

Programs to improve educational and employment outcomes for young people

Summary of a rapid evidence review prepared for the Macquarie Group Foundation

This document summarises the methodology and findings of a rapid evidence review commissioned by Macquarie Group Foundation and undertaken independently by the Centre for Evidence and Implementation. The complete evidence review is available from the Macquarie Group Foundation upon request.

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Contents

1. EXECUTIVE SUMMARY	5
2. PURPOSE OF THE RAPID EVIDENCE REVIEW	6
3. METHODOLOGY OVERVIEW	7
4. MAIN RESULTS OF THE REVIEW	8

1. Executive summary

As part of its community investment strategy, the Macquarie Group Foundation (MGF) supports community organisations in Australia through financial grants, volunteering and skills sharing.

In 2017, MGF refined its grant-making approach to focus on organisations working to promote “equality of opportunity in economic engagement for young people in Australia”. Specifically, MGF aims to improve engagement in education, employment and/or training among young Australians (defined primarily as 15-24 year-olds).

In order to inform its current and ongoing consultation with potential grantees and its grantee selection process, MGF wanted to better understand the current evidence in the field of education and employment support for young people. Accordingly, MGF commissioned The Centre for Evidence and Implementation (CEI) to conduct a rapid evidence review in relation to educational and employment outcomes for young people. This document summarises the methodology and results of that review.

The findings set out in the rapid evidence review are based on an analysis of 15 systematic reviews (which together synthesise 802 program evaluation studies) plus an additional separate 37 program evaluation studies.

CEI sourced these studies using thorough and systematic processes aligned with established research methods. The program evaluation studies focus on a wide variety of young people, ranging from general populations of young people with multiple at-risk factors to specific population groups (e.g. young people with disabilities).

Evidence from studies involving general populations of young people with multiple at-risk factors suggests that:

- There is a wide range of programs that aim to keep young people from dropping out of school, and most of these have a positive effect on school retention. However, programs that are better implemented, and are longer and more intense, are generally more effective. Often, this research goes beyond school attendance and completion to consider learning outcomes, which are also critical in ensuring young people can access the ongoing benefits of education. The wider literature also targets children younger than 15 years given that risk factors for school dropout increase over time.
- Some programs to assist young people in the transitional period between secondary school and college¹ (e.g. through reminder messages) may have potentially positive effects in ensuring that these recent school graduates enrol in college.
- For post-secondary education, certain kinds of programs to keep at-risk students in college have small positive, short-term effects for some outcomes.

Evidence from studies involving specific population groups suggests that:

- For young people who are parents, there are multicomponent programs to improve school enrolment and completion. These programs are generally effective, especially if they are well-implemented.

- For young people with disabilities, mentorship programs may be among the more promising programs for improving post-secondary education and employment outcomes.
- For young people convicted or accused of criminal activity, tutoring/personalised instruction and large multiservice programs may have potentially positive effects on some education and employment outcomes. However, a small evidence base makes it difficult to draw conclusions on effectiveness.

There are gaps in the evidence base. Specifically:

- Existing evidence has a strong United States focus and does not include evaluations of programs involving Indigenous Australians.
- Most program evaluation studies involve programs addressing educational outcomes rather than employment outcomes. In particular, no studies in this review addressed work retention.

Research findings need to be interpreted with caution because the quality of the program evaluation studies is generally low or moderate. This also suggests that funding into high-quality evaluations of programs is warranted.

2. Purpose of the rapid evidence review

The research question for the rapid evidence review is:

“What is the evidence on the effectiveness of interventions aimed at improving educational and employment outcomes of adolescents and emerging adults aged 15-24?”

The review focuses on studies involving the measurement of one or more multiple educational and employment outcomes identified in MGF’s indicator bank, namely:



15-19 year olds

- school attendance
- school retention
- year 12 completion
- suspension/expulsion rates

19-24 year olds

- workforce participation
- post-school education
- non-involvement in employment, education or training (neet)
- work retention



3. Methodology overview

What type of program evaluation studies were eligible to be included in the review?

An important step in a rapid evidence review is determining the types of program evaluation studies that are eligible for inclusion in the review.

For this purpose, CEI developed a set of eligibility criteria to determine which program evaluation studies should be “included” and which studies should be “excluded”. These were refined throughout the process with MGF.

