to EIIF implementation cannot be solved by the EIIF alone and requires whole of Government action on building the preconditions for a successful early intervention system.

1.2. The benefits of early intervention

Service systems are weighted heavily toward 'treatment' and acute services, leaving systems hamstrung when it comes to effectively intervening early, and ideally at a person's first presentation to a service. This has significant unintended consequences for individuals, families, and communities. The consequences of a poorly balanced service system, outlined by the Victorian government,[1] include the risk of:

- problems becoming more entrenched, escalating or compounding, in turn resulting in the need for more intensive and intrusive intervention

- unaddressed family issues and challenges related to parenting, homelessness or drug and alcohol usage resulting in intergenerational impacts on children, and

- disruptions to gaining and maintaining work, resulting in declining workforce participation and labour productivity.

In effect the service system, as currently conceived, reinforces itself – late service presentation resulting from unaddressed problems directs investment to the delivery of intensive and expensive acute services. The cost to Australian governments for late intervention with children and young people who are in crisis has been estimated to be $15.2bn each year, equating to $1,912 per child and young person.[2] It is estimated Victoria spent $3.6bn on late intervention in 2018-19, more than 40% of which was directed toward child protection. Issues clustered around children and young people (i.e., child protection, youth crime and not in education or employment) represented just under 70% of this $3.6bn late intervention spend.[2] The opportunity costs are huge, particularly when we know evidence-informed early intervention services exist and have been successfully trialled in Australia.[3]

Government interest toward reorienting the health and human services system from intensive, acute, episodic intervention to targeted early intervention is common. Realised effort – that is, appropriately sized investments in early intervention that result in long-term systemic change – is rare. This is because efforts to rebalance or reorient service systems to early intervention have been undertaken within contexts of inadequate funding, short-term thinking, fragmented responsibility, ineffective interventions, and knowledge gaps.[4] These challenges exist (to varying degrees) in the current system and are described with reference to potential EIIF levers in section 2 of the paper.

The benefits of effective early intervention are significant. Improved social cohesion in communities (e.g., due to lower incidences of crime and improved neighbourhood safety), a stronger economy (e.g., due to improved employment and earning potential) and direct, more proximal benefits to services, like reduced demand leading to the better use of available resources and improved quality of care. While significant short-term avoided costs for governments are uncommon,[5] the pressure on future budgets caused by costly

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[1] State of Victoria. (2021). *Victorian Budget 2021/22. Creating Jobs, Caring for Victorians. Strategy and Outlook. Budget Paper No. 2.*

[2] Teager, W., Fox, S., & Stafford, N. (2019). *How Australia Can Invest Early and Return More: A New Look at the $15b Cost and Opportunity*. Australia: Early Intervention Foundation, The Front Project, and CoLab.

[3] For example, see Schimmelmann, B.G, Huber, C.G., Lambert, M., Cotton, S., McGorry, P.D. & Conis, P. (2008). Impact of duration of untreated psychosis on pre-treatment, baseline, and outcome characteristics in an epidemiological first-episode psychosis cohort. *Journal of Psychiatric Research, 42,* 982-990.

[4] Early Intervention Foundation (2018). *Realising the Potential of Early Intervention*. London: EIF.

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late-stage intervention on issues like child protection and youth crime can be relieved in the longer term. [2]

1.3. Background to the paper

The Victorian Department of Treasury and Finance (DTF) commissioned the Centre for Evidence and Implementation (CEI) to prepare three brief discussion papers to explore how the Early Intervention Investment Framework (EIIF) could be leveraged and enhanced to support reorientation of Victoria's social system so that early intervention forms a larger proportion of the system. The papers explore:

- what successful early intervention looks like across health and human services systems (this paper)

- how outcome measurement can be embedded for early intervention initiatives across the Victorian service system, and

- principles, methods, and illustrative examples of measuring early intervention effectiveness.

The primary audience for the paper is policymakers, including those involved in preparing budget bids that need to align with the EIIF. The paper is in two parts:

- introduction to the EIIF and early intervention systems, and

- fostering a successful early intervention system in Victoria through the EIIF.

Our approach to developing the discussion papers

Our approach in developing these papers was to go deep rather than broad. We examined the structure and intent of the EIIF, identified reports and papers across the areas of early intervention, social investment, evidence informed policymaking, implementation science and systems thinking that aligned with the EIIF approach, and explored key issues with experts in government who have responsibility for social policy reform, portfolio strategy development and evaluation and monitoring. The three primary information sources for the papers were:

- material on the EIIF supplied by DTF

- key reports, papers, and journal articles identified through desktop search and expert recommendation, and

- consultations with a select group of senior executives in the Victorian government.

