

The education pathways of students engaged with the School of Special Educational Needs: Medical and Mental Health

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Executive Summary

Background

The School of Special Educational Needs: Medical and Mental Health (SSEN:MMH) works with students, parents, medical staff and the student's regular school to support the educational needs of students with medical and mental health needs. The school has assisted thousands of students to remain engaged with their education and to transition back to school following periods of illness. However, to date, there has been limited information about student's educational outcomes before and after engaging with the SSEN:MMH. Such information is critical for the review of activities of the school for assessing the effectiveness of service delivery.

To address these needs, the SSEN:MMH engaged researchers at the Telethon Kids Institute to develop a databank of confidentialised student records. The databank will support analyses of the long-term trajectories of students who have been in contact with the school. This report summarises the preliminary analyses of those records.

Data

With support from the Department of Education (DoE), information from the database of students engaged with the SSEN:MMH were combined with the administrative records held by the DoE. SSEN:MMH records included the number and duration of contacts with SSEN:MMH and the programs in which students participated. DoE records included attendance records, teacher grades, NAPLAN records, school enrolments, attitude, behaviour and effort assessments, ATAR results and VET pathways. DoE records were limited to students enrolled in government schools within Western Australia between 2008 and 2016 (inclusive). Therefore, records for SSEN:MMH students outside this period were not used nor were students enrolled in non government schools.

Results

A total of 28,697 individual students were in contact with the SSEN:MMH between 2008 and 2016. Of these, 72% were currently enrolled in a Government school, 16% in a Catholic school and 12% in an Independent school. Most students (73%) had engaged with the SSEN:MMH in one semester only. The number of students across both government and non-government schools engaged each semester increased from 1,485 in 2008 (Semester 1) to 3,081 in 2012 (Semester 2). After this point, the number of students remained relatively constant. Students received a variety of teaching hours while in contact with SSEN:MMH (refer to Figure 1)

Eighty percent of SSEN:MMH students were matched to DoE records.

The long-term attendance patterns of students who first came into contact with the SSEN:MMH in Year 3, 5, 7 or 10 were assessed. For each of these groups, it was determined if they had been in contact during one, two or multiple semesters after their first contact. As expected, the average attendance rates of students declined in the semester of their first contact. For students whose first contact was in Year 3 or Year 5 and who had minimal contact, attendance rates recovered to pre-contact levels. For students engaged over multiple semesters, attendance rates did not recover to pre-contact levels, as might be expected. Notably, students engaged over multiple semesters had lower pre-contact attendance than other students.

Only minor decreases in grade point averages upon engagement with SSEN:MMH were observed. However, over the long term, students with medical and mental health needs had declining grades overall, particularly in later year levels.

Conclusions and next steps

This project developed the data infrastructure that allows the SSEN:MMH to track student progress before, during and after students' contact with the school. Preliminary analysis of the data suggests that, on average, students' attendance patterns and grades return to their usual levels following contact with SSEN:MMH, but eventually fall away in high school along with the broader student population. Typically, students who do engage with the school appear to have lower attendance and grades before they receive any teaching or liaison services from SSEN:MMH. Students who engage with the school over multiple semesters and students using mental health services are particularly at risk of declining grades and attendance over and above the decreases seen in the broader student population.

This report presents preliminary analyses only. With the data infrastructure now fully developed, more detailed analysis about the pathways and outcomes of SSEN:MMH students can be conducted. For example, how does student engagement in school track over time, and are there some student groups who do better than others? Are there particular student groups that could use more support? Did changes in service delivery from 2012 affect student outcomes?

Project Background

Access to education is recognised as one of the strongest determinants of health and wellbeing outcomes (Commission on Social Determinants of Health, 2008). Safe and supportive schools, along with positive and supportive peers, are crucial to helping young people develop to their full potential and attain the best health later in life (Viner et al., 2012).

Unfortunately, children and adolescents with medical and mental health needs can experience prolonged periods of absence from their regular school, placing them at increased risk of a range of adverse outcomes, including lower academic achievement (Hancock et al., 2013), social isolation (Jackson, 2013), and onward adverse health outcomes (Viner et al. 2012). Prolonged absence from school is also associated with poorer outcomes in adulthood, including lower levels of post-secondary training, education and employment, and increased risk of mental disorders, health risk behaviours and chronic illness (Alexander, Entwisle & Horsey, 1997; Epstein & Sheldon, 2002; Hallfors et al, 2002).

Recognising the challenges these children and adolescents can have remaining engaged with their school, and the rights of all children to receive education (United Nations General Assembly), hospital school services aim to keep students connected with their enrolled school for several purposes. These include keeping students up to date with academic work, but equally as important, to also provide socialisation of patients, normalisation, and vocational guidance (Viner & Keane, 1998).

In a literature review, Henry, Edwards, Green, and Meade (2009) identified the following activities as examples of good practice employed within hospital settings:

- Coordinating ongoing tutoring in the hospital
- Preparing the child and parents for re-entry to the school before re-entry occurs
- Establishing contact with the child's school and having a specific person responsible for liaison with the hospital
- Education school personnel and the child's peers about the illness/condition
- Establishing a multi-disciplinary team to address the child's biopsychosocial and academic needs
- Preparing an education plan
- Encouraging peer support for the child
- Monitoring the child's progress

Previous literature has also identified successful reintegration into school is associated with more positive educational outcomes (Prevatt, Heffer & Lowe, 2000). Positive outcomes are more likely for students when the following are in place (Farrell & Harris, 2003; Closs & Norris, 1997):

- A partnership exists between the school, hospital school, health services, family and student
- Then enrolled school has a positive ethos to support the student
- Transition planning is conducted in advance
- Professional learning is conducted for staff in the enrolled school

The Current Project

The School of Special Educational Needs: Medical and Mental Health (SSEN:MMH), Western Australia applies these best principal practices, working with students, parents, medical staff and the student's regular school to support the student's educational needs and transition back to school.

By supporting these students, SSEN:MMH services aim to improve both the education and health related outcomes for students with medical and mental health needs. The SSEN:MMH has been active in conducting case studies and surveys relating to their services (Crosby, Bauer, Hughes & Sharp, 2008). The views of most respondents surveyed are positive, and the services provided are identified as being integral to keeping students connected with school. To date, however, there has been limited objective evidence available regarding the long-term academic and social outcomes for their students. A comprehensive, evidence-based approach assessing outcomes for clients of SSEN:MMH will increase the scope for informed decision-making regarding effective service delivery.

This project developed the data infrastructure that would enable the SSEN:MMH to understand the educational outcomes of their students in more detail. The data infrastructure supports the following objectives:

- **Describe the population of SSEN:MMH students** enrolled in the school between 2008 and 2016. How many students receive education services? What level of service do they receive? What is the nature of their illness? Do they differ from the broader student population?
- **Understand the long-term outcomes for these students.** What is the typical trajectory over time for attendance and grades? How do these trajectories differ according to service levels, illness type and so on?

This report summarises the preliminary analyses conducted on datasets that address these questions.

About the SSEN:MMH

In partnership with health teams and schools, the SSEN:MMH provides educational services to students whose medical or mental health presents difficulties in accessing their regular education program. The SSEN:MMH recognises that education outcomes are more positive for students with special educational needs when partnerships exist between the school, hospital school, health services, students and families. To this end, the SSEN:MMH adopts a LETS (Liaise, Education, Transition, Support) model that supports students to enter or return to a program that best meets their ongoing educational needs. **Liaison** includes working with health teams and schools to assess student needs. Students who are unable to attend their enrolled school due to poor health receive **education** support. **Transition** provides support to students who have missed school because of health issues to re-engage with their enrolled school. **Support** is provided to all students to assist students' through professional learning and maintaining connections to Health to remain engaged with their education.

