

Queensland Government research and development expenditure report 2019–20



Key findings

- Around **\$380m** was reported as spent on R&D in 2019–20, \$30m more than the \$356m reported as spent in 2018–19
- Leveraged funds from external sources made up approximately **41%** of reported expenditure, 10% lower than the 51% reported in 2018–19
- **96%** of the total reported expenditure in 2019–20 related to current operational costs
- Queensland Health reported the highest amount of R&D expenditure at **\$125,540,040** followed by the Department of Agriculture and Fisheries at **\$95,569,628**

Report overview

The Queensland Government publishes its research and development (R&D) expenditure annually. The information shows:

- Queensland's research-related expenditure over time
- fields of research and the socio-economic objectives of the research being conducted
- valuable collaborations between the Queensland Government and other partner organisations
- benefits of R&D activities.

The definition of R&D used by the Queensland Government is the internationally recognised Organisation for Economic Cooperation and Development (OECD) definition of R&D:

‘... creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications.’
(Frascati Manual, 2015).

To be eligible, the R&D activity must be:

- novel
- creative
- uncertain in its outcome
- systematic
- transferable/reproducible.

Some examples of R&D activities include (and are not limited to):

- laboratory research aimed at discovery of new knowledge
- searching for applications of new research findings or other knowledge
- conceptual formulation and design of possible product or process alternatives
- evaluation of, product or process alternatives
- modification of the formulation or design of a product or process
- design, construction, and testing of preproduction prototypes and models
- design and development of tools used to facilitate R&D or components of a product or process undergoing R&D activities.

R&D excludes:

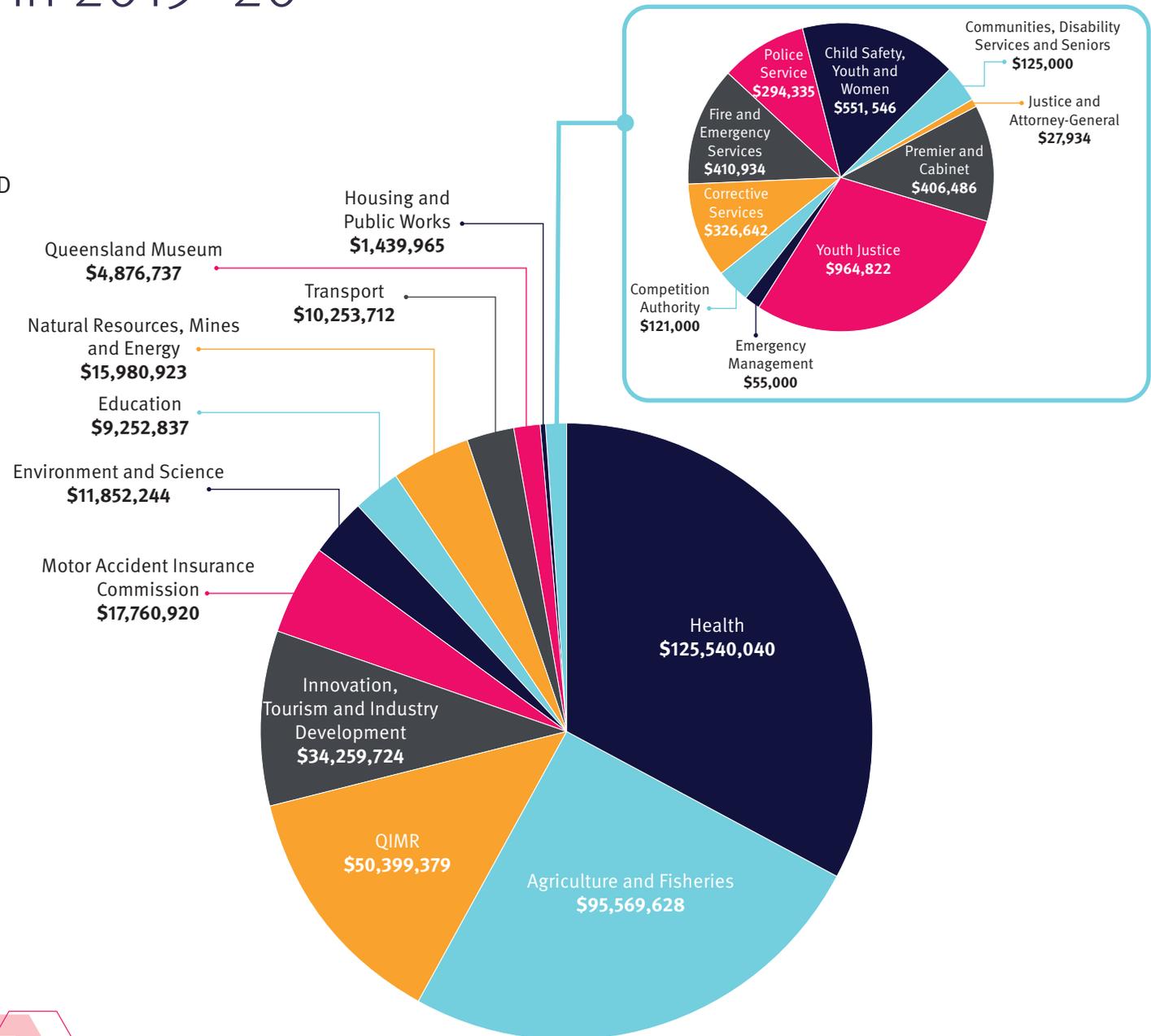
- market surveys
- extension or commercialisation of R&D
- routine computer programming and maintenance
- general purpose data collection using standard techniques
- policy-related studies using existing methodologies
- any other activities that do not consist of elements of novelty or understanding of causal relationships.

