Response to the Statewide Eyesight Preschooler Screening (StEPS) Program Final Report

June 2019

NSW GOVERNMENT

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Response to the Evaluation of the Statewide Eyesight Preschooler Screening (StEPS) Program Final Report

The University of Technology Sydney (UTS) was commissioned by the NSW Ministry of Health to undertake an evaluation of the Statewide Eyesight Preschooler Screening (StEPS) program. UTS submitted their final report in May 2019. The final report can be accessed online.

The objective of the evaluation was to examine the process, outcomes and economics of StEPS as implemented from 2009 to 2016. A multi-disciplinary team from UTS undertook the evaluation, giving consideration to the appropriateness, effectiveness and efficiency of StEPS.

The evaluation used a comprehensive range of qualitative and quantitative methods to meet the evaluation objectives, and deliver the findings and conclusions in the final report. These findings and conclusions were developed to provide an overall assessment of the program, and to make suggestions and discuss implications of the way the program is delivered. However, some findings were moderated by limitations in referral outcomes data quality.

The final report was overwhelmingly positive, finding that the StEPS program is a 'highly appropriate and effective strategy for guiding young children to early intervention and treatment for childhood ocular conditions'. It is also 'one of the most successful screening programs of its type on an international scale'. The NSW Ministry of Health is committed to quality improvement of the StEPS program, and recognises scope to improve aspects of the program particularly achieving better referral outcomes for children in rural and regional areas, and children in disadvantaged metropolitan regions. The NSW Ministry of Health is working to enhance data collection and reporting mechanisms to support these processes. This response to the report has been developed following consideration of the evaluation key findings, key implications and recommendations.

Key Findings

1. Appropriateness

Is the program being implemented as intended (program fidelity)?

Overall, StEPS is an appropriate universal early childhood vision screening program. The model is unique in Australia and internationally, and is one of the largest, most systematically implemented and evidence-based vision screening programs available. Key features of the StEPS program design are supported by current international guidelines and research evidence related to preschool vision screening programs. This includes the target age; referral criteria; trained nurse and lay screeners; use of catch-up clinics and other outreach/follow up by StEPS coordinators; and use of an age-appropriate, gold standard visual acuity test (HOTV LogMAR chart).

It was found that variation in local implementation models, mostly related to staffing configuration, was not associated with different referral or outcome patterns. It is also noteworthy that StEPS appears to enjoy sound support among key stakeholder groups including parents, preschool directors, StEPS coordinators and eye health care professionals.

2. Effectiveness

Has the program achieved the desired objectives and outcomes?

The StEPS program is effective in terms of achieving a high rate of vision screening in the target population. From 2009 to 2016, an estimated 96.4% (720,226) of four year olds have been offered StEPS screening and 75.6% (564,825) have had their vision screened. Most Local Health Districts (LHDs) are consistently tracking close to or achieving the screening eligible children target of 80%.

Health professionals report a negligible rate of false positive referrals, expressing that the majority of children referred through StEPS require active treatment. They strongly iterate that these children would not have been detected and brought into care in the absence of the program. An additional and unforeseen advantage of StEPS was the referral of children who were 'unable-to-be-tested', resulting

in the further referral and management for other conditions, such as autism spectrum disorder and developmental delay. This represents a potential but as yet unquantified 'value-add' of the program.

The main constraint on measuring the effectiveness and efficiency of the program relates to post-screening referral pathways and reporting of outcomes. This is due to both the 11% lost to follow up and accuracy of parent reported outcomes.

3. Efficiency
Is the program cost effective?

The methods used for the economic component of this evaluation were reviewed by the Centre for Epidemiology and Evidence, NSW Ministry of Health, and the descriptive analyses were noted as strong. The overall cost of running StEPS in NSW was approximately $4 million per year. Modelling estimated that the StEPS program was similarly cost effective to other prevention programs and represented good value for money on that basis.

Key Implications

The following 'UTS Key Implications' has been taken directly out of the final report. Many of these Key Implications will be addressed as part of routine program management and quality improvement. This work is being led by the Health and Social Policy Branch, Ministry of Health.