The SSEN:MMH has operated in various forms since 1943. Currently, the school employs 83 teaching and support staff, with assistance from many volunteers. Employees and volunteers interact with approximately 150 students a day, 400 students each week and over 5,000 students each year. Their volunteer workforce includes a range of people, from university students studying teaching and nursing, to retirees. As of 2017, SSEN:MMH delivers 58 programs across 27 settings throughout Western Australia.

Most students are referred to the SSEN:MMH through the Department of Health with parent consent. The Home Teaching program takes referrals through schools.

Project Data

This project draws upon routinely collected data held by the Department of Education in addition to data collected specifically by the SSEN:MMH.

Department of Education Data

Datasets provided by the DoE for this project include:

- enrolment details
- attendance records
- teacher grades
- NAPLAN test scores
- caregiver information
- teacher judgements of attitude, behaviour and effort (ABE)
- vocational education and training (VET) pathways
- on-entry (pre-primary) literacy and numeracy
- ATAR scores.

The databases include all students enrolled in a government school at any point between 2008 and 2016 (inclusive). These data span the entire educational journey of students over this time, allowing us to examine longitudinal trends for students before, during and after their engagement with the SSEN:MMH.

This report does not provide detail on the contents of each dataset. Where appropriate, we describe variables as they appear in tables and figures.

SSEN:MMH Data

The SSEN-MMH database has collated information over time about their students. The records include:

- The number of times students have been engaged with the school (number of 'enrolments')
- The duration of those 'enrolments', the main program they were engaged in (e.g. Oncology, Respiratory, Mental Health, Neurology, Burns, General Surgical, General Pediatrics)
- The number of teaching hours received with each engagement. Teaching hours includes direct student contact in a ward, program, or home visit.
- The number of service hours. Service includes teacher liaison with families, health teams, students' enrolled schools, and transition support).

The SSEN:MMH database includes a range of information concerning 'episodes' of engagement with the school. Some students may engage once, and receive a few hours of teaching. Others may engage once for a long duration; others may repeatedly engage for short or long durations. Every student is different.

The DoE matched the SSEN:MMH records with the enrolment details of students who attended a Government school between 2008 and 2016. The DoE used identifying information (name, date of birth and school enrolment) to create a unique identifier number per student that protects the identity of individual students. The researchers used this ID number to match students across the multiple databases, that is, *the researchers did not receive information that would identify individual students*. This process was essential to maintain confidentiality on individual student information.

The databank captures all students engaged in the SSEN:MMH between 2008 and 2016. To provide consistency across the various databases contributing to the databank, records were aggregated at the semester. For students with multiple contacts with the SSEN:MMH during a semester, for example, summary information about their engagement over the semester was captured (e.g. total teaching hours).

In line with the study objectives, the following sections describe the population of SSEN:MMH students and their typical engagement patterns. These descriptions include all SSEN:MMH students. Attendance and grades of students engaged with the SSEN:MMH are then described. The second set of analyses are based only on the students who successfully matched with DoE records (80% of students).

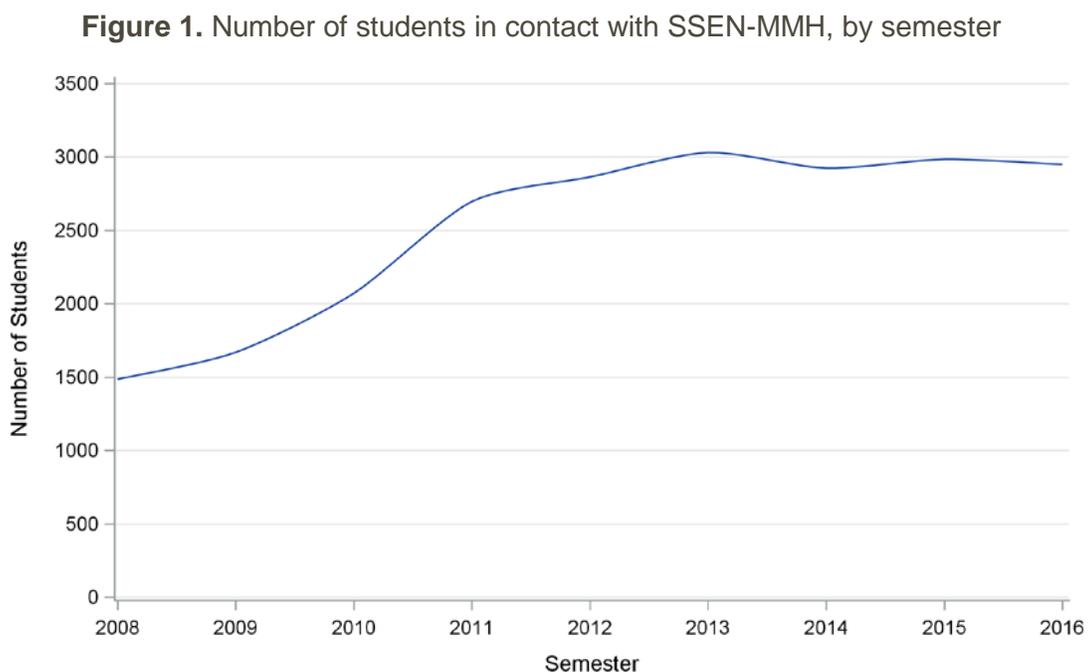
The Population of SSEN:MMH Students

Over the nine years analysed the school engaged with a total of 28,697 individual students. Of these, 72% (20,605) came from a Government school. 16% were attending to Catholic schools and the remaining 12% (3,582) to an Independent institution.

The number of individual students identified within a semester ranged from 1,157 students in 2009 (Semester 1) to 3,081 students in 2012 (Semester 2). The average number of individual students per semester across the 18 semesters was close to 1,600 students.

Of the total number of students, the vast majority engaged in only one semester (73%, or 21,049 students). A further 3,884 (14%) engaged with SSEN:MMH services in two semesters and 3,764 (13%) were engaged across multiple semesters (having three or more contacts, not necessarily sequential).

Figure 1 presents the total number of students in contact with the school by semester. Overall, the total number of students per semester doubled between 2008 and 2012, starting with 1,485 students in 2008 increasing to 3,081 students in 2012. After this year, the number of students accessing the service remained more constant.



Access delivery

The total number of teaching hours provided by the SSEN:MMH did not change considerably during the period under study (see Figure 2). Teaching hours fluctuated between 14,000 and 16,000 hours each semester. Conversely, the number of access days and total services hours showed an increase during the same period. This pattern reflects a change in the school's strategy to increase focus on liaison with and transition to students' enrolled schools.

