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**Scott Sims**  
Data Analyst  
Telethon Kids Institute



## Research aims to prevent child maltreatment in Australia

*Telethon Kids Institute is protecting vulnerable children with the help of data and analytics*



Child abuse and neglect is a thorn in Australia’s side. Reports to child protection services have grown steadily since 2011, indicating significant levels of child maltreatment. And although data on child protection is collected, there are gaps surrounding some of the related risk and protective factors.

Telethon Kids Institute aims to protect children through research intended to drive change. The Australian institute is a global leader in children’s health research, with a mission to discover the causes, cures and treatments for the illnesses, diseases and conditions that affect kids.

To conduct this research, Telethon collects and integrates data from many sources, most notably the Data Linkage Branch of the Western Australia government – an agency that uses SAS to provide de-identified, longitudinal, population-based data to researchers. Telethon must then prepare this complex data for analysis.

Enter Scott Sims, Data Analyst at Telethon. Sims provides statistical support for his team on research projects including those related to child abuse. “We start by loading and transforming data files with more than two million records and 100 variables in size,” says Sims. “This is a complex task requiring advanced linked data analysis, so we use SAS to load and analyse the data in a timely manner.”

### Landmark study

Evidence shows children with disabilities are three times more likely to be maltreated compared to other children, but that risk varies by type of disability. Sims assisted with the statistical analysis for lead authors Dr. Miriam Maclean and Dr. Melissa O’Donnell of Telethon, who recently embarked on a landmark study to understand the risk of maltreatment across disability types.

“We already knew from our previous research that children with disabilities experience elevated rates of child abuse and neglect,” says Sims. “But only a few population-based studies have been conducted producing mixed evidence regarding maltreatment risk for children with different types of disabilities.”

"To facilitate this analysis, we required the processing capabilities of SAS to load the millions of records needed for analysing population-level health data. From there we could show children with disabilities account for one in three substantiated maltreatment allegations, but also that maltreatment risk was not consistent across all disabilities. Children with intellectual disability, mental problems, and conduct disorders had increased risk, but not autism, Down syndrome, or birth defects," noted Sims.

The study exposed the most pressing areas where help was needed to support families at risk of child abuse and neglect. Findings were shared with the Australian government, providing further evidence that a prevention and early intervention framework is needed. This work has earned researchers at Telethon publication in international research journals and invitations to speak at global events. But more importantly, it's provided a pathway to enable a reduction in child maltreatment in Australia.

## Communication core to mission

Research in a vacuum helps nobody. Core to Telethon's mission is ensuring the benefits of its research are translated into real policies and interventions to improve the wellbeing of children. "Our challenge is translating our research effectively to ensure research evidence is utilised and applied in practice to its full potential," says Sims.

To help with this, Telethon uses SAS to convert data into readable charts and figures. "We use SAS every day to provide summary reports such as PROC FREQ and PROC TABULATE," says Sims. Analysts and researchers then use these reports to populate tables and figures for translating research into journal articles.

By making its research findings more approachable, Telethon hopes to gain more international exposure. As with its landmark study *Maltreatment Risk Among Children With Disabilities*<sup>1</sup>, a larger audience generally means a better chance of effecting change in the lives of vulnerable children.

## Streamlining data to publication

Telethon endeavors to build on its success and create a research institute that makes a real difference in the lives of children and families around the world. Part of this is streamlining the data to publication process, thus accelerating the time in which its research can be put into practice.

Like any industry, investment in innovation is a key driver of success. And when success means better protecting children, Telethon stays on the cutting edge. "When you're doing this research, you need to back up your findings with sound tools and methodologies," says Sims. "With SAS, we can guarantee the accuracy of our procedures and be confident in our findings."

<sup>1</sup> Maclean MJ, Sims S, Bower C, et al. Maltreatment Risk Among Children With Disabilities. *Pediatrics*. 2017; 139(4):e20161817

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