There is a high correlation between GDP per capita and R&D intensity. R&D directly influences the strength and competitiveness of industry by providing a basis for technological change and thereby encouraging economic development. Investment in R&D not only monetises benefits to the economy, but addresses various societal challenges faced in today's world, such as climate change, waste minimisation, food security, etc., resulting in improvements in the quality of life.

Total expenditure in 2019–20

A total of **\$380,469,811** reported by Queensland Government agencies as being spent on R&D by Queensland Government agencies. The three agencies with the highest expenditure were:

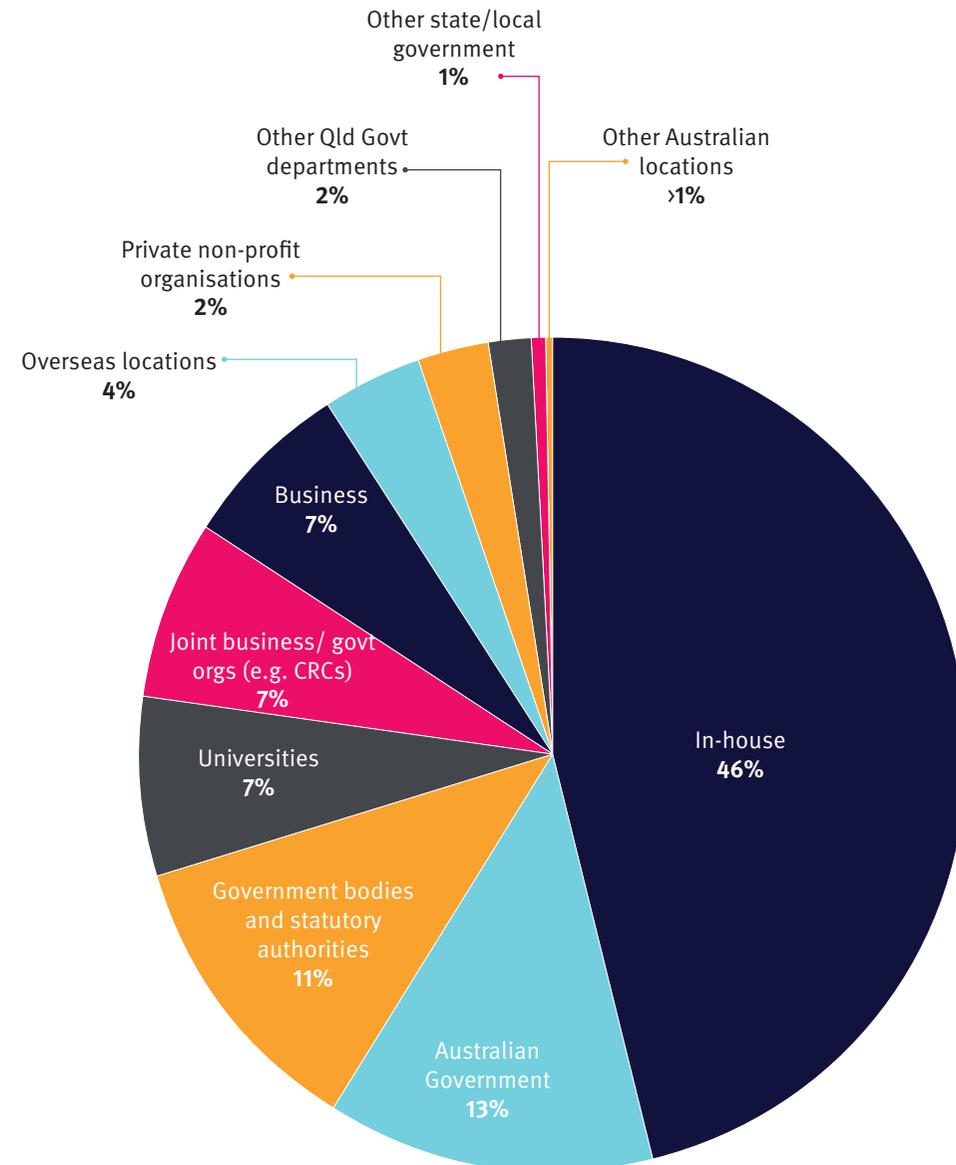
1. Queensland Health
\$125,540,040
2. Department of Agriculture and Fisheries
\$95,569,628
3. QIMR Berghofer Medical Research Institute
\$50,399,380