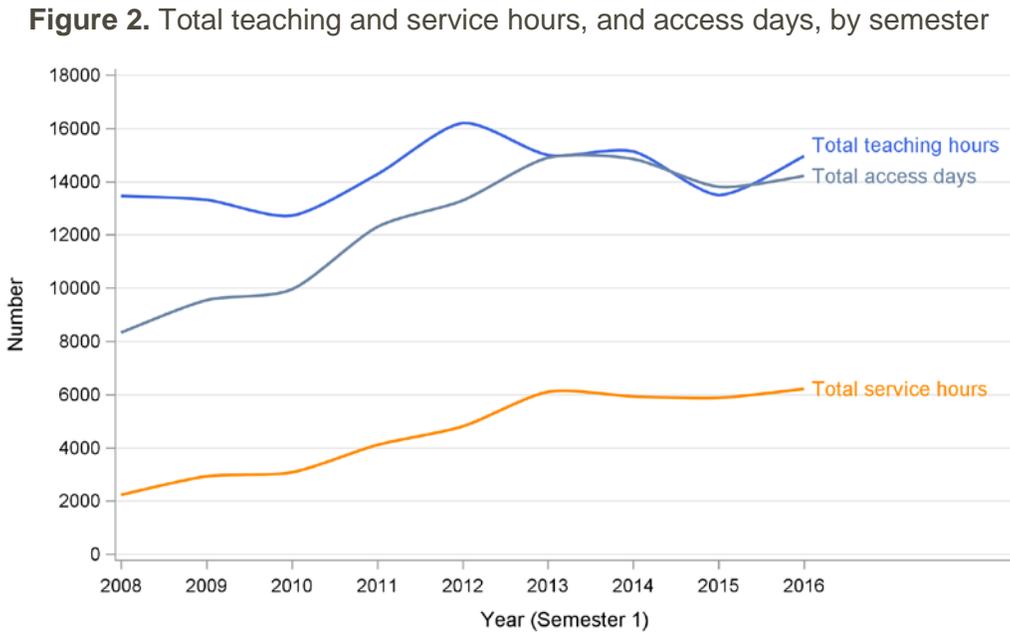
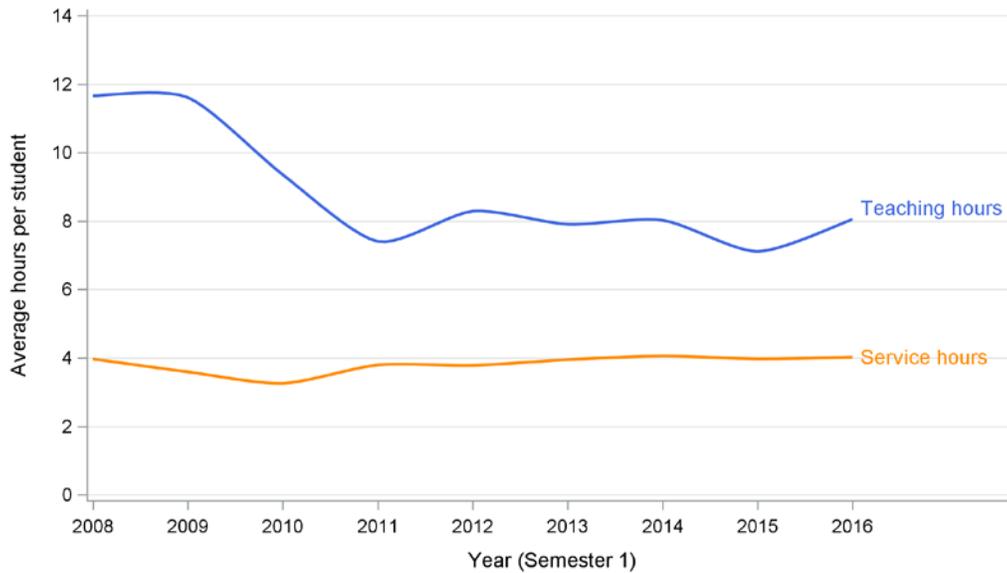


Figure 3. Average teaching and service hours per student, by semester



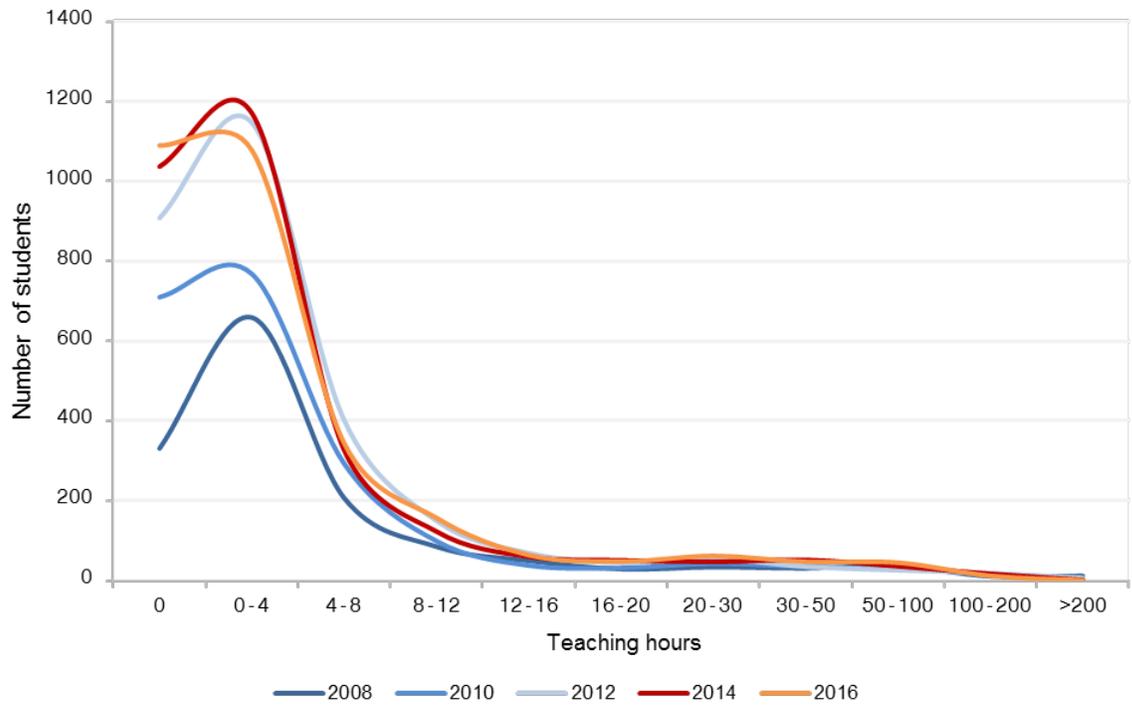
With an increasing number of students (Figure 1) and a total number of teaching hours provided remaining constant during the study period, the average number of teaching hours per students decreased, as shown in Figure 3 above. In 2008, the average number of teaching hours per student was close to 12 hours, falling to 7.5 in 2011 together with the increase in the number of students, and remained around 8 hours per student until the end of the study period.

Figure 3 also shows that the average service (or liaison) hours per student remained around 4 hours per student over the 18 semesters under study. As mentioned previously, while the total number of service hours delivered each semester increased over time, there was an increase in the number of students. Therefore, there was a consistent average number of service hours per student over the study period.

Figure 4 shows that the majority of the students received between 0–4 teaching hours and the number of students receiving this level of teaching increased over time. Conversely, the number of students who received 12 or more teaching hours, represented on average less than 3% of the total number of students. This proportion remained unchanged across the study period independently of the growth seen in the total number of students accessing the service.

These figures do not include hours provided in service to the students to support return to school.

Figure 4. Number of students by teaching hours



School sectors

The SSEN:MMH serves students who attend Government, Catholic and Independent schools. Figure 5 provides the numbers of students in each sector over time. While it appears that there was a larger increase in the number of Government students over time relative to students attending Catholic or Independent schools, Figure 6 indicates that Government students remained around 70% of the total number of students during the study period. Catholic school students represented 16% of the students and Independent school students around 13%. For example, in Semester 1 of 2008, there were 1,041 (70%) students from Government schools, 255 (17%) from Catholic schools and 189 (13%) from Independent schools. In Semester 1 of 2016 there were 2,135 (72%), 449 (15%), and 362 (12%) students from Government, Catholic, Independent schools respectively.

