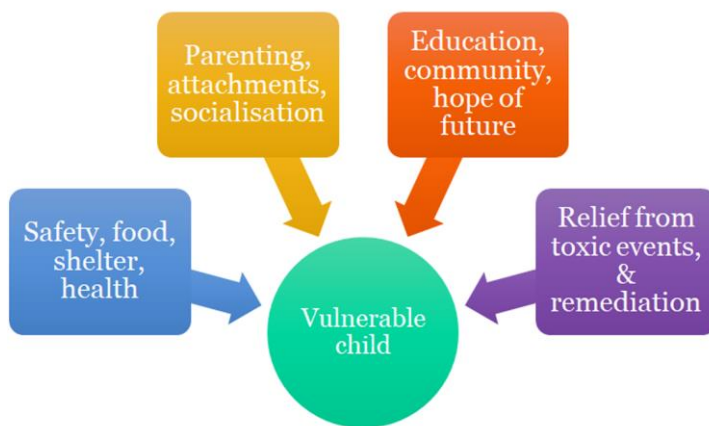


## PROJECT EVIDENCE

### PROJECT EVIDENCE for Prevention of Mental Disorders.

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**[1] Universal Programs.** Universal programs are desirable because they have the potential to reduce the community prevalence of mental disorders whereas Selective and Targeted interventions only focus on small sub-populations. A discussion of this can be found in the 2018 Winston Rickards Memorial Oration which can be accessed on the MHYFVic website. The Oration puts forward the hierarchy a,b,c,d below, based on the World Health Organisation literature on Prevention of Mental Disorders.



These aspects of prevention form a kind of hierarchy of significance, somewhat similar to Maslow's *Hierarchy of Needs*. (If you are in a war zone, unsafe, with no reliable food and water, no shelter and no support services, there is a high level of stress and not much else matters.) Once these basic needs are met there is time to look at family functioning and parenting. Enhancement of attachment and pro-social behaviours then become feasible, paving the way for processes to reach one's potential and to respond to individual therapeutic interventions.

### [1 d] Reduction of toxic factors: Introductory comments

This final section of the consideration of the hierarchy of causal factors and interventions looks at the identification and dealing with toxic events impacting on the mental health of children. The earlier sections (a, b and c) were predominantly about universal interventions based upon the World Health Organization literature on prevention of mental health disorders. This final section is more about risk factors that are mostly dealt with in selective or targeted preventions, but some factors are so widespread that universal programs are appropriate. The approach is described in the 2001 report of the USA Surgeon General on mental health. This referred to many biological factors, psychological factors and the interaction between these that we would refer to as social factors.

#### [1 d i] Biological factors

These include not only the endogenous genetic and chromosomal disorders but exogenous causes such as very low birth weight, poor nutrition, lead and similar poisonings, brain injuries from trauma and infections like measles, rubella, syphilis and HIV, and pre-natal toxicity such as foetal alcohol syndrome and effects of other drugs including cigarette smoke. Many of these are avoidable. Preventive measures are included in general health and welfare processes in addition to the specific clinical aspects.

#### [1 d ii] The psychological and social factors

These are in two broad groups –

- dysfunctional family life with its attendant attachment difficulties, and
- stressful life events.

The dysfunctional family factors include discord, problems in parenting and antisocial conduct. Appraisal of family and child mental health is always indicated for cases of parental depressive disorders and other mental illness, domestic violence and substance abuse. Related preventive measures about these are included in the earlier section PE1b about promoting family functioning and pro-social behaviour. Additional public health measures include education such as Positive Parenting Programs and countervailing domestic violence.

Stressful life events such as natural disasters or witnessing of homicides warrant preventive interventions. Stressful life events also include migration (forced or voluntary) and intergenerational trauma associated with race and ethnicity (lots of evidence for this from our indigenous community, people fleeing from countries where ethnic cleansing, internment and orchestrated mass murder such as evidence from the Holocaust of World War 11 and other holocausts in Africa, Vietnam, Cambodia etc...)