UTS Key Implication	NSW Ministry of Health response
Encouraging and improving access and engagement	
1. Availability of information in common languages other than English To increase the engagement of families from culturally and linguistically diverse (CALD) backgrounds in the program, it is proposed that consent forms, information related to the program and where possible results of screening be made available in the most commonly-spoken community languages, particularly Vietnamese, Mandarin and Arabic.	The Ministry understands the importance of access and informed consent for clients from CALD background. The StEPS program brochure is currently available in 26 community languages. New translations are made available through local identified need or advice from Multicultural Health Communication Services. The Ministry will investigate options for utilising interpreter services or other means to assist with parents/carers in understanding the results of screening.
2. Simplify the process of parental consent The consent process poses a large burden on parents, preschools and StEPS staff. We suggest that options to reduce administrative burden and increase access and rates of screening be explored. A potential method may be to build StEPS consent into preschool enrolment, which would reduce administration processes related to the distribution and collection of consent forms.	The Ministry will investigate this further with relevant stakeholders and consider resourcing implications.
3. Further participation of preschools and childcare centres in StEPS A consistently reported challenge to improving access to the program for children across all LHDs was lack of engagement of a small number of preschools and childcare centres. StEPS staff reported that this sometimes occurred when there was a new centre, or a new director in the preschool. To work towards universal access, it is advised that methods to foster and	In the past, a letter recommending preschool/ childcare participation in the StEPS program has been provided to LHDs to send to disengaged centres. The Ministry will investigate this key implication further.

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encourage involvement of all preschools in StEPS be explored further.	
4. Increase public awareness of the StEPS program To increase screening rates within preschools and childcare centres visited by StEPS and facilitate participation by children in family day care or those who are cared for at home, it is suggested that there should be increased promotion of the program. This could include information advising how parents might directly access screening for their children.	The StEPS program has a dedicated webpage through the NSW Health website. This webpage provides: • information about the program including links to information brochures in 26 community languages • contact details of StEPS Coordinators across NSW • videos to demonstrate what StEPS is, the process after StEPS has been booked and understanding the results from StEPS. An internal review will be done to ensure the accuracy of the contents on this webpage and search term analysis completed to improve google analytics. The Ministry will also investigate ways to promote the program further.
5. Guidelines and resourcing to embed the delivery of catch-up clinics Catch-up clinics provide an opportunity for children who were absent from preschool or childcare on the day of screening, or who are not enrolled in a preschool or childcare centres visited by StEPS, to be screened in the community. It is encouraging that catch-up clinics are now a feature within all LHDs, given their association with higher screening rates. This positive development should be supported in program guidelines, and where needed, resourced to ensure that these are further developed and sustained. Guidelines should further promote consistency in the way catch-up clinics are utilised and promoted to have the greatest impact.	As of 2018, all LHDs had set up StEPS catch up clinics. The Ministry will review the current StEPS policy directive and provide further guidance around catch up clinics.
Maintaining quality and consistency of screening	
6. Ensure use of the HOTV LogMAR chart for screening across the program The majority of LHDs have transitioned recently to the HOTV LogMAR visual acuity chart. For those that have not, this should be strongly encouraged. Although data to examine the impact of this change on referral patterns is not yet available, the evidence suggests that the HOTV LogMAR chart is a more valid and appropriate test for screening.	All LHDs have now transitioned to the HOTV LogMAR chart for StEPS. The Ministry has also undertaken a comprehensive review of the screening rates and referral outcomes before and after the introduction of the HOTV LogMAR chart. Analysis showed that there has been a significant decrease in the referral rate however the percentage of target conditions diagnosed (referral outcomes) during the transition did not significantly change. This indicates that the HOTV LogMAR has greater sensitivity than the previous chart, Sheridan Gardiner. As these are preliminary findings and additional data is required to