Figure 5. Number of SSEN:MMH students in each sector, by semester

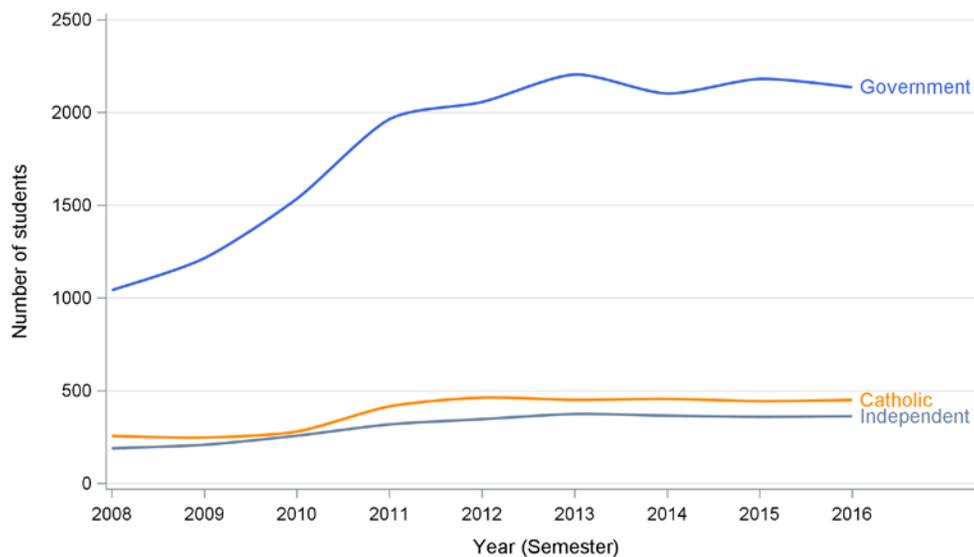
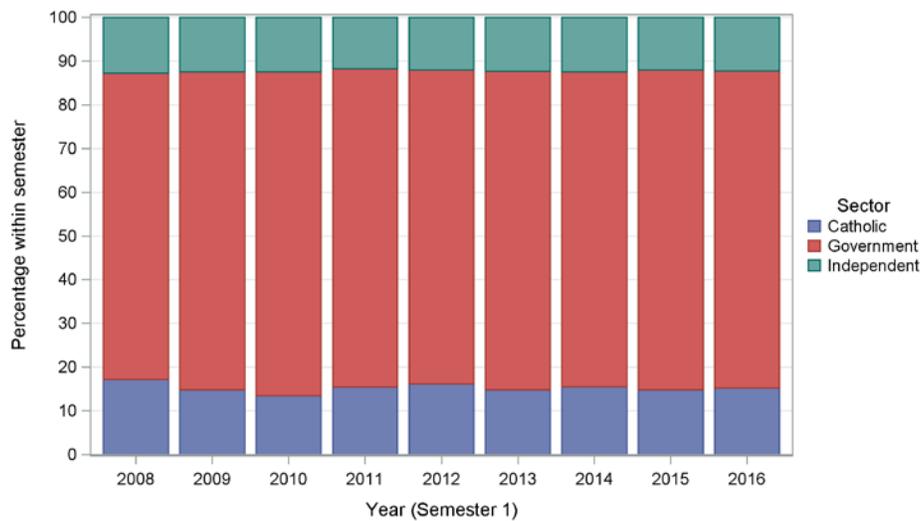


Figure 6. Proportion of students from each sector, by semester

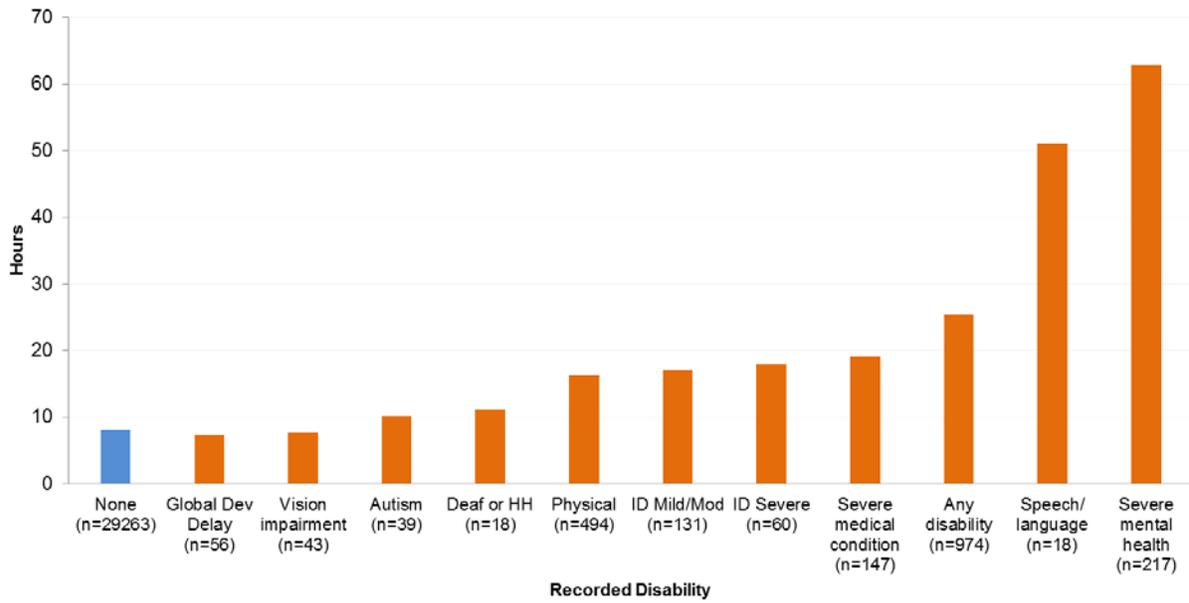


Student groups

The SSEN:MMH database also included some information about students with a disability. Figure 7 provides the average number of teaching hours provided to students with disabilities, over the study period. On average, students with disabilities received more teaching hours compared to those with no disabilities. Among students with disabilities, those with speech and language disabilities and severe mental health disorders received on average more teaching hours than other students.

Between 2008 and 2016, almost 25,000 teaching hours were provided to students with a disability (or 9% of all teaching hours provided).

Figure 7. Average teaching hours, by type of disability (all semesters)¹



¹ As these figures are averaged across semesters, students who engaged with the school over multiple semesters are counted each time. This is why there are, for example, 29,263 students with no disability, even though there are only 28,697 individual students in the entire databank. These data only include students with *any* level of teaching hours (i.e. students with 0 hours excluded from calculations).

The SSEN:MMH offers a variety of programs to students that align with the nature of their medical or mental health needs across many hospitals in the Perth metropolitan area. These programs broadly identify the nature of students' illnesses. These programs include ward programs:

- Oncology
- Acute mental health
- Neurology / Rehabilitation
- Burns
- Orthopaedics / Plastics
- Adolescent
- General surgical
- Respiratory / Endocrine

Other programs are specialist outpatient programs, including CAMHS Clinics statewide.

Students may engage with several of these programs within a semester. To show patterns in attendance and achievement outcomes by these various programs, we allocated students to a 'main' program according to the program where they received the most teaching or service hours. We also combined themed programs into larger categories to enable larger sample sizes. For example, the 'Mental Health' program used in the following analyses includes students engaged in several mental health inpatient and day programs.

Table 1 provides the number of students by their 'main' teaching program and the average teaching hours provided for each program. The program which received more students during the period between 2008 and 2016 was the PMH Adolescent ward, with 6,197 students. Students in mental health programs received more teaching hours on average than other students.

Table 1. Total number of students, average and total teaching hours by program.