Source of funds

In 2019–20 the Queensland Government leveraged **41%** from external sources.

External sources include funding from other states or the federal government, private organisations, and universities.

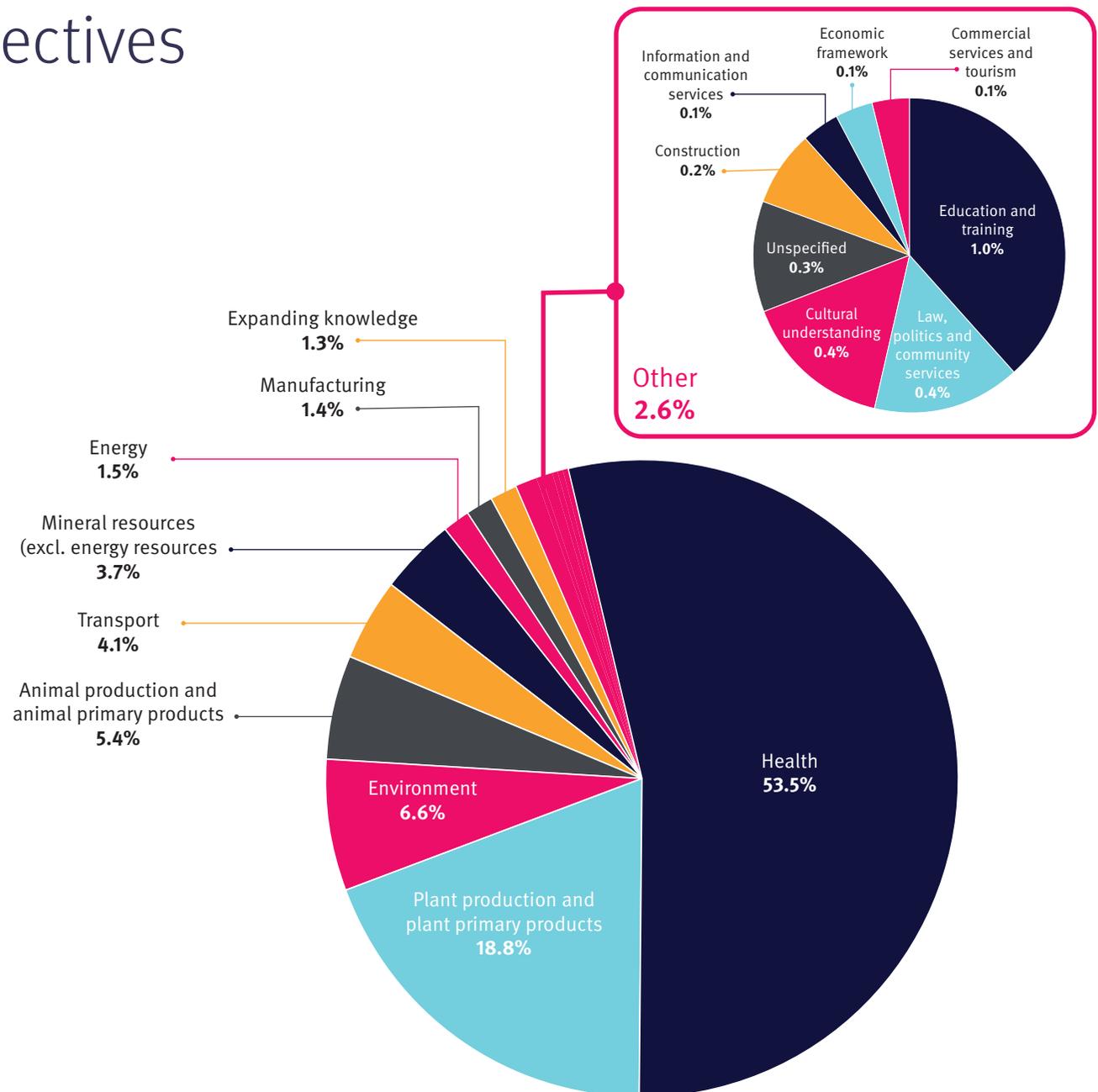


Socio-economic objectives

Agencies classify R&D investment according to the Australian Bureau of Statistics' socio-economic objectives. The objectives relate to the impact of the research and are standardised fields. The