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Lessons from Iceland: Developing scalable and sustainable community approaches for the prevention of mental disorders in young Australians

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SUMMARY

Adolescence is the primary age of onset for common psychiatric disorders and thus presents a singular opportunity for prevention, particularly in school settings. Research efforts have advanced the understanding of diverse and interacting risk and protective factors for anxiety and depression. Such factors span individual, family, school, economic, cultural, biological, and other domains. Despite this, Australian prevention programs have largely limited their focus to individual-level protective skills through psychoeducation, such as resilience and relationship building, usually with modest and short-term positive effects. We propose that multi-disciplinary, systems and community-based prevention efforts are needed to account for the complexity in underlying factors that contribute to common mental disorder onset. The Icelandic Model of Prevention, which has been shown to reduce substance use among adolescents, holds valuable insights for the prevention of other common mental disorders among Australian youth as it involves strengthening coordination within communities to reduce multiple risk factors and promote multiple protective factors. Effective prevention of depression and anxiety disorders, which arise as a result of multiple complex risk factors, is also likely to require structurally embedded, systems and community-based approaches to develop and implement local action that incorporates, and is adaptive to, context.

1. Introduction

It is widely acknowledged that common mental disorders impose a large and devastating burden on individuals, families and communities (Whiteford et al., 2013). Epidemiological data from Australia and abroad demonstrate that the age of onset for most common mental disorders is during childhood, adolescence or early adulthood (Steel et al., 2014). Because half of all mental disorders will have occurred by the age of 14 years, and it is widely accepted that mental health is closely connected to social and emotional development and early life experiences during this life phase, prevention efforts need to align with the period of risk. There are further vulnerabilities facing this age group – although adolescence is a time during which many mental disorders will first appear, treatment is often not accessed until many years after disorder onset. This age period thus presents a key window of opportunity for primary prevention, early identification of individuals at-risk, and providing treatment of those living with mental disorders (Steel et al., 2014).

National and international pressure on governments to prioritise the prevention of mental disorders is growing (Funk, 2016; Jorm &

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Reavley, 2013). In Australia, the federal government has responded to these demands by recognizing the importance of a coordinated, national prevention effort within the Fifth National Mental Health and Suicide Prevention Plan (Department of Health, 2017). However, to date there is no articulated blueprint or national strategy for the prevention of mental disorders in Australia.

Some of the underlying determinants of common mental disorders overlap with established risk factors for other non-communicable diseases, such as pre-conception and perinatal parental health, early life nutrition, and socioeconomic disadvantage, which are challenging to address. Risk factors that are strongly associated with mental disorders also include family history, early life trauma, life stress, and bullying (Cairns et al., 2014; Kendler et al., 1995; Saha et al., 2013; Uher, 2014). The challenges of addressing such risk factors have limited the development and implementation of universal prevention strategies for mental disorders to date. Despite these complexities, universal strategies remain the preferred approach, whereby interventions target entire populations as opposed to specific at-risk groups, as they offer greater impact at the population level and are less stigmatising for individuals (Cairns et al., 2014; Nehmy, 2010; Offord, 2000; Pössel, 2005). Such approaches also target other non-communicable disorders, which share common risk determinants, enhancing the denominator of the cost/benefit ratio. Further, such strategies are more likely to become socially embedded, therefore normalising protective and risk reduction practices (Ormel et al., 2019).