Main Teaching Program	Students*	Average teaching hours per student	Total teaching hours (2008-2016)*
Adolescent	6,197	12.2	75,751
Burns	1,563	5.2	8,137
General Surgical	6,022	4.5	26,937
Hospital Home Teaching	253	18.8	4,713
Mental Health	2,288	21.5	49,309
Neuro/rehab	2,559	7.1	18,283
Oncology	1,707	16.3	27,896
Orthoplastic	5,427	4.7	25,507
Other hospital	1,122	3	3,403
Refugee	599	2.3	1,393
Respiratory/Endocrine	3,520	7.6	26,597
Other	891	46.2	41,131

*Number of student and Total teaching hours does not add up because some students received teaching hours from more than one program. These figures do not include the hours provided in service to the students to support return to school.

The SSEN:MMH delivered a total of 261,561 teaching hours between 2008 and 2016.

Education Trajectories of SSEN:MMH Students

The previous results include all SSEN:MMH students. This section is limited to the students with matching DoE administrative records. Unmatched students include those who did not enrol in a government school during the period of study but may also include students with incorrect or missing information that could not be matched by the Department of Education. Table 2 shows that 80% of SSEN:MMH students had matching records. Even though the proportion of matched records were significantly high, it is important to account for these differences when interpreting outcomes.

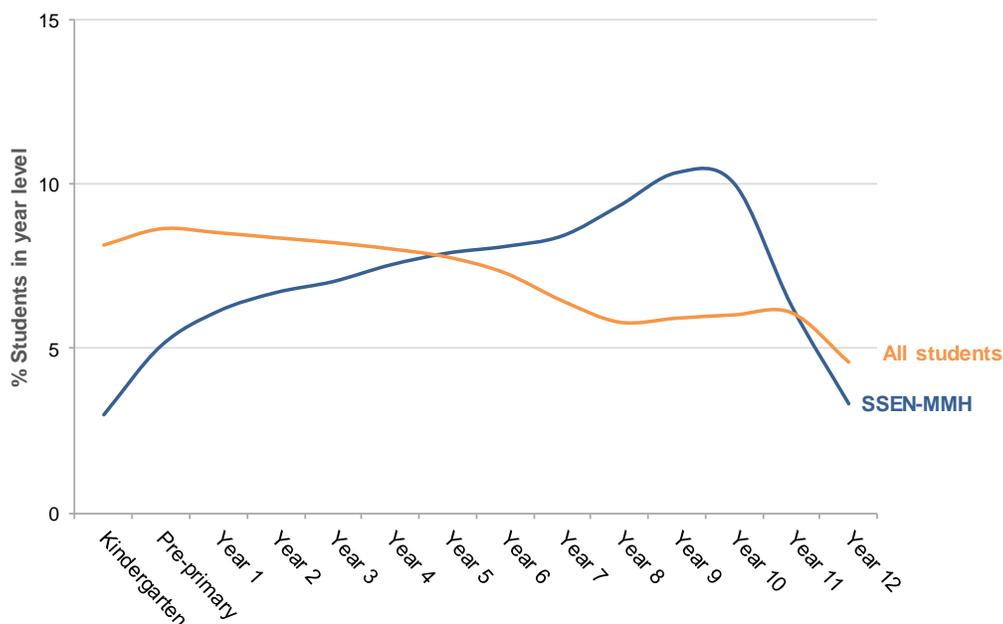
Table 2. Number of individual students by school sector

	Students	% with a Party_id
All students	28,697	80%
Government	20,605	96%
Catholic	4,508	35%
Independent	3,582	49%

As would be expected, matched rates were higher for students in Government schools (96%), and lower for students in Independent schools (49%) and Catholic students (35%). Independent and Catholic students could potentially be matched if they attended a Government school in earlier years. For example, students who attended a Government primary school and Catholic high school could be matched on their primary school records.

Figure 8 displays the distribution of students across all year levels during the study period for all students in the DoE dataset and for those who had any contact with the SSEN:MMH. Students were, mainly, evenly distributed across year levels. More SSEN:MMH students were in Years 8, 9 and 10 than in the earlier year levels. As the prevalence of chronic illness and mental illness increases with age, and because larger proportions of secondary students attend non-government schools than do primary students, these differences in the distribution of year levels are expected.

Figure 8. Proportion of students in each year level (all semesters)



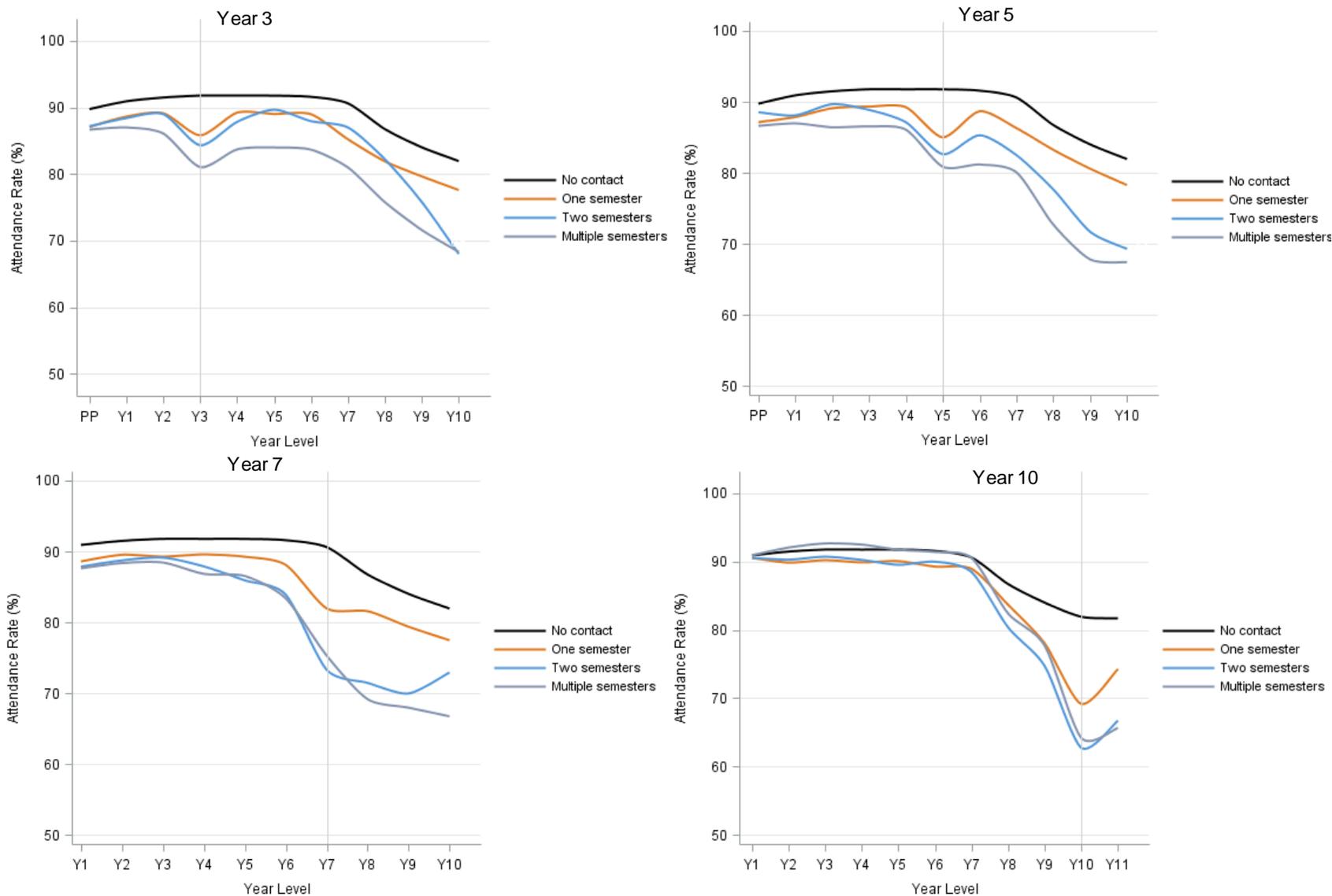
Attendance outcomes

Figure 9 displays the average attendance rate by year level, for students who had their first contact with the SSEN:MMH in Year 3, Year 5, Year 7 or Year 10, compared to other students with no contact. Each graph has a vertical reference line to highlight the year of their first contact. We divided students into three groups according to their contacts with the school: one semester, two semesters and multiple semesters (three or more semesters, not necessarily consecutive).

