

New pediatric dental database removes access barriers to information

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A new interactive dashboard, allowing open access exploration of oral health-related data from multiple national children cohort surveys, has been developed by researchers at the Dublin Dental University Hospital,

Trinity College Dublin.

The [dashboard](#) allows easy access to previously inaccessible data (confined to researchers and publications) to be analyzed by researchers, [policy makers](#) or others who may lack the skill-set or sufficient training to do so. The accessible [dashboard](#) can help monitor trends, explore risk factors and provide support for policy decisions.

This is the first dashboard developed to merge data from key national children's surveys in Ireland—dating back 20 years—to be viewed easily without the need to access the original datasets and carry out the cleaning, merging and initial analysis. It is particularly useful for non-technical users, without coding and statistical skills. The dashboard is a reactive document and allows viewers to dynamically explore the [oral health](#) and dietary data.

Observation of longitudinal changes within cohort survey participants and inter-survey comparisons of similar variables can provide useful insights into age or cohort changes occurring in developing children. For example, for national representative surveys, comparing the prevalence of dental fillings or frequency of tooth brushing across cohort waves is a useful descriptive measure. Similarly, a readily accessible measure of the trends in other oral [health](#) behaviors such as dental attendance or dietary consumption of sugar-sweetened beverages can provide support for public health action.

Michael Crowe, associate professor, [food science](#), nutrition and oral health and lead researcher, said, "This dashboard allows easy access to explore or examine the key trends in this type of oral related health data over time without requiring multiple plots and tables and sharing of extensive documentation. For example, the paper shows examples of graphs which quickly show the proportion of 17–18 year olds who have had fillings or the reported frequency of toothbrushing (categorized by

gender and socio-economic status) at 3 years of age.

"A key issue in health sciences research is the lack of training of researchers whose primary field is neither visual design or [data analytics](#). Developing an effective dashboard is only the first stage in communicating and disseminating research findings. Strategies to improve the uptake of dashboards and training for both researchers and end-users is essential to achieve any real beneficial outcomes. However, data dashboards appear to be a promising means of sharing and collaborating and are an example of how literate programming and dynamic documents can contribute to research reproducibility."

Researchers are excited that the dashboard may additionally provide an enhanced user experience for teaching environments and provide some interactive learning opportunities through its ability to display on multiple devices including tablets and mobile phones.

Provided by Trinity College Dublin

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