The universal intervention is the formulation of a State Disaster Plan that includes training of responders and provision of response services in disaster situations. Selective and targeted services can then be directed as required.

## **[1 d i ] Biological factors producing mental disorders**

### **Endogenous factors**

Primary prevention of genetic and chromosomal disorders is very limited. Reproductive genetic carrier screening is readily available to identify three commonly inherited genetic conditions: cystic fibrosis (CF), fragile X syndrome (FXS) and spinal muscular atrophy (SMA). Anyone can be a carrier of a genetic condition, even if no one in the family has that condition. About 1-2% of couples are positive. Being a carrier usually does not affect the health of the carrier. The risk of genetic conditions may be suspected when other family members have the condition. Clinical genomic sequencing (either exome sequencing or whole genome sequencing (WGS)) may be used to seek answers, but not all disorders are identifiable. The results are used for genetic counselling.

Secondary prevention of genetic and chromosomal disorders is well established. Maternal serum screening is a blood test used to identify pregnancies with an increased chance of having a chromosome condition, such as Down syndrome. Non-invasive prenatal test (NIPT) is a blood test examining small pieces of DNA circulating in the bloodstream, looking at all 23 pairs of chromosomes. Positive screening results can be followed by prenatal diagnostic testing through chorionic villus sampling (CVS) or amniocentesis. Results are used for counselling. Sometimes a decision may be made for termination of pregnancy.

Perinatal testing of all babies by heel prick blood spot testing has been undertaken for many years and successfully prevented brain damage in large numbers of children. The present battery of tests identifies about 25 rare disorders, for many of which early identification and treatment may prevent lifelong disability. The list is available on the Victorian Clinical Genetics Service (VCGS) website. The tests are funded by the Department of Health, undertaken by the VCG Service of the Murdoch Children's Research Institute at Melbourne's Royal Children's Hospital. About 70 positive results are found annually among the approximately 70,000 tests performed. This is particularly cost-effective compared to the costs of lifelong disability.

Other inborn errors of metabolism may be identified by laboratory testing in the newborn. Mitochondrial disorders may also be identified in the newborn period. Treatment to minimise the disabling effects of these disorders is essentially tertiary prevention.

### **Exogenous factors**

Very low birth weight, nutritional disorders and brain toxicities, such as lead and alcohol, are factors assessed by paediatricians. Transmitted infections, such as syphilis and HIV, require early diagnosis to minimise damaging effects.

Public Health universal measures to prevent these disorders include Regulations regarding poisons, immunizations, food quality, and education regarding toxicities such as drugs and alcohol.

The Public Health and Wellbeing Regulations 2019 support the operation of the Public Health and Wellbeing Act 2008 and provide a framework for businesses, councils, the Department of Health, Department of Families, Fairness and Housing and individuals to protect the health and wellbeing of Victorians.

The regulations cover a range of measures to prevent and respond to the spread of infectious diseases, including quarantine arrangements and immunization requirements for children. Regulations also aim to minimise public health risks associated with certain businesses. These include aquatic facilities to avoid contaminated water, tattooists and businesses that perform skin penetration procedures to avoid Hepatitis and HIV, and food preparation businesses.

Health related laws provide for the regulation of products and services being sold and offered in the country. Smoking bans in workplaces and other public spaces have protected people from the dangerous effects of second-hand smoke. They also provide for material and child healthcare, family planning, and responsible parenthood.

Measures to handle emergency response in a health crisis are another facet of public health law. The law is also an important tool in health promotion and protection, for example to improve road safety, reduce tobacco use and manage lifestyle-related chronic diseases.

The Victorian public health and wellbeing plan 2019–2023 sets the direction and provides a framework for coordinated action. Community education and funding is provided to promote self-management skills for:

- physical activity.
- healthy eating.
- managing pain and fatigue.
- managing stress.
- understanding emotions.
- communication skills.
- working effectively with health care professionals.

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