Primary prevention aims to reduce the underlying risks and promote protective factors prior to onset of illness or disease (Bonita, Beaglehole, & Kjellström, 2006). Among young people, prevention interventions often occur in school settings and these are often universal in nature. Such school-based programs have generally targeted single or few risk factors at a time and have primarily focused on Cognitive Behavioural Therapy techniques and/or social and emotional learning. A systematic review published in 2017 concluded that school-based prevention programs targeting anxiety and depression through psycho-education offered modest, short-term positive effects (Werner-Seidler et al., 2017). Similarly, a meta-analysis of 146 depression and anxiety prevention programs for young people suggested that most programs were psychoeducational, school-based, and reported effect sizes that were small in magnitude and short-lived (Stockings et al., 2016). Whilst comprehensive, this review did not evaluate interventions other than psychoeducation programs. These do not target many of the potentially modifiable risk factors known to precede mental disorders and there are a number of other prevention pathways that could offer benefits for young people's mental health. A meta-analysis of 213 school-based social and emotional learning (SEL) programs showed improved social and emotional skills, attitudes, behaviour and academic outcomes (Durlak et al., 2011). SEL programs aimed to build competencies and skills such as managing emotions and interpersonal relationships, goal setting, and respecting others perspectives. Prevention strategies targeting settings outside of schools have included internet based programs, parenting programs, mental health based service provision, and programs in sporting and other community health based settings (Burns & Birrell, 2014; Pierce et al., 2010; Stewart-Brown & Schrader-Mcmillan, 2011). Despite observable benefits, these programs focus predominately on building individual-level competencies and fail to capture the breadth of risk factors for mental disorders. It is conceivable that combining individual-level interventions with those targeted to family, school and community settings could greatly improve adolescent mental health outcomes. Such approaches are also more likely to be sustained and structurally embedded in social systems (Ormel et al., 2019).

It is now widely acknowledged that the determinants of common mental disorders extend beyond psychosocial risk factors. For example, there is evidence that lifestyle and substance use behaviours are modifiable determinants of common mental and other non-communicable disorders and are therefore key prevention targets (Cairns et al., 2014). Ebert and Cuijpers (2018) recently highlighted that collaborations across subfields of prevention, targeting underlying determinants of mental disorders including health behaviours, social isolation, adverse childhood experiences, and poor physical health, will offer the greatest potential for the prevention of anxiety or depression. While there are risk factors that are clearly specific to mental disorders, such as bullying, it is important to emphasise that many of the identified modifiable risk factors are shared with other non-communicable diseases; this means that the preventive benefits are likely to extend beyond mental health. Given the current burden attributed to common mental disorders, there is a clear need for further implementation and evaluation of universal preventive interventions that extend beyond psychoeducation.

In this viewpoint article, we argue that to maximise primary prevention of common mental disorders among young Australians, a comprehensive community-based approach that aims to strengthen underlying protective factors and reduce known risk factors is needed. Such an approach would assume complexity in underlying determinants, be adaptive to context, engage and utilise existing structures and systems and afford a common framework to which researchers, community leaders, government personnel, policy makers, parents, health services and clinicians could refer. We present recommendations for the development of a conceptual model informed by successes observed in a multi-component, community-wide prevention framework, the Icelandic Prevention Model.

2. Icelandic Prevention Model

The Icelandic Prevention Model is a pioneering, nation-wide program aimed at preventing the onset of adolescent alcohol, tobacco and other drug use (Sigfúsdóttir et al., 2008). Initiated in 1998, the approach has successfully led to a range of positive outcomes, including a reduction of teenage alcohol use; e.g. in 1998, 42% of 15–16 year-olds reported being intoxicated in the previous 30 days, while in 2017, this fell to 5%. Other findings included substantial increases in levels of parental support and monitoring, and decrease in the prevalence of substance-related behaviours (Kristjansson et al., 2010, 2016). Critically, the model recognises the importance of addressing the multiple risk and protective factors influencing adolescent health behaviours and development; it aims to coordinate relevant groups and influence community systems to prevent drug and alcohol use and to support positive health behaviours. This model has successfully demonstrated significant improvements in risk behaviours at the population level, by supporting co-ordinated local action within communities and schools (Sigfúsdóttir et al., 2008).