distribution of expenditure reflects the socio-economic focus of the government policy priorities at the time.

In 2019–20 the greatest reported expenditure was 53.5% allocated to research for health objectives due to the additional expenditure incurred due to the SARS-CoV-19 virus research.

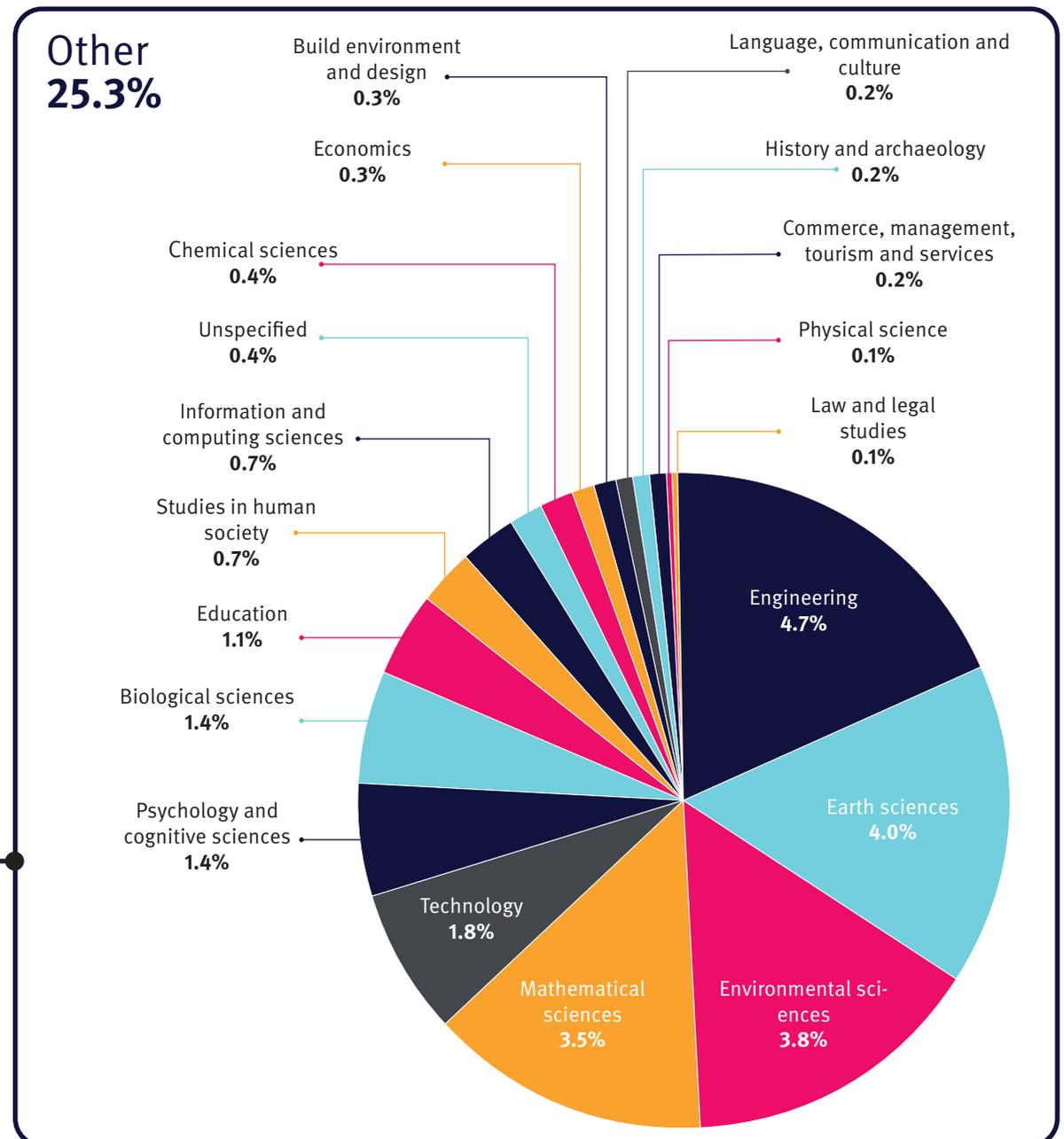
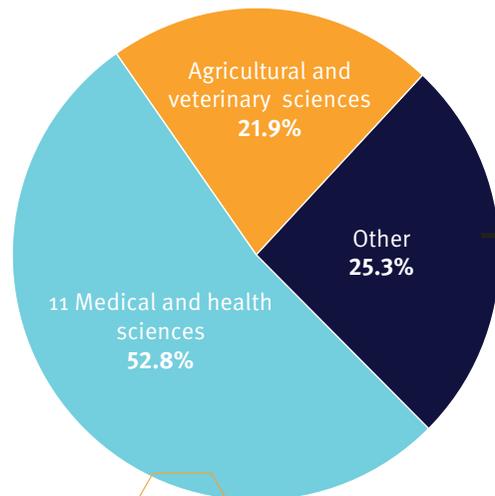
The second highest reported expenditure was for plant production and plant primary products (18.8%).