1.4. The Early Intervention Investment Framework

The EIIF, administered by DTF, is Government's mechanism to encourage continuous growth in investment in early intervention by linking this investment to measurable impacts on both the outcomes of people using the services and the service system. [1] The EIIF channels investment into initiatives that offer timely intervention to Victorians to

reduce and prevent acute service usage, with the aims of improving outcomes for vulnerable people and avoiding costs to the state government.

The 2021-22 Budget funded 10 initiatives to the tune of $324 million over four years to deliver targeted and timely support for vulnerable Victorians across a range of cohorts, delivering better outcomes from them and reducing demand on more intensive, downstream services. The 2022-23 budget expanded this investment with an additional $504 million for a range of programs, including for people experiencing homelessness, families at risk of having their child(ren) removed and placed in care, disengaged young people and people with chronic health conditions; the full list can be found here.

The EIIF's requirements for the 'quantification' of outcomes through the setting of targets and avoided costs for all funded initiatives is a crucial underpinning of the framework. These requirements, considered 'non-negotiables', have been built into the EIFF as a mechanism to help safeguard the possible watering-down of the credibility of the framework over time.

1.5. What we mean by an early intervention system

When problems such as substance misuse, child maltreatment, physical and mental health challenges, homelessness, and violent behaviour go unaddressed, they escalate and reduce opportunities for the people affected to reach their full potential. These escalating problems require more intensive, invasive, and burdensome interventions that place unsustainable demands on acute services, and in turn, place pressure on the State Government's budget and the investment's sustainability. Early intervention means preventing problems occurring or proactively tackling problems head-on to prevent them getting worse or their reoccurrence. [4]

An early intervention program or service, in the context of the EIIF, is any initiative that prevents flows through the system

The EIIF definition of early intervention is necessarily more targeted than other definitions[5] because the framework leverages the budget process and financial mechanisms and must act within the boundaries of its authorising environment. Its role is to guide investment - it complements the critical role of line departments as service designers and procurers and community sector partners as direct service providers.

While we think of the early intervention system in broad terms, we limit our discussion of key success attributes to the EIIF definition and programs' impacts - on acute service demand and improved outcomes – the EIIF's two 'must haves'. 'System' is also the right word for a series of separate projects funded across departments because systems are best defined through their connection to the goal of the system (i.e., impact in early intervention).[6]

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[5] See for example the UK based Early Intervention Foundation definition.
[6] Cook, J.W. & Tonurist, P. (2020). *From transactional to strategic: systems approaches to public service challenges.* Observatory of Public Sector Innovation.

2. Fostering a successful early intervention system in Victoria

2.1. The challenge

At its core, a successful early intervention system delivers the right services (i.e., evidence-informed, and effective services to address need) at the right time (i.e., in response to a problem as it first emerges) to the right people (i.e., those in the most need who can benefit most) in the right way (i.e., tailored to people's needs, preferences and values). The preconditions for a successful early intervention system are an adequately resourced and integrated system invested in person centred care, evidence-informed practice, outcome measurement and continuous quality improvement. Is Victoria ready for early intervention system reform?

The current Victorian early intervention service system landscape, like that in other jurisdictions, can be characterised as small, fragmented, variable (e.g., offering a range of programs grounded in varying degrees of evidence), and underfunded relative to acute services. Performance and outcome monitoring is inconsistent, resulting in part from the absence of a shared data system infrastructure. This is observed both across systems (e.g., interventions to prevent homelessness among young people leaving care) and within systems (e.g., substance misuse initiatives to prevent hospitalisations).

Transitioning from the current state to a more balanced end state – where a greater proportion of state government funding is spent on early intervention than is currently the case – requires significant and sustained strategic investment. This transition requires a policy mechanism that can be safely tested, adapted, and scaled in investment over time. The EIIF seeks to be this policy mechanism in Victoria. The investment in early intervention

delivered through the EIIF has approached $1bn over the last two state budgets, a favourable spend compared with other social investment vehicles, such as social impact bonds, which tend to be small in scale and cost around $15 to $30 million.