The Icelandic Prevention Model was developed based on collaboration and capacity building between policy makers, behavioural scientists, practitioners and community leaders at the level of government and municipalities in Iceland. The co-ordination of intervention initiatives are organized and maintained by the municipalities through schools and key leisure organizations such as sport teams and youth clubs. As such, the model promotes community-participatory action and embedding of knowledge at local level. The process for the model development and its components, are described in detail elsewhere (Kristjansson et al., 2010; Sigfusdottir et al., 2011; Sigfúsdóttir et al., 2008) and briefly summarised here.

At the commencement of the model development in the early 1990s, the risk factors relating to adolescent substance use in the international literature were identified and summarised to inform the theoretical basis of the model. Three major risk areas were identified: adolescent society (including peer group influence and leisure activities); parental support and monitoring; and community social capital including parent-school collaboration and inter-parental collaborations. Following this evidence synthesis, the model developers sought to build evidence through local observations to further determine the individual and societal drivers of adolescent health behaviours. This evidence

informed the development of the approach, which aimed to engage all relevant stakeholders to develop a community network of support and sanctions for young people, and to build opportunities for positive youth development to deter from substance use.

The model followed four cyclical steps to meet the above aims. Firstly, national data on adolescent behaviour and health status were used to define the scope of the issue of adolescent substance abuse, and to recognise the potential actions to be pursued. This was followed by the presentation of national data at the local level to community leaders, followed by inclusive discussion of potential actions to be taken at the local community level by policy makers, community leaders and members, youth workers, school personnel and others who hold potential to mobilize systems to promote positive adolescent health. Given sessions were held within municipal school communities, there was a focus on reflexivity to context and the unique needs of local communities. This was followed by local action whereby initiatives developed in phase two were implemented within communities. Initiatives were informed by national data but refined respective to unique insights and strengths of individual communities. The final phase was to adapt new data as they emerged and to integrate findings into a continuous improvement process for local activities.

A similar systems-based approach that includes systems science-based theory, community-participation, and is reflexive, combining epidemiological data with locally informed action, is currently underway in Australia for enabling healthier nutrition and physical activity systems for the prevention of obesity (Allender et al., 2016). Indeed, systems-based approaches have been used previously in the Australian Gatehouse Project and Communities That Care initiatives, which showed large and sustained reductions in drug use and antisocial and risky behaviours among Australian young people (Bond et al., 2004; Patton et al., 2006; Rowland et al., 2018) and have been successfully adapted and extended in a range of trials overseas (Bonell et al., 2018; Hawe et al., 2015; Shinde et al., 2017). There are also Australian systems-based strategies currently underway for suicide prevention that are community-led and that incorporate health, education, frontline services and other community members (Reifels et al., 2018). The core factors understood to contribute to the success of the Icelandic Prevention Model, and indeed these additional systems-based programs, are: focus on co-design including an on-going dialogue between research, policy and practice, local data-informed action, and accounting for the multiple and interacting risk and protective factors that drive health outcomes. However, there is yet to be such a successful co-ordinated, community-led systems approach specifically for the prevention of common mental disorders among Australian young people.

The unique context of Iceland, such as population size (~350,000), population homogeneity, and the short time required to reach communities, are likely key enablers to the observed successes of this program. It has also been suggested that the core assumptions of the Icelandic Model, that individuals and communities are empowered to contribute to societal change, aligns closely with core Icelandic cultural values such as interdependence and co-operation (Sigfúsdóttir et al., 2008). These factors may limit the potential for applying such model internationally. However, the successes achieved in the Icelandic Model have led to the development and implementation of the Youth in Europe project (European Cities Against Drugs Advisory Board, 2005) and recently the Planet Youth approach (see https://planetyouth.community/preventionmodel/). Many major European cities have adopted the model to prevent adolescent substance use, suggesting adaptability to international contexts. Whilst the primary focus of the Icelandic Model intervention was reducing adolescent substance use, the applicability of this model for other health issues during adolescence has been suggested. Indeed, adolescent substance use shares underlying risk and protective factors with common mental illnesses (Trudeau et al., 2016), and such community actions could be reasonably expected to have beneficial and positive impact on depressive and anxiety outcomes.