Field of research

In 2019–20 the top reported fields of research were 'Medical and health sciences' and 'Agriculture and veterinary sciences', with almost 75% of the total reported expenditure spent on these fields.

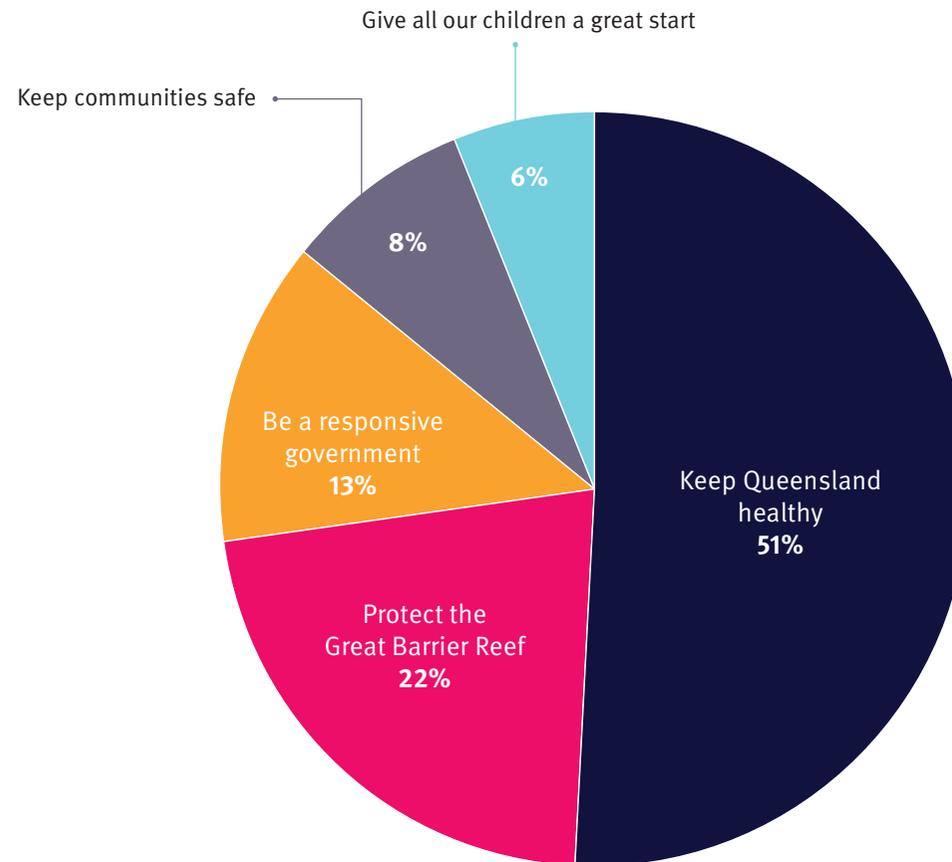
Like the socio-economic objectives, the fields of research codes are defined by the Australian Bureau of Statistics and categorise R&D according to the methodology used (not the activity, nor the purpose). This mirrors the two highest spending agencies, i.e. Queensland Health and the Department of Agriculture and Fisheries.



Our Future State—**priorities**

For the financial year 2019–20, the Queensland Government's policy priorities were outlined in the *Our Future State*.

At that time, agencies indicated that 51% of their research expenditure aligned with the goal *Keep Queenslanders Healthy*.