As a result, the rapid evidence review is:

- primarily based on program evaluation studies published in academic journals, supplemented with a small number of reports published outside of academic journals by organisations that operate in the fields of education/vulnerable youth and are known for producing high-quality work and/or local content. All of the studies published in academic journals, and most of the supplementary reports, have been peer reviewed²
- focused on program evaluation studies conducted in high-income countries in the past 20 years that have been published in English
- scoped to ensure that interventions, settings and outcomes covered in the included program evaluation studies are relevant to MGF’s purposes:
 - studies had to test an intervention/s against at least one of the following primary outcomes for young people: school-related outcomes, employment outcomes or training outcomes. Studies with only the following outcomes were not included: other outcomes for young people (e.g., physical health), outcomes for caregivers, teachers, or employers and whole-school outcomes
 - studies had to examine an intervention delivered in a community setting, education setting, workplace setting, training centre or prison. Studies that evaluated interventions delivered in hospital/clinical setting or out-of-home care setting were excluded

- studies examining interventions that focus on teaching strategies, or on internal structures or processes of a school/workplace (e.g. curriculum decisions), were excluded. Interventions that involved establishing/operating entire schools were also excluded.

What is the nature of the program evaluation studies included in the review?

Program evaluation studies can vary in quality and methodology, which affects how much confidence we can place in their findings. It is therefore important to understand the nature of the program evaluation studies included in the final review.

The final 52 studies can be split into two categories:

- **Systematic reviews:** Systematic reviews summarise the results of a number of primary studies. When reviews are conducted systematically, they represent one of the highest levels of evidence of effectiveness for interventions.
 - 15 of the 52 studies included in the rapid evidence review are systematic reviews. Between them, the 15 systematic reviews synthesise the results of 802 primary studies.
- **Primary studies:** Primary studies are single studies that involve the collection of original data for a research study conducted by the authors.
 - 37 of the 52 studies are primary studies. These studies are included because they may provide updated findings or evaluations of specific programs not detailed in the systematic reviews.

How did we rate program effectiveness?

It is not easy to summarise the effectiveness of different types of interventions evaluated in a range of program evaluation studies of varying quality. To collate and quantitatively assess all of these findings in the most comprehensive way would take months or years.³ To provide MGF with a product that is more rapidly produced and is still rigorous and transparent, we adapted and applied an evidence rating scale developed by CEI for the Department of Health and Human Services in Victoria.⁴

2. Peer review involves subjecting the authors’ scholarly work and research to the scrutiny of other experts in the same field to check its validity and evaluate its suitability for publication, thereby enhancing its quality.

3. This would likely involve carrying out or updating a series of systematic reviews and meta-analyses on programs to prevent dropout, improve post-secondary enrolment and completion, improve work participation and improve work retention. A meta-analysis uses statistical methods to combine results across several studies, calculating the effect size of a particular type of intervention.

4. Centre for Evidence and Implementation (CEI) (2019). *Menu of evidence-informed practices and programs: Technical specifications report produced for the Department of Health and Human Services*. CEI: Melbourne.

4. Main Results of the review

How recent is the evidence base, and where is the research conducted?

The systematic reviews were published between 2003 and 2018, and 38% were published within the last five years (since 2014). Of the systematic reviews which report the location of the studies they include, most are based in the United States. Within the systematic reviews, no studies were found that were conducted in Australia.

The primary studies were published between 1998 and 2018, and 70% were published within the last five years. All but five of these studies were carried out within the United States; the remaining studies were based in Canada (two studies), Singapore (one study), the Netherlands (one study) and Australia (one study).

Who participates in these programs?

Programs that have been evaluated focus on a wide variety of young people, ranging from general populations of young people with multiple at-risk factors, to more specific population groups. In other words, the programs have been tested for effectiveness among young people with a range of characteristics.

Programs involving general populations with multiple at-risk factors

Within the school-based studies involving general populations, at-risk factors commonly include low academic achievement, poor attendance or involvement in school, and (in some cases) problem behaviours. Such indicators are often evident years before a student leaves school (e.g. as early as Grade 3), and the risk of dropout increases over time as students become less and less engaged in school. Individual and family characteristics are also used to identify at-risk students. In the United States, school completion is lower among students from racial/ethnic minorities compared with whites, males compared with females, and young people living in low-income rather than high-income households.