Recommendations for a conceptual model for the prevention of common mental disorders among Australian youth

Given the current state of adolescent mental health in Australia and the limitations of prevention initiatives to date, we propose that lessons can be learnt from the Icelandic Model for preventing common mental disorders in the Australian context. We recommend for community leaders, researchers, practitioners and policy-makers to agree to the development of a conceptual model based on the assumption that the specific and non-specific risk factors for anxiety and depression are wide and varied and extend beyond individual-level to include family, community, environmental and political levels. For example, while protective factors include individual-level skills such as coping strategies and resilience, any prevention initiative that fails to also consider protective factors beyond the individual – such as supportive careers, community social capital and strong peer relationships – are likely to be less effective and sustainable in the long term. This model could then be used as the basis of community consultation in collaboration with policy makers.

We recommend that:

- Strengthening community capacity through co-ordination and collaboration both within communities utilising existing structures, and between researchers, policy makers, community and school leaders, families and young people, should be prioritised for the prevention of depression and anxiety among Australian youth. Researchers are ideally placed to lead co-ordination and collaboration, but we recommend co-design with local community and sector leaders and members.
- The core of intervention development should emphasise co-design, making use of the latest epidemiological evidence, and building community capacity to guide the development of local actions that acknowledge and respond to local settings and contexts.
- Scalable and responsive monitoring and real-time surveillance of risk and protective mental health factors should be prioritised; these should continuously evaluate initiatives, while also being reflexive in order to quickly reorient to measure new or as-yet unidentified risk-factors (such as the recent rise of social media, screen time, and technology use, Hoare et al., 2016; Suchert, Hanewinkel, & Isensee, 2015). Monitoring should span individual-level (e.g., emotional and behaviour dysregulation, disengagement in school and other activities, physical health), school and home environment (e.g., school connectedness, parent-child relationships, home environment), as well as further social and economic-level indicators (e.g., economic hardship, culturally and linguistic diverse populations who experience unique barriers to mental health care). Schools provide opportunity for individual and family level monitoring, whereas social and economic-level data could be derived through community and population census and other public use data.
- Researchers should pursue opportunities to strengthen the evidence base for prevention by evaluating the mental health impacts of broader community-based prevention initiatives in other disciplines, especially where those initiatives target known risk factors for mental health or non-communicable diseases, and use complexity/systems thinking frameworks that move away from single risk-factor intervention strategies.
- Prevention efforts should ideally be transdisciplinary and include multiple disease endpoints, and engage clinical (e.g., Mental Health Clinicians, General Practitioners) and public (e.g., non-for-profit organisations, community health champions, educationalists, relevant government departments) partners from diverse domains. Researchers should pursue opportunities to strengthen broader prevention by working collaboratively with other disciplines targeting mental health risk-factors across longer time-frames (i.e.

substance use, obesity, heart-disease, violence prevention).

- Improvements in mental health-related outcomes, such as stress reduction, might provide adolescents with more relatable and immediate motivations for behaviour change. Promotion of physical activity and healthy eating may have more salience for young people if it is linked to more proximal mental and cognitive health benefits, rather than distal physical health benefits.

3. Conclusion

The Icelandic Model is pioneering in that it has successfully reduced adolescent substance abuse through coordinating local action, utilising real-time data driven evidence, and through focusing on the myriad of factors known to promote and protect engagement in risk behaviour. Given limitations of sustained and effective preventive efforts in Australian communities to date, we propose there are promising and novel insights to be gained from the application of this model in Australian context. As a starting point, we recommend the development of a conceptual model of prevention that incorporates the above recommendations and secures support at the school, community, local-, state- and national- government levels. The economic, social and political climate of Australia differs to that of Iceland and other European settings in which this model has shown promise. However, the burden associated with mental disorders among Australia's young people and inconsistent effectiveness in prevention strategies to date, make the application of this novel and innovative prevention technique a worthy endeavour.

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Conflict of interest

None to declare.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.mhp.2019.200166.

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