Iterative testing and adaptation of the EIIF will be necessary to ensure the Framework is driving investment in early intervention as intended. This will mean proactively identifying and dealing with challenges related to EIIF implementation, even when these challenges emanate from the broader service system. These include:

- **Accurately realising avoided costs in systems experiencing acute service demand**

Programs that are not adequately resourced to meet current levels of care because they have significant latent and unmet demand, observed for example, in timeliness to response or constraints in service availability, will experience challenges in accurately realising avoided costs attributable to an early intervention program. For these programs, reducing demand in services does not necessarily lead to overall savings – the so-called 'savings paradox'[4] – and any freed-up capacity, through for example, reinvested savings, is likely to be spent on meeting rising unmet demand without Government prioritising an alternate use of savings generated from new early interventions.

- **Determining where accrued benefits should be distributed**

The benefits of early intervention are distributed not just within portfolios but across departments. EIIF funded projects in the housing and homelessness system, for example, will likely have avoided costs in the mental health system (particularly over time, as initial stability may lead to increased health presentation). This means some departments are beneficiaries of early intervention while other departments are the providers of early intervention services. Which department should accrue benefits – those who achieve the benefit or invest in the benefit? The belief that benefits will accrue elsewhere acts as a disincentive to the development of cross-departmental EIIF proposals.

- **Budgeting processes that are tied to departments rather than people**

As the EIIF is currently applied to the budget process (which takes a department-based approach), this results in a range of projects being funded across departments and across multiple program and policy areas. The budget process (including EIIF) responds to departments and Ministers' budget proposals, each reflecting different drivers, rather than responding to shared cohort(s). As EIIF funded projects do not target a single cohort (e.g., people with unmet need related to mental health issues) or necessarily 'join-up' across department portfolios (e.g., programs to assist vulnerable first-time parents to use nurse home-visiting through DH, at the same time as targeted group parenting programs through DFFH), this compromises the efficacy and impact of these early intervention investments.

- **Potential disincentives for projects with long-term benefits**

Early intervention innovations in early childhood will not realise system impacts (i.e., impacts that are cumulative and observable across the system) for decades to come, yet they often present the most compelling evidence for early intervention system investment. The EIIF's focus on the proximal quantification of outcomes and estimated avoided costs (even if this is scaled over years) incentivises departments to propose projects that are downstream, rather than upstream. This means there are potential disincentives for departments to develop EIIF projects that are estimated to achieve significant impact only in the long-term.

2.2. Opportunities to strengthen the Victorian early intervention system

Under EIIF, successful early intervention systems are judged by their outcomes - improved outcomes for individuals, families, and communities amid reduced demand for acute services and avoided costs. Following are six opportunities to strengthen the Victorian early intervention system. For each opportunity we outline:

- a summary of the opportunity

- what success in that opportunity looks like

- common challenges (i.e., identified across jurisdictions) to implementing the opportunity, and

- potential levers through the EIIF, including how the framework could be optimised to contribute to realising the opportunity.

Potential levers include work DTF is currently undertaking through the EIIF with departments to develop outcome measures and targets for funding initiatives, as well as policy instruments such as advocacy, networking, narrative, and direct service delivery (in this case to departments)[7] to support and encourage departmental capacity building in areas important to early intervention.

2.2.1. Funding that enables collective early intervention across the system

Summary
Successful early intervention is a team sport. People with significant unmet need have multiple system touchpoints as they bounce between services attempting to find help and resolve their issues. Needs related to unstable housing, for example, are observed not just in homelessness services but in hospital emergency department presentations and contacts with the criminal justice system. At the same time, impact from an initiative funded in one part of the system inevitably accrues to other parts of the system as well – a homelessness program for at-risk young people that provides stable housing may be expected to positively impact education and workforce participation too.

This means the most effective funding model for early intervention impact should be grounded in the system rather than department silos. Another way of saying this is that priority-setting and budgeting for early intervention funding should follow people rather than services.

What success looks like
A centrally managed whole-of-system investment approach that enables collective action on shared priorities (does not disadvantage one department over another) and generates avoided costs across departments.

Common challenges to success
Challenges to funding collective action across the early intervention system are varied and include:

[7] Gardner, K., Olney, S., Craven, L. & Blackman, D. (2019). *Issues Paper No. 4. How can systems thinking enhance stewardship of public services?* Public Service Research Group, UNSW Canberra.