Overall, students who had at least one contact with the SSEN:MMH had lower attendance rates in the years before their first contact than students who never engaged with the SSEN:MMH.

In all cases, when the first contact occurred there was a sudden fall in the attendance rate. For example, for those who had their first contact in Year 3, the attendance rate decreased by four percentage points in that year level, from 88% in Year 2 to 83.7% in Year 3. For this group, students with one and two contacts recovered by Year 4 to pre-contact levels, however those with multiple contacts did not. Figure 8 suggests that the ability to recover previous attendance levels decrease when the first contact occurs in later year levels. This may be related to the type, severity and comorbidity of medical and mental health problems older students experience relative to younger students.

Figure 9. Attendance rates by year level and number of contacts (first contact in Year 3, Year 5, Year 7 and Year 10)



For those students who had their first contact in Year 7 or Year 10, the attendance rate began to decrease two or three years prior the first contact, making the 'attendance fall' even larger. For example, those who had their first contact in Year 7 had an average Year 4 attendance rate of 88%, 87% in Year 5, 85% in Year 6 and 76% in Year 7, when the first contact occurred.

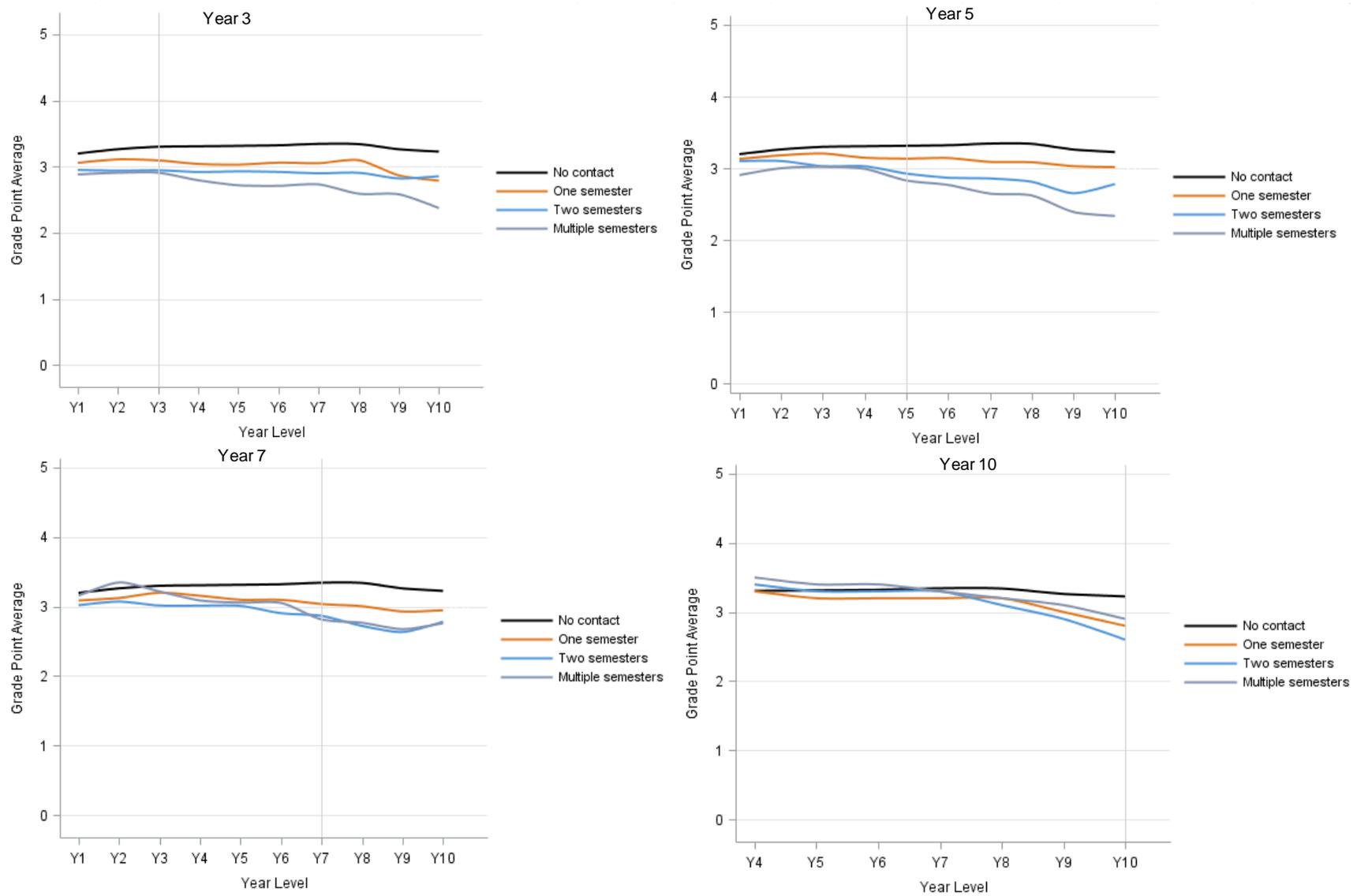
Student grades

We conducted similar analyses for students' grades over time. While the datasets included NAPLAN assessments, they are limited to Years 3, 5, 7 and 9. To assess finer longitudinal trends, we used the grades awarded to students each semester. A grade point average (GPA) was calculated by taking an average of grades in English, Maths, Science, and Society and Environment, where the grades were classified from A = 5 to E = 1.

Figure 10 provides the GPA scores by year of first contact and semesters of contact. There was some divergence in the average GPA values for students with multiple contacts. However, the GPA values remained constant over time. Unlike the attendance trajectories, there were no obvious falls to students' grades when they first came into contact with the SSEN:MMH.

Figure 10 suggests that the divergence on average grades in the early primary school years were lower among those who had a later contact. However, for students where the first contact occurred in Year 7 or Year 10, the GPA trajectories decrease one to two years before the first contact occurs, and continue to decrease thereafter at a lower trajectory.