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	strengthen statistical analysis, the Ministry will continue to monitor referral rates and referral outcomes as part of regular program monitoring and management.
7. Further research of referral criteria and changes in referral patterns With the transition to HOTV LogMAR visual acuity test within StEPS, it is recommended that further research is conducted to examine any consequent changes in referral patterns and whether current referral criteria remains appropriate or requires revision. This includes the visual acuity cut-offs for referral, the priority of referral and accordingly the most appropriate referral pathway.	Following on from the comprehensive review outlined in key implication 6, the Ministry will investigate further.
8. Ongoing training and other support for screeners The evaluation has demonstrated that the program benefits from well-trained, experienced screeners. In light of this, it is advised that there is an ongoing and strengthened focus on training and development (including refresher training) for screeners. This may also support their retention, particularly in areas where frequent turn-over of staff creates a greater level of referral. It would be appropriate for this to be implemented by StEPS orthoptic staff within LHDs according to a state-wide directive.	Statewide training is available through the HETI portal. This was last reviewed in 2016 following the transition of vision screening charts. Local ongoing training is also provided by StEPS Coordinators and competency is assessed by a competency checklist in the StEPS policy directive. A forum was held in 2018 to celebrate 10 years of the StEPS program. It also included educational presentations. Considerations can be made for more regular forums for StEPS staff in the future.
9. Extend the availability of secondary screening where there are gaps The current evaluation has shown that access to secondary orthoptic screening reduces the number of high priority referrals directed to Paediatric Ophthalmic Outpatient Clinics (POOCs) and may detect false positive referrals. It is proposed that the availability and scope of secondary screening be extended and used more consistently throughout the StEPS program.	Due to different StEPS staffing models, not all LHDs have orthoptic clinics. Therefore, it is not be possible to have secondary orthoptic screening available across all LHDs.
Strengthening referral pathways	
10. Explore strategies to improve uptake of post-referral services Barriers to follow-up care are often financial or related to convenience and/or access. To encourage parents to access services and improve post-referral follow-up rates, it is suggested that innovative strategies to increase follow-up care are explored and trialed. For example, co-location of secondary orthoptic screening with optometry and/or optical dispensing may provide greater convenience for families. While, subsidies for the purchase of glasses may reduce the financial burden for those with the greatest need.	The Ministry understands the perceived financial or access related issues that influence a carer's decision not to follow up a referral. However, the examples provided cannot be considered as most optometry and/or optical dispensing business are privately owned. However, the Ministry will continue to provide StEPS Coordinators with updates on subsidised spectacle schemes such as the NSW Spectacles Program. This program provides government funded glasses and vision aids to eligible seniors, children, people experiencing homelessness, those living in rural and

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	remote areas, people with disability, and Aboriginal and multicultural communities.
11. Consider better ways to manage referral of children There may be benefit in investigating the feasibility and implications of expanding the role of secondary screeners to provide a more supported triage service for children eligible or borderline for high priority or routine referral after primary screening. This may assist referrals to be more appropriately targeted to the most relevant service, whether that be optometric services, private or public paediatric ophthalmology or POOCs. This may also improve continuity of care, reduce the likelihood of loss to follow-up and prevent inappropriate referral to POOCs. It is also likely to ensure that urgent cases receive timely and appropriate care.	The Ministry will investigate this further with relevant stakeholders and consideration of resourcing implications.
12. Continue to focus on post-screening parent engagement It is suggested that clearer information about local post-screening referral pathways be provided to parents coupled with an emphasis on compliance with referral to ensure best outcomes for their child. If the role of orthoptic secondary screeners were to be expanded to include triage (see key implication 11), it would be appropriate for secondary screeners to promote compliance through parental education. This may also reduce the rate of non-follow-up. This is of particular importance in rural and regional areas, and for Aboriginal children and families. For some Aboriginal families, this work may be supported through engagement with Aboriginal community health organisations.	The Ministry will investigate this further with relevant stakeholders and consideration of resourcing implications.
13. Advocacy for timely management of eye conditions StEPS staff are unable to refer children directly to individual eye care practitioners. While optometric services are the most widely distributed eye care service, particularly in rural and regional areas, StEPS staff report that some optometrists decline to manage children. This can be a significant barrier to initial and on-going care. This is exacerbated by the lack of POOCs outside the Sydney metropolitan area and likely contributes to more than double the rate of non-follow-up for high priority referrals in rural and regional LHDs compared to metropolitan LHDs. Incentives for optometrists in rural and regional areas could be used to strengthen StEPS referral pathways. However, not all eye care and medical practitioners are confident in assessing young children's vision. Additional training on the assessment of paediatric vision could be provided to optometrists and general practitioners to support their	The Ministry will investigate this further with relevant stakeholders and consideration of resourcing implications.