- Short term funding cycles and fiscal pressures associated with the huge demand on acute, statutory, or essential services that address late-stage issues and leave little investment for early intervention

- Fragmented responsibilities and accountabilities across departments (e.g., parenting interventions delivered through the health, child and family services and education portfolios)

- State budgeting processes that are structured to allocate resources according to department portfolio rather than shared priorities and cross-cutting population need

- Departmental disincentives to develop early intervention services (or develop EIIF proposals) that result in avoided costs in other portfolios or in underfunded areas of their own portfolios

- Departmental incentives to overestimate avoided costs in other portfolios to strengthen the case for their initiatives. Or to underestimate outcomes and avoided costs for initiatives where they are accountable (via annual reporting linked to the budget process) because of risk-aversion

- Availability of proven budget funding models that cut across departmental silos and allow avoided costs from innovations to accrue to different parts of the system

- Access to valid and reliable cross-system data to track population cohorts across services, identify shared system priorities for funding, and quantify outcomes and avoided costs across the system.

Potential levers through the EIIF

A potential action for the EIIF in enabling collective action across departments in early intervention could be to prioritise initiatives that target the needs of a specific cohort and specify outcome measures and/or avoided costs that are the accountability of departments who operate programs that contribute to this. This could take the form of an explicit commitment:

- Government to commit to funding one flagship cross-departmental initiative, in addition to other programs, through the EIIF each year from the 2023-24 budget.

To be successful, collective EIIF priority setting will require access to cross-departmental linked data that assists in identifying a target cohort and costs. Ideally a small cross-departmental team, facilitated by DTF, could refine potential cohorts for approval by the Victorian Government as the subject of the next budget's flagship EIIF initiative. On Government endorsement of the flagship cohort, departments would need to develop new business cases for the upcoming budget. This would involve access to high-quality research evidence, engagement with subject matter experts (including within departments, the service provider sector, and independent bodies to undertake the service intervention design, estimate the avoided costs and set targets for several outcome measures) in co-developing innovation, and corresponding quantified outcomes and impacts developed in conjunction with DTF. This is not a small undertaking and will require investment from DTF and the identified departments. This approach is consistent with the 'investment' approach of the Framework - the 'payback' from investing in targeting and service design is an expected uplift in the program's effectiveness in terms of outcomes.

2.2.2. Sourcing evidence on 'what works' in early intervention

Summary

An investment framework that enables long-term funding of early intervention is just the start. Exactly *what* gets funded is a crucial consideration for maximising impact. We already know, for example, what child and family early intervention programs work (i.e., because their impact has been demonstrated through rigorous testing). [4] This information is already readily accessible to policymakers through independent 'evidence advisory systems' – that is, evidence clearinghouses, including 'menus' of practices and programs and 'what works' centres. These report on the consistency and quality of findings about the effectiveness of a practice or program (and sometimes cost-benefit). One Victorian example is DET's School Readiness Fund menu that incentivises the uptake of evidence-informed programs in early learning centres by funding access to innovations (rated according to level of evidence and implementability) listed on the menu.

There is much to win (or lose) for a policymaker in selecting 'best bet' program and practices for service reform. Early intervention service system failures are socially and economically costly. Policymakers who source and use interventions with strong evidence foundations tailored to the local context have a higher likelihood of early intervention success and reducing acute services system funding growth rates.

What success looks like

Consistent and widespread use evidence-informed program and practices across the early intervention system informed by independent evidence advisory systems.

Common challenges

Challenges for policymakers in sourcing evidence on what works in early intervention are:

• Evidence-informed programs and practices developed internationally that are not 'generalisable' to Australian contexts or populations without adaptation

• Pressure from program purveyors and champions or other vested interests to purchase an 'evidence-based program' that is not a good fit to the Australian context

• Limited capacity and investment to synthesise, interpret and develop approaches to adapting the research evidence to local context in developing policy

• Limited evidence about what is effective in early intervention at a system, rather than service or program level (i.e., a whole-of-government innovation that targets low-income families and has known intended and unintended impacts across the system compared with an individual program within a single portfolio targeting this group.

Potential levers through the EIIF

The EIIF already has a role in incentivising the quality of what is funded in early intervention across Victoria through the requirement to specify up to 6 outcome measures and targets. That is, evidence-informed proposals should present more confident and reliable quantifiable impacts, in terms of estimated outcomes and avoided costs. As part of its stewardship of the EIIF, DTF has a role in facilitating knowledge translation about evidence advisory systems and encouraging departments to use them in the development of EIIF business cases. This could take the form of:

• DTF develop resources to assist departments to source and use evidence advisory systems (including guidance on selecting feasible interventions)

- EIIF business cases include standard sections on evidence advisory systems used in the development of the EIIF initiative.