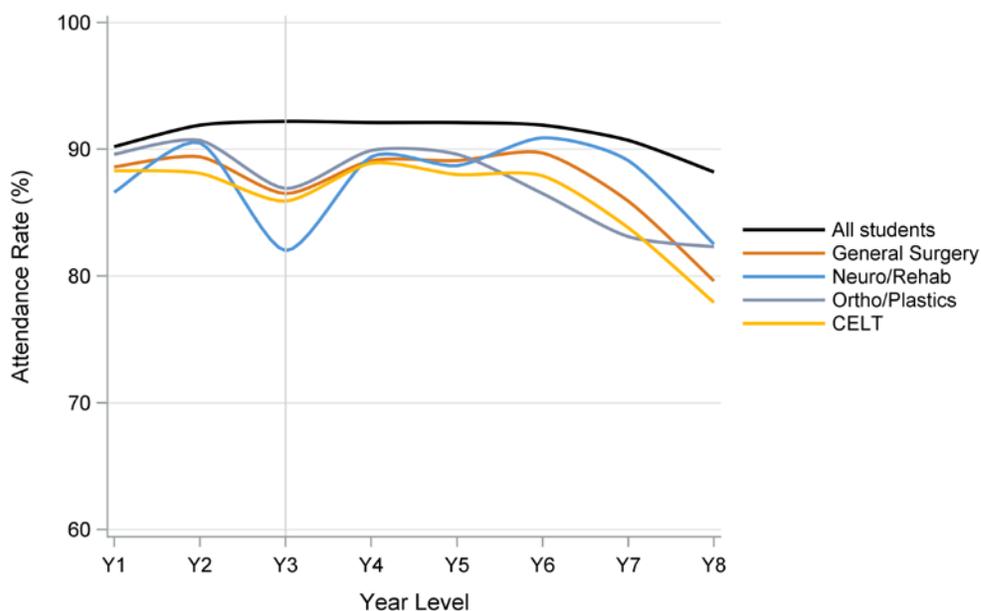
Figure 10. Grade point average by year level and number of contacts (first contact Year 3, Year 5, Year 7 and Year 10)



Trajectories by main program

We conducted some preliminary analysis of student trajectories by their main program. Figure 11 displays the attendance rates over time for students who had their first contact with the school in Year 3, by their main SSEN:MMH program in Year 3. Programs were only included if at least 50 students also had attendance data in the relevant year level. For students with their first contact in Year 3, the programs included General Surgery; Neurology/Rehab; Orthopaedics/Plastics; and CELT (Child Adolescent Mental Health Services Education Liaison Team).

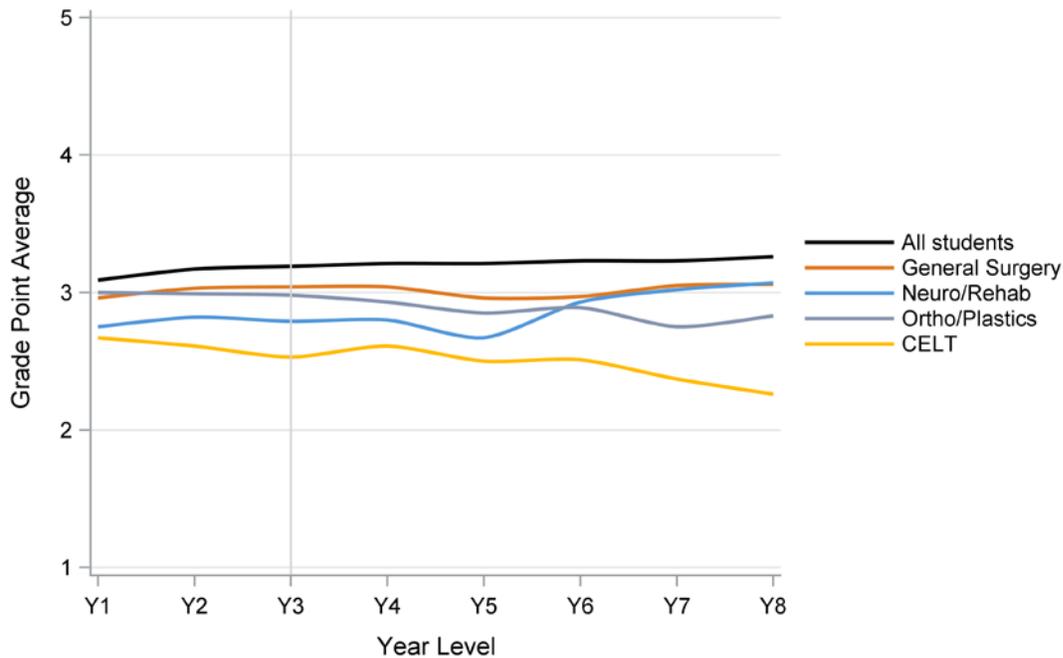
Figure 11. Attendance rate by year level and selected program (first contact Year 3)



As observed before, the students who had contacts with the SSEN:MMH had lower attendance rates than non-SSEN:MMH students even before their first contact occurred. However, Figure 11 suggests that later attendance patterns varied subtly by main program. Students in the Neurology/rehab program showed the highest variability in attendance and also the biggest ‘fall’ at first contact in Year 3. However, students from all programs returned to their pre-contact attendance levels, before dropping in later years.

The GPA values for the same main programs are provided in Figure 12. Unlike attendance, there was no fall in student grades when contact with SSEN:MMH first occurred. Students in the CELT program had the lowest GPA scores before their first contact in Year 3. They appeared to recover in Year 4 before declining each year thereafter.

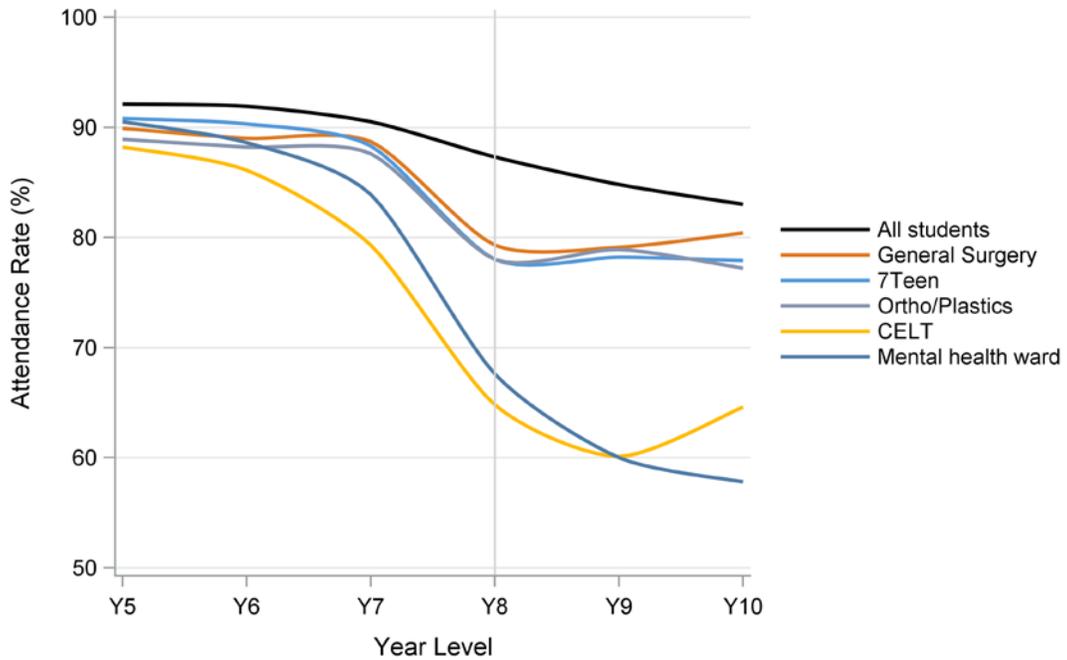
Figure 12. GPA values by year level and main program (first contact Year 3)



Attendance and GPA trajectories were different when the first contact occurred in Year 8 than Year 3 (see Figures 13 and 14). First, the reduction in attendance rate was even greater, particularly for the students engaged with inpatient mental health and CELT programs. Unlike the previous figures, attendance rates did not return to pre-contact levels after the first contact in Year 8.