Some papers also consider general populations of young people in transition between school and college, or between unemployment and further training or college. These populations commonly include recent school graduates who aim to undertake post-secondary education but face barriers in doing so. These students may, e.g., come from low-income families, be first-generation college students, and/or be academically

underprepared for college courses. In the transitional period between school graduation and the beginning of college, they may no longer have access to supports from their schools. Similarly, young people who have dropped out of school and are not currently employed or studying may need support with addressing skill gaps and addressing various other difficulties.

Within the college-level studies involving general populations, at-risk factors commonly include insufficient academic skills for the requirements of college-level studies; low self-efficacy; financial stress or difficulty managing a range of competing commitments; a lack of motivation; and/or difficulty transitioning to college environments. First-generation college students and students from minorities (e.g. racial minorities) may be more likely to experience at least some of these factors.

Programs involving specific population groups

Some papers evaluate programs targeting particular groups because these groups have consistently low levels of school completion or employment and/or are seen to have distinctive needs. These groups include young people:

- who are parents (especially mothers)
- with disabilities (including autism, ADHD, learning/intellectual disabilities, and physical disabilities)
- who are involved with or accused of criminal activity. These interventions may be delivered inside or outside detention facilities.

Although a number of studies involve minority groups (especially African-American youth), few studies involve indigenous participants. In particular, no studies were identified that test the effectiveness of programs designed for Indigenous Australians.

4. Main results of the review

What are the programs trying to prevent or improve?

Most of the included program evaluation studies involve programs addressing educational outcomes rather than employment outcomes.

Within the education research, most program evaluation studies target secondary school outcomes rather than college/post-secondary outcomes.

Common outcomes are school/college:

- dropout and/or graduation rates
- enrolment and reenrolment rates
- truancy and/or attendance rates
- academic achievement (e.g. Grade Point Average or reading/mathematics skills).

Some studies also consider behaviour problems (e.g. aggression or disruptiveness), and attitudes towards school or college.

Although the majority of the studies included in the evidence review involve programs specifically targeting school dropout/completion, in the main the research is also broader than dropout prevention. Studies go beyond measuring participation outcomes such as enrolment, attendance/truancy, and completion/dropout. They also focus on learning outcomes such as academic performance, literacy and numeracy skills. This is consistent with a broader trend in education to not only improve young people's access to schooling, but also ensure that they obtain a quality education.⁵ This focus on learning outcomes recognises that young people's knowledge and skills are critical in ensuring that they can access the social, economic, and health benefits associated with higher levels of education.

Of the small number of included studies examining employment outcomes, programs commonly aim to increase employment that is appropriate to an individual's needs, interests and skills. Often these papers focus on the knowledge, skills, attitudes and/or resources needed to improve transitions to employment or vocational training.

Within the employment-related work, common measures used are:

- employment status (e.g. obtaining and retaining a job)
- employment-related skills
- job readiness, including knowledge of transition to employment (e.g. planning for transition to employment, and perceptions of career options).

How do the evaluations measure education and employment outcomes?

The way in which outcomes are measured is an important consideration in program evaluation. Studies included in the rapid evidence review can provide guidance as to the most appropriate and commonly used measures.

Within the review, program evaluation studies that assess educational programs usually draw on administrative data sourced from schools, school districts, education departments, colleges or national clearinghouses. This administrative data reports on enrolment, attendance, graduation, high school certificate completion and Grade Point Average or similar performance data. College readiness is sometimes also measured using data from college entry exams.

The program evaluation studies assessing employment programs commonly draw on a wide range of tools. These may be validated, standardised tools such as the Transition Awareness Survey to measure student knowledge around career transitions; The Outcome Survey to measure college graduates' later employment; and the National Longitudinal Survey Data to measure work status (stable employment and full-time employment). Alternatively, they may be non-standardised tools that the researchers have created for the purposes of their study. These include, e.g., researcher-created questionnaires to measure knowledge of transition to employment and observation to measure task performance (i.e., percentage of task steps completed or task accuracy or amount of time to complete the task).

5. See, e.g., UNESCO (2015), *Education for All 2000–2015: Achievements and challenges*. EFA Global Monitoring Report. Paris: UNESCO. Retrieved from: <https://unesdoc.unesco.org/ark:/48223/pf0000232205>

4. Main results of the review

What types of interventions are more effective than others?