2.2.3. Guidance and capacity to implement 'what works'

Summary

Early intervention system success begins with effective practices across departments, programs and sectors; and effective practice occurs through processes to embed knowledge into practice through implementation of what works. Implementation appears deceptively straightforward; yet it is a dedicated process involving a planned and staged approach to work based on explicit goals and the tailoring of evidence to people who need it. This goes beyond training the workforce as the main implementation strategy and requires the deliberate and cyclical use of data to measure implementation, skills to interrogate data, identify errors, problem-solve, and adapt and fit services to context (i.e., to people with different needs or within different service settings). This is aided by ready access to compilations of evidence-informed implementation strategies[8] and structures to support implementation such as implementation teams.

Effective implementation increases the likelihood of successfully achieving and sustaining intended system changes and reforms. This is enhanced by access to practical implementation guides tailored to practice area (e.g., implementation guide for child and family services)[9] and evidence intermediaries – organisations that can work in between system actors and institutions (including for example, policymakers, funders, and practitioners) to facilitate effective implementation.[10]

What success looks like

Consistent and widespread use across the early intervention system of implementation support and structures and skills to support the effective implementation of evidence into practice.

Common challenges

Poor implementation is relatively common in services.[11] [12] Challenges for policymakers in supporting implementation of evidence-informed programs and practices include:

- Poor recognition of the importance of implementation leading to insufficient preparation, long-term resourcing and planning of implementation work

- A lack of skills and competencies in the use of implementation science and implementation in practice, including expertise in scaling innovations

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[8] Powell, B.H., Waltz, T.J., Chinman, M.J., Damschroder, L.J., Smith, J.L., Matthieu, M.M., Proctor, E.K. & Kirchner, J. E. (2015). A refined compilation of implementation strategies: results from the Expert Recommendations for Implementing Change (ERIC) project. Implementation Science, 10:21.

[9] Hateley-Browne, J., Hodge, L., Polomeni, M. & Mildon, R. (2019). *Implementation in action. A guide to implementing evidence-informed programs and practices*. Australian Institute of Family Studies

[10] Bullock, H. L., & Lavis, J. N. (2019). Understanding the supports needed for policy implementation: A comparative analysis of the placement of intermediaries across three mental health systems. *Health Research Policy and Systems*, *17*(1), 1–13.

[11] Hudson, B., Huntre, D. & Peckham, S. (2019). Policy failure and he policy-implementation gaps: can policy support programs help? *Policy Design and Practice, 2*:1.

[12] Allen, P., Jacob, R.., Parks, R.., Mazzucca, S., Hu, H., Robinson, M., Dobbins, M., Dekker, D., Padek, M., & Brownson, R. (2020). Perspectives on Program Mis-Implementation Among U.S. Local Public Health Departments. *BMC Health Services Research*, *20*(258).

- Disruption in implementation processes resulting from staff turnover among key stakeholders and continuously shifting policy agendas and funding structures

- Limited investment in implementation infrastructure and strategy outside training (e.g., altering incentives/developing disincentives, supporting the involvement of people who use the service, addressing barriers and facilitators, developing practice reminder systems etc)[8]

- Poor data quality and/or lack of data systems at the service provider level that enable measurement of key implementation outcomes alongside the measurement of system and user outcomes.

Potential levers through the EIIF

The EIIF is not able to directly affect departmental uptake of implementation support and planning or the engagement of evidence intermediaries. However, DTF support implementation of EIIF initiatives and use the EIIF business case as a lever to encourage departments to document how they will ensure effective implementation of their EIIF funded project. Ideally this would also include ringfenced funds to ensure implementation activity (e.g., electronic point-of-care reminder systems, targeting either clinicians or patients, to prompt memory about health care practices) is adequately resourced. This could take the form of:

- DTF develop resources to assist EIIF funded departments to source and use evidence-informed implementation strategies, drawing on existing compilations, to encourage a 'training-plus' (i.e., training plus other implementation strategies) approach to implementation

- DTF facilitating shared learnings across departments regards outcomes measures for clients and the system as well as sharing key assumptions to improve consistency between departments where possible

- EIIF business cases include a section on how the department will ensure effective implementation of the EIIF funded initiative and include a budget line item for costs related to implementation.