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roles in the care and on-going management of children referred from StEPS.	
Improving data quality and reporting	
14. Explore options to improve data entry and limit administrative burden The process of entering screening results from paper-based forms completed at the time of screening means that there is double-handling of data and potential for errors through this process. Additionally, the administrative burden of entering results into electronic medical records could be reduced if screeners were able to directly enter results at the time of screening. Options to facilitate this could be explored and though they may represent an initial cost, in the longer term it may be in the longer term it may be possible to provide a saving.	The Ministry is currently reviewing this as part of a broader child and family data collection project.
15. Classification of ocular conditions for reporting of outcomes It is advised that the current categories used for the reporting of outcomes by eye health practitioners be simplified and incorporate specific definitions for each classified eye condition in order to improve consistency and accuracy of reporting and data management. A further proposal is to collect data on the source of reported outcomes and whether or not treatment has been implemented as a result of a StEPS referral.	The Ministry is currently reviewing this as part of a broader child and family data collection project.
16. Electronic reporting of outcomes by eye health professionals It was suggested that the efficiency of StEPS, and the quality of data regarding referral outcomes would be increased with the development of an electronic portal for recording screening, referral and treatment information. This would assist the process for reporting outcomes by eye health professionals and remove the requirement for parents to bring a paper-based form to their eye practitioner appointment. This may also reduce the administrative burden on StEPS coordinators related to following up referral outcomes and manually entering these into electronic medical records.	This ongoing implication is well understood by the Ministry. However, as many referrals are seen by practitioners outside of the NSW Health system, it may be difficult to address. The Ministry will investigate this further with relevant stakeholders and consideration of resourcing implications.
17. Reporting requirements for POOCs POOCS are required to collect data and report outcomes to the NSW Ministry of Health, however, there is limited availability of complete data. This is a barrier to evaluating the effectiveness and efficiency of POOC clinics and the overall success of the StEPS program in treating ocular conditions and improving vision or preventing further vision loss. We recommend that reporting requirements to the Ministry of Health are	This is being addressed through Key Implication 15 response.

UTS Key Implication	NSW Ministry of Health response
implemented and process and guidelines are developed for data-keeping.	

Recommendations

Recommendation	NSW Ministry of Health response
1. The StEPS program is continued as an appropriate, effective and efficient vision screening service.	SUPPORTED- the StEPS program has ongoing funding.
2. Catch-up clinics are maintained and expanded where necessary to further improve the universality of the screening program.	SUPPORTED- as of 2018, all LHDs have catch up clinics in place.
3. There is ongoing training and support of screeners in order to retain experienced staff and improve accuracy of referral.	SUPPORTED- there is statewide HETI training and locally supported training.
4. There is an evidence-based classification and definition of eye conditions used to report outcomes of referral so that data consistency improves and analysis of outcomes is strengthened.	SUPPORTED- the Ministry is currently reviewing this as part of a broader child and family data collection project.

NSW Health commemorated 10 years of the StEPS program in NSW in 2018 and is committed to continuing to provide StEPS vision screening to all four year old children in NSW. The Ministry recognises the importance of quality improvement and that there is scope to improve aspects of the program, particularly achieving better referral outcomes for children in rural and regional areas, and children in disadvantaged metropolitan regions. The Ministry will continue the work to enhance data collection and reporting mechanisms to support these processes.

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