



@SaxInstitute
#BigData
#linkeddata



A SURE THING FOR RESEARCHERS

The Secure Unified Research Environment (SURE) is proving a game-changer for linked health research, enabling researchers to access large, linked data collections securely, no matter where they are based.

Researchers around Australia are shedding light on pressing health issues ranging from immunisation effectiveness to cancer, after analysing large, linked datasets through Australia's first remote-access data research laboratory.

The Sax Institute's *Secure Unified Research Environment (SURE)* is a purpose-built, remote-access data research laboratory that allows researchers to log in remotely and securely analyse routinely-collected data from sources such as Medicare, the Pharmaceutical Benefits Scheme (PBS), hospitals and cancer registries.



>> Pictured above
Dr Martin McNamara

Sax Institute Head of Research Assets, Dr Martin McNamara, said SURE operates as a "virtual research laboratory", where large linked data collections can be analysed by multiple users without the data leaving the one, secure location.

"It gives researchers easier and faster access to large-scale linked datasets previously unavailable to them," he said. "It means that researchers can collaborate from anywhere in Australia or the world on large-scale, innovative research projects of national importance."

"There are now 13 different data custodian organisations from around Australia uploading data to SURE, and 180 researchers are actively using the platform for their work, with 72 active studies underway," Dr McNamara said.

A recent survey of SURE users undertaken by the Sax Institute showed that two in five were using the platform to undertake research using linked datasets for the first or second time.

"SURE has provided us with the vehicle to access and analyse these data remotely and securely, enabling us to get approval for the linkage of the datasets"

OPENING DOORS FOR RURAL RESEARCHERS

For rural researcher Julie Depczynski, from The University of Sydney's Australian Centre for Agricultural Health and Safety, being able to use SURE meant she could conduct research into cancer in farming families that would previously have been impossible for her.

"Our Centre is based in Moree in north western NSW, seven hours from Sydney," she said. "So there's no way we could have travelled back and forth to Sydney to access secure data. SURE overcomes those geographical boundaries for rural-based researchers."

Ms Depczynski's study is drawing on a cohort of 20,000 men and women living on farms in NSW from the Sax Institute's *45 and Up Study*, and linking the data to other

datasets such as Medicare data, mortality and cancer registry data to compare cancer rates and screening in those who live on farms with the rural non-farming population, and people living in urban areas.

She is also looking at stages of presentation, deaths and their correlation with socio-economic and behavioural risk factors such as alcohol intake, smoking, exercise and diet.

The study findings could have important implications for future cancer prevention and screening programs for Australia's rural population, she said.

"It is really important that researchers in regional and rural areas are able to conduct high-quality work and both SURE and 45 and Up have been critically important in helping me to do that."

NOVEL DATA LINKAGE

In another novel data linkage study, Sydney researchers are using SURE to provide the first comprehensive information on how Australia's childhood vaccination programs are performing in terms of real-world health outcomes.

Study chief investigator, Associate Professor Heather Gidding, said the project involved analysing linked health and birth data from two states and Australian Childhood Immunisation Register (ACIR) data for the first time through SURE, in order to provide a full picture on how well vaccination programs are working on the ground and who should be targeted to improve on-time vaccination rates.

Associate Professor Gidding, from the School of Public Health and Community Medicine at UNSW, said accurate data was vital to optimising both the health and cost benefits of vaccination programs. However, until now that information could only be derived from stand-alone databases using study designs that lacked control for important clinical and demographic confounders of vaccine effects.



>> Pictured above
Associate Professor
Heather Gidding

"SURE has provided us with the vehicle to access and analyse these data remotely and securely, enabling us to get approval for the linkage of the datasets," she said.

"The other good thing about SURE is that not only does it meet the needs of the Commonwealth Health Department to access linked data, but we have been able to work on the data across different locations and all access the same work space."

SURE was established and is operated with funding from the Australian Government National Collaborative Research Infrastructure Strategy (NCRIS) as part of the *Population Health Research Network (PHRN)*. The PHRN is a collaboration that was set up in 2009 to further develop Australia's data linkage capabilities.

Article contributed by the Sax Institute.