2.2.4. Practices and support to de-implement what does not work

Summary

While governments have begun commissioning evidence-informed services, there has been little corresponding focus on the de-implementation of services that do not work. Service and system reform failures in early intervention are socially and economically costly. The opportunity costs of continuing to invest in ineffective services are significant – limited resources for early intervention could be better spent on effective intervention, implementation support to enhance the effectiveness of other interventions, or other incentives and initiatives. Ineffective early intervention also means that demand for acute services continues to grow rapidly and unabated, leading to a missed opportunity for the state Government to deploy its resources efficiently. Failing to address people's needs in a timely way prolongs people's experiences of difficulties and risks entrenching their vulnerability and disadvantage.

Like implementation, de-implementation is a considered and structured process – involving removing, replacing, reducing, or restricting the delivery of an inappropriate (i.e., not the most effective or cost-effective to provide or no longer necessary) or ineffective

intervention.[13] Rarely practiced, de-implementation minimises harm, prevents waste, builds public trust, and ultimately improves outcomes.[14] This action is necessary if Victoria is to maximise resources in delivering effective early intervention across the system. Government cannot afford to continue funding early intervention activities that are proven to not deliver – this is an opportunity cost that stymies the necessary growth of an effective early intervention system with adequate capacity.

What success looks like

Consistent and widespread de-implementation of early intervention programs and services that have been demonstrated through rigorous evaluation to not work

Common challenges

Challenges for policymakers in de-implementing programs or services that do not work include:

- De-implementation can be unpopular with stakeholders, especially if programs have face validity and are well-liked by communities

- Lack of knowledge and specialist skills in de-implementation including de-implementation frameworks and strategies

- Incongruent timing of political cycles, service commissioning contracts and evaluation findings to align evidence with action

- De-implementation may lead to unintended impacts in other areas of the portfolio (e.g., a person may lose trust and disengage from other services) and/or system (e.g., other organisations may be dependent on referrals from the de-implemented program).

Potential levers through the EIIF

The EIIF is well placed to assist Government to stop funding early intervention programs that do not work since it requires each program funded under the Framework to demonstrate its impacts by reporting annually on progress in meeting the various outcome measures' targets. This could be supported by resources on de-implementation made available to departments delivering EIIF funded programs. Embedding the practice of actively ceasing funding for initiatives that do not deliver the early intervention impacts will ultimately strengthen those programs that retain their funding, including by freeing up resources that can be redirected to these programs that demonstrate impact. However, this is challenging. Ways this could be achieved include:

- DTF include recommendations regarding ongoing funding for EIIF funded services that have not achieved targets or been demonstrated to be effective through rigorous evaluation as part of its annual EIIF report to Government for any/or future funding request

- DTF work with departments to develop resources to assist departments with de-implementation of programs demonstrated not to work

[13] McKay, V, R., Morshed, A. B., Brownson, R.C., Proctor, E.K. & Prusaczyk, B. (2018). Letting go: conceptualizing intervention de-implementation in public health and social science settings. *American Journal of Community Psychology, 62*: 189-202.

[14] Norton, W.E. & Chambers, D.A. (2020). Unpacking the complexities of de-implementing inappropriate health interventions. *Implementation Science, 15*(2).

- The Victorian government should not refund EIIF initiatives that are unable to reliably report success in achieving targets or outcomes

2.2.5. Person-centred approaches that drive service innovation

Summary

Research evidence is not the only factor that can or should influence policy.[15] Evidence-informed decision-making involves the amalgamation of the best available research evidence and policymaker expertise with Government priorities and end user needs, preferences, and values. Successful early intervention systems are built not by robotically responding to the research evidence or policy objectives, but instead are responsive to and reflective of service user needs. In the health sector, person-centred approaches and services focused on process improvements have contributed impacts by improving patient experience and by avoided costs through reductions to admissions.[16] Since early intervention should be equally about lessening people's suffering (in duration and/or intensity) as it is about reducing downstream costs, it is pivotal that those intended to benefit should be an integral consideration in service design.

User data, preferences and values should be used to modify current delivery approaches to make them more person-centred or create entirely new approaches that transform the delivery model. Design processes that include clear identification of end users and their needs, prototyping and/or rapid iteration of models, simplifying existing intervention parameters/procedures, and exploiting natural constraints (e.g., policy, or system parameters for the service) enable model innovation and put people at the centre of early intervention service design.[17] Beyond service design, actively integrating service user voice is integral to effective early intervention services as it helps with the challenging task of identifying what constitutes an improved outcome. No one knows more than the service user what would represent a positive impact or improvement.

What success looks like

Early intervention programs and services that reflect the needs, preferences, and values of people who use the service.