Evidence relating to general populations with multiple at-risk factors

School level:

At the school level, among the program evaluation studies targeting general populations with a range of risk factors, there is a relatively wide range of dropout interventions and dropout prevention programs. These include case management, college-oriented programming, community service, mentoring and counselling, multiservice packages, cognitive behavioural therapy and skills training (e.g. to improve self-esteem and attitudes towards school), supplemental academic services (e.g. tutoring or remedial lessons), vocational training (e.g. internships), and attendance monitoring.

The evidence suggests that most such programs are effective in reducing school dropout. In other words, no single strategy stands out as being more effective than any other in relation to school retention. The one exception is that programs using an attendance monitoring approach (monitoring and services to increase attendance, possibly using financial incentives) are generally less effective than other programs (although they have still been found to have statistically significant positive results).

Two further points are important from the program evaluation studies::

- dropout prevention interventions with effective implementation (i.e. which are delivered in an appropriate way and as intended) generally achieve more positive results. In particular, intense, longer programs that are appropriate to the local environment are more effective. Also, one systematic review found that programs with less frequent student contact tended to be more effective, but the reason for this was not clear.
- overall classroom-based and mixed settings have larger effects than community-based programs, but community-based programs are generally still effective.

Transitional period between school and college

A small number of program evaluation studies consider interventions delivered entirely or partially in the time between school and college. These program evaluation studies commonly report on interventions that provide information or assistance to recent secondary school graduates to help them complete the tasks required to begin college. These often involve mentors or counsellors communicating with students to remind or assist them to enrol in college subjects, complete housing applications,

apply for financial assistance or complete other similar tasks that are necessary to access post-school education. The communication may take place via various means (e.g. text messages, social media and meetings). Overall, there is some promising evidence that these 'reminder' programs may have positive effects on college enrolment and retention. Counselling and peer mentoring programs may also have potentially positive effects. However, all of these findings are based on a relatively small evidence base.

College level

At the college level, evidence is less certain than it is at the school level about programs to improve retention among the general population of young people with multiple risk factors. On the whole, evaluated programs tend to target development of academic skills, self-management skills, and socialisation within the college environment.

Overall, the program evaluation studies suggest that peer mentoring, socialisation and dedicated programs for first-year college students may have small positive, short-term effects for some outcomes. Programs designed to assist college students to transition to employment after college graduation may also have potentially positive effects, but there were few included program evaluation studies in this point.

Evidence relating to specific population groups

Young parents

The strongest evidence in relation to young parents indicates that multiservice school dropout prevention and intervention programs are effective in improving school enrolment and school completion for teen mothers. These programs commonly include an array of education and employment-related services (e.g. remedial education and assistance preparing for a secondary school certificate). Among these types of large multiservice programs, no single intervention appears better than the others. However, these large multiservice programs can be distinguished from programs for teenage mothers which do not include formal academic support services, and which have failed to demonstrate an effect.

As with research targeting the general population, good quality implementation of multiservice dropout prevention programs is important.

4. Main results of the review

Young people with disabilities

Within the included studies involving young people with disabilities, there were evaluations of single and multicomponent programs targeting education or employment outcomes. Overall, these suggest that mentorship programs may be among the more promising programs for improving post-secondary education and employment outcomes for young people with disabilities. This may especially be the case if the programs are longer, structured and have paid coordinators.

Young people involved in the law

There is some evidence assessing programs such as tutoring/personalised instruction and vocational training, as well as large multiservice programs, delivered to young people involved or at risk of becoming involved in crime. Some evaluations have assessed programs delivered within detention facilities, but most examine community-based programs.

Within these studies, there is emerging evidence that tutoring/personalised instruction and large multiservice programs may have potentially positive effects. However, gaps in the research and a small number of studies mean that these are preliminary findings only.

How much confidence can we have in this evaluation research?

As stated above, the rapid evidence review is based on a combination of systematic reviews and primary studies (including primary studies sourced for this review, and primary studies which form the basis for the systematic reviews). The level of confidence we can place in this research therefore depends both on the methods used in the systematic reviews (e.g. whether they use transparent, systematic search processes), and on the methods used to evaluate interventions in the primary studies.

While systematic reviews are generally the highest form of evidence, not all systematic reviews are of high methodological quality. The quality assessments we performed on each of the systematic reviews indicate that these reviews range from low to moderate quality in terms of the methods they use. This suggests that the literature used in the systematic reviews may not always have been sourced systematically or transparently.