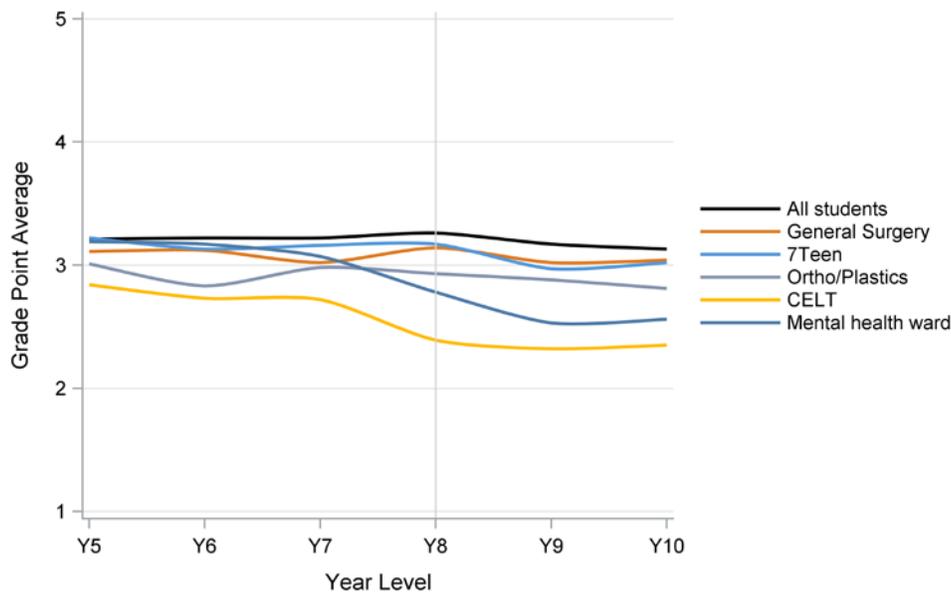
For example, among students referred through CELT services, attendance rates were 12 percentage points lower than non-SSEN:MMH students in Year 7. By Year 8, their first year of contact with SSEN:MMH the difference was closer to 20 percentage points. For students enrolled in General Surgery, Adolescent and Orthopaedics/Plastics programs, even though there was a fall in their Year 8 attendance rates, attendance rates did not decline further after this point.

Figure 13. Attendance rate by year level and selected program (first contact Year 8)



Finally, Figure 14 provides the GPA trajectories for students first contacting SSEN:MMH in Year 8. There was a noticeable decrease in GPA values after the first contact (Year 8) for students from the inpatient mental health and CELT programs.

Figure 14. GPA values by year level and selected program (first contact Year 8)



Strengths and Limitations

In this report, we aimed to showcase the potential of the SSEN:MMH database and DoE administrative records to track students over time and to understand their educational experiences before, during, and after referral to the SSEN:MMH. These are powerful and unique data that, we believe, do not exist anywhere else in the world. Investing in data infrastructure will help the SSEN:MMH understand more about their students, their long-term pathways and how changes to service delivery impacts on student outcomes.

The results presented here are based on preliminary analyses only. We cannot determine from these data if a referral to the SSEN:MMH positively influenced the educational trajectories of students. For example, we cannot ascertain if the return to pre-contact attendance levels was solely the result of SSEN:MMH intervention or if these results would occur in the absence of any intervention at all. This report is not an evaluation of the school, however, as we note in the 'Next Steps' section, several avenues can be pursued to provide further insights about the school and the outcomes of students.

Additionally, we have not conducted any inferential analyses that determine if there are statistically significant differences between groups of students. Similarly, we have not determined whether any change within a group of students over time represents a statistically significant change. As with all data, there is a degree of uncertainty about the accuracy of estimates when they are produced. Any discussion about mean values that are 'higher' or 'lower' in one group of students compared to another should keep with these limitations in mind. Future work can include more rigorous assessments of which differences are statistically meaningful.

Finally, we note that students in Catholic and Independent schools were not included in many of these results. As students in these sectors, on average, come from more advantaged backgrounds than students attending Government schools (Dearden, Ryan & Sibieta, 2011; Warren, 2015), different patterns may have emerged had data on non-Government students been available. The implications of this limitation could be assessed by comparing the early trajectories of students who remain in Government schools with those who transfer to another sector.

Next Steps

With the infrastructure now established, there are several lines of inquiry that the databank can be used to address questions around SSEN:MMH service delivery. These include:

- Examining a wider range of student outcomes, including NAPLAN scores, attitude, behaviour, and effort judgements from teachers, vocational pathways and ATAR outcomes. The attitude, behaviour, and effort measures in particular may provide an indication of students' social and behavioural trajectories before and after contact with SSEN:MMH.
- Assessing the range of outcomes for students with varying levels of service provision across different programs. For example, how do outcomes vary for oncology patients by the levels of teaching and service hours?
- Identifying particular cohorts of interest (e.g. adolescent medicine) and developing a comprehensive profile of education patterns and outcomes.

References

Alexander, K. L., Entwisle, D. R., & Horsey, C. S. (1997). From first grade forward: Early foundations of high school dropout. *Sociology of Education, 70*, 87-107.

Closs, A., & Norris, C. (1997). Outlook uncertain: Enabling the education of children with chronic and/or deteriorating conditions. Edinburgh: Moray House Institute of Education.

Commission on Social Determinants of Health (2008). Closing the gap in a generation: health equity through action on the social determinants of health. Geneva: World Health Organization.

Crosby, I., Bauer, C., Hughes, L., & Sharp, A. (2008). Evaluating hospital school services' collaborative model of service delivery. *Special Education Perspectives, 17*, 57-76.

Dearden, L., Ryan, C., Sibieta, L. (2011). What determines private school choice? A comparison between the United Kingdom and Australia. *Australian Economic Review, 44*, 308-320.

Epstein, J. L., & Sheldon, S. B. (2002). Present and accounted for: Improving student attendance through family and community involvement. *Journal of Educational Research, 95*, 308-318.

Farrell, P., & Harris, K. Access to education for children with medical needs – A map of best practice. Educational Support and Inclusion Research and Teaching Group, Faculty of Education, The University of Manchester.

Hallfors, D., Vevea, J. L., Iritani, B., Cho, H., Khatapoush, S., & Saxe, L. (2002). Truancy, grade point average and sexual activity: A meta-analysis of risk indicators for youth substance use. *Journal of School Health, 72*, 205-211.

Hancock, K. J., Shepherd, C. C. J., Lawrence, D., & Zubrick, S. R. (2013). Student attendance and educational outcomes: Every day counts. Report prepared for the Department of Education, Employment and Workplace Relations.

Henry, J., Edwards, B., Green, J., & Meade, R. (2009). Young people with health conditions: Staying engaged during the senior years of education. Melbourne: Royal Children's Hospital Education Institute, Foundation for Young Australians.
http://www.rch.org.au/uploadedFiles/Main/Content/education/Dec_2009_Staying_Engaged_Literature_Review.pdf

Jackson, M. (2013). The special educational needs of adolescents living with chronic illness: a literature review. *International Journal of Inclusive Education, 17*, 543-554.

Norris, C., & Closs, A. (2003). Child and parent relationships with teachers in schools responsible for the education of children with serious medical conditions. *British Journal of Special Education*, 26, 29-33.

Prevatt, F. F., Heffer, R. W., & Lowe, P. A. (2000). A review of school reintegration programs for children with cancer. *Journal of School Psychology*, 38, 447-467.

United Nations General Assembly (1948). Universal Declaration of Human Rights, 10 December 1948. Available at <http://www.unhcr.org/refworld/docid/3ae6b3712c.html>

Viner, R. M., & Keane, M. (1998). *Youth matters: evidenced-based best practice for the care of young people in hospital*. London: Caring for Children in the Health Services.

Viner, R. M., Ozer, E. M., Denny, S., Marmot, M., Resnick, M., Fatusi, A., & Currie, C. Adolescence and the social determinants of health. *The Lancet*, 379, 1641-1652.

Warren, D. (2015). Parents' choices of primary school. *LSAC Annual Statistical Report 2015*. Melbourne: Australian Institute of Family Studies.