Common challenges

Challenges for policymakers in integrating person-centred approaches into the development and outcome measurement of early intervention services include:

- Complexity and lack of flexibility of existing interventions (i.e., sometimes governed by licensing) to be able to adapt interventions to user needs

- Contracting arrangements that focus on compliance with processes rather than outcomes and do not allow providers to adapt and tailor services based on user feedback

- Resource constraints related to funding, staff, and timing that mean person-centred approaches are not invested in

[15] Redman et al. (2015). The SPIRIT Action Framework: A structured approach to selecting and testing strategies to increase the use of research in policy. *Social Science & Medicine*, *136-7*, 147-155.
[16] Bhattacharyya, O., Blumenthal, D., Stoddard, R., Mansell, L., Mossman, K. & Schneider, E.C. (2019). Redesigning care: adapting new improvement methods to achieve person-centred care. *BMJ Quality and Safety, 28*:242-248.
[17] Lyon, A.R. & Koerner, K. (2016). User-centred design for psychosocial intervention and development. *Clinical Psychology, 23*: 180-200.

- Lack of knowledge and capability in user-centred design and service innovation.

Potential levers through the EIIF

Responsibility for integrating person-centred approaches in early intervention service design and delivery primarily rests with line departments and is shared with contracted service providers. However, the EIIF's requirement that outcome measures be articulated, and targets set can facilitate knowledge translation about user centred design and encourage departments to use person-centred approaches in the development of EIIF business cases, particularly intervention design and outcomes. This could take the form of:

- DTF work with departments and service sector to develop resources to assist in adopting person-centred approaches and implement user centred design

- EIIF business cases include standard sections on person-centred approaches used in the development of the EIIF initiative.

- Government could fund the development of tools to better capture service users' views as part of progressing the EIIF's outcome measurement requirement.

2.2.6. Integrated cross-government data systems to drive investment

Summary

Governments need good quality data – along with evidence of what works and how it can be implemented - to make wise investment decisions in early intervention that can have real impacts in reducing acute service usage as well as improving people's outcomes. Sharing of program datasets (within departments) as well as linked datasets (comprising data across departments and portfolios) enable long-term sophisticated modelling of cohorts' service pathways and trajectories across systems and time. This in turn, facilitates government's ability to forecast the impact of investment in early intervention across departments[2] – essentially enabling a whole of system view.

Data analytics are potentially powerful tools that can inform the Victorian Government's investment choices and help shift investment toward greater impact early intervention activities. When using comprehensive, complete, and up to date program and system-level datasets, analytics allow us to better understand when and where are the optimal points of intervention to divert different cohorts effectively, efficiently, and substantially from downstream service usage (e.g., is the best point of intervention in Type 2 diabetes via workplace health promotion or GP clinics and is this the same for Aboriginal and Torres Strait Islanders?). Understanding the service pathway and touchpoints will also help estimate the avoided costs from a diverted pathway as the result of effective early intervention.

Simulation modelling, being trialled by the Victorian Government, could assist in identifying leverage points in the early intervention system to maximise impact, guide resource prioritisation and planning for resource efficiency, capture complex cross-system (and broader societal and political) influences on outcomes, and facilitate policy responses

that are sensitive to context and likely to be effective.[18] It can also be combined with econometric analysis to calculate avoided costs.[19]

What success looks like
Data are used to identify cohorts, model policies, and inform Government's investment decisions in early intervention

Common challenges
Challenges for policymakers in using linked datasets and models to drive investment in early intervention services include:

- Datasets are not comprehensive (i.e., they do not include all data that is necessary for modelling, either because of data quality issues or availability) meaning there are unobserved effects

- They are expensive to run and maintain and it is often difficult for funding to be prioritised toward them

- They require highly skilled and specialised teams to build, maintain and deliver the analytics to various stakeholders

- There can be lag times in accessing up to date data, meaning the use of these systems is limited for policy evaluation.

Potential levers through the EIIF
There is a substantial opportunity for DTF to partner with departments and incentivise (perhaps through an EIIF flagship funded cross-government initiative) system-level early intervention innovation. The simulation model could be used in the first instance to identify areas and/or cohorts using services across at least two departments/portfolios for early intervention and proposed EIIF funding. Ideally, the model could also be used by departments to test scenarios and develop the business case (along with other priorities) for the EIIF bid. Modelling could also be used to examine unintended impacts across the system because of the implementation (or de-implementation) of EIIF funded initiatives. As a start, this could take the form of:

- The Victorian Government could audit the analytics capability in each department and develop a plan to build and/or enhance analytics capability that will directly support expansion of and effective delivery of EIIF initiatives.