Additionally, a number of these reviews comment that the quality of primary studies on which they rely is generally low, and is largely focussed on the United States. Poor methodological quality in primary studies may mean, e.g., that studies are carried out without a 'control group' to test whether any changes could be attributed to the intervention itself, or that studies are relying on poor quality administrative data for their analysis. In general, poor evaluation designs tend to find more positive findings. The fact that most primary studies have been carried out within the United States may also mean that these findings have less relevance in contexts with different demographics, school systems, social security systems or employment structures. Accordingly, the findings may be less relevant to systems outside the United States.

It should also be noted that these findings cannot be used to draw conclusions regarding the effectiveness of specific grantee programs that have not been independently evaluated.

4. Main results of the review

Going further: The importance of effective implementation

The findings of the rapid evidence review emphasise the importance of effective implementation – for example, dropout prevention interventions with effective implementation (i.e. which are delivered in an appropriate way and as intended) generally achieve more positive results. As a general comment, even programs that have been shown to improve outcomes can fail to produce such improvements if they are implemented poorly. This section provides an overview of key concepts in effective implementation (drawn from the discipline of implementation science) together with ways in which it can be supported.

What does high quality implementation look like?

High quality implementation is a continual and repetitive change process, rather than one event. It involves addressing practice challenges at an organisational and individual level and focusing on core implementation elements that foster organisational capacity and workforce competence.⁶ Implementation strategies therefore include recruiting, selecting, training, and supporting staff appropriately using supervision and coaching alongside continual practice improvement informed by program and outcome data.

What are key drivers of implementation?

Implementation science literature identifies three drivers crucial to high quality implementation.⁷ These are:

- **Leadership:** The influence of leaders during all phases of implementation cannot be understated^{8,9,10} Their support, involvement, and communication is essential to effective implementation. Implementation leadership is defined as the amount of engagement and support that formal and informal leaders of an organisation give to implementation efforts. These leaders define the vision, voice, and expectations for staff behaviours and performance. Additionally, they allocate resources to implementation and decide how the process will be perceived in the organisation.
- **Organisational systems and structures:** For successful implementation, organisational systems, structures, and processes should be adapted to effectively host, embed, and apply the full program, which includes implementation measures. The use of data to guide decision-making is central to the implementation process. When data is embedded into feedback loops, it can guide decision-making at every level of the service system (i.e., staff assess fidelity and track overall performance in their everyday practice). To facilitate implementation, implementation teams should use continual improvement cycles to detect, problem solve and respond to implementation barriers that arise during implementation externally and internally.^{11,12,13}
- **Workforce:** Practitioners and support staff must have the opportunity to develop and maintain the necessary skills, capacity, training, and motivation to implement an intervention.

6. Powell, B. J., Proctor, E. K., & Glass, J. E. (2014). A Systematic Review of Strategies for Implementing Empirically Supported Mental Health Interventions. *Research on Social Work Practice*, 24(2), 192–212. <http://doi.org/10.1177/1049731513505778>

7. Fixsen, Blase, Naoom and Duda. (2015). Implementation Drivers: Assessing Best Practices. National Implementation Research Network (NIRN) v. 5/2015.

8. Aarons, G. (2015). Leadership and organizational change for implementation (LOC): a randomized mixed method pilot study of a leadership and organization development intervention for evidence-based practice implementation. *Scoping Studies: Advancing the Methodology*, 10(1), 1–12. <http://doi.org/10.1186/s13012-014-0192-y>

9. Aarons, G., & Sklar, M. (2014). Aligning Leadership Across Systems and Organizations to Develop a Strategic Climate for Evidence-Based Practice Implementation. *Annual Review of Public Health*, 35(1), 255–274. <http://doi.org/10.1146/annurev-publhealth-032013-182447>

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11. Fixsen, D., Blase, K. A., Naoom, S. F., & Wallace, F. (2009). Core Implementation Components. *Research on Social Work Practice*, 19(5), 531–540. <http://doi.org/10.1177/1049731509335549>

12. Metz, A., & Bartley, L. (2012). Active Implementation Frameworks for Program Success. *Zero to Three*, 32(4), 11–18.

13. Metz, A., Bartley, L., Ball, H., Wilson, D., Naoom, S. F., & Redmond, P. (2015). Active Implementation Frameworks for Successful Service Delivery: Catawba County Child Wellbeing Project. *Research on Social Work Practice*, 25(4), 415–422. <http://doi.org/10.1177/1049731514543667>