2.2.7. Embedded data systems that enable quality outcome measurement and evaluation

Summary
Data systems that are embedded within service providers - and measure and monitor outcomes that matter to individuals and communities as well as to governments – are critical to understanding early intervention impact. Well maintained and easily accessible data systems embedded in service delivery agencies help frontline workers and their team leaders make decisions about tailoring intervention and assistance to people's needs and context. This 'on the ground' evidence (e.g., a child and family services caseworker's use of

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[18] Atkinson, J., Page, A., Wells, R., Milat, A. & Wilson, A. (2015). A modelling tool for policy analysis to support the design of efficient and effective policy responses for complex public health problems. *Implementation Science, 10*: 26

[19] Xie, X., Fan, Z., Kang, J. & Zhang, D. (2021). Combining econometric analysis and simulation modelling to evaluate population-based health policies for chronic disease prevention and control. *Preventive Medicine Reports,* 101586.

different evidence-informed therapeutic practices in response to individual family need), often not collected or available within departmental administrative data systems, improves the development of critical knowledge and practice.

Innovative evaluation methodologies that facilitate the feedback of data on implementation and outcomes at the service delivery level - such as hybrid designs[20] - assist service providers to use this data meaningfully and facilitate a powerful measurement of impact when combined with departmental administrative data systems. Hybrid evaluation designs bridge the research to practice divide by enabling the rapid transfer of real-world knowledge about 'what works' and 'what it takes' to continue to achieve impact.

What success looks like
Service providers have well-maintained practice-level data systems that integrate with departmental administrative data systems enabling robust outcome measurement and evaluation

Common challenges
Challenges for service providers and evaluators in using service-level data to measure impact and implementation include:

- Incompatible data systems and platforms between service providers and service commissioning departments

- Data quality issues relating to data completeness, data entry errors, timeliness, incorrect administration of tools, and/or gaps in measurement

- Data is not clinically relevant or useful in informing practice, implementation, or outcomes

- Lack of understanding of the significance of data and evaluation in practice.

Potential levers through the EIIF
DTF does not have control over the uptake and use of data systems, that can inform service implementation and impact, by service providers; although this can be leveraged by departments through, for example, outcomes-based contracting (i.e., contracting that requires the reporting of outputs and outcomes) or other instruments. DTF does have a role through the EIIF in capacity building with departments – both in terms of commissioning innovative impact evaluations fit for context and advising how they can encourage and incentivise service providers to develop robust data systems for monitoring and evaluation. At the same time, DTF's credibility in rigorous impact measurement – and the importance of this for minimising research waste - suggests a role more broadly for the EIIF in terms of innovative evaluation methods including hybrid designs in guiding investment. This could take the form of:

- DTF work with departments on outcome measurement and target setting to consider ways to incentivise the quality collection of data from commissioned services that aligns with the EIIF

- The EIIF consider contracting data auditors to independently verify the reliability of data collected as a precursor to data system investment

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[20] Curran, G.M., Bauer, M., Mittman, B., Pyne, J.M. & Stetler, C. Effectiveness-implementation hybrid designs. Combining elements of clinical effectiveness and implementation research to enhance public health impact. *Medical Care, 50*: 217-226.

- The EIIF develop an evaluation component that is aligned with the Framework's focus on guiding investment

- DTF work with EIIF funded departments to build capacity in collecting better data and commissioning better evaluation designs (such as hybrid designs) to guide investment in the most effective programs and practices.

2.3. What still needs to be done?

In this paper, we have identified seven measures that are necessary for the early intervention system to be expanded in Victoria and have proposed ways in which the EIIF can be leveraged or strengthened to foster these measures. We began with an acknowledgment that while Government interest in early intervention is common, realized effort - that is, appropriately sized investments in early intervention that result in long-term systemic change - is rare.

The EIIF represents a significant investment in early intervention by the Victorian Government (approaching a $1bn spend over the last two state budgets under this Framework and building on its Partnership Addressing Disadvantage program) and is the key policy mechanism for Victoria's transition to a more balanced service system. Yet some of its biggest challenges, such as a structurally underfunded system in and across portfolios, cannot be solved by the EIIF alone and requires whole of Victorian Government action. This action should focus on building the preconditions for a successful early intervention system – for example investing in an adequately resourced and integrated system, focusing on person centred care, evidence-informed practice, outcome measurement and continuous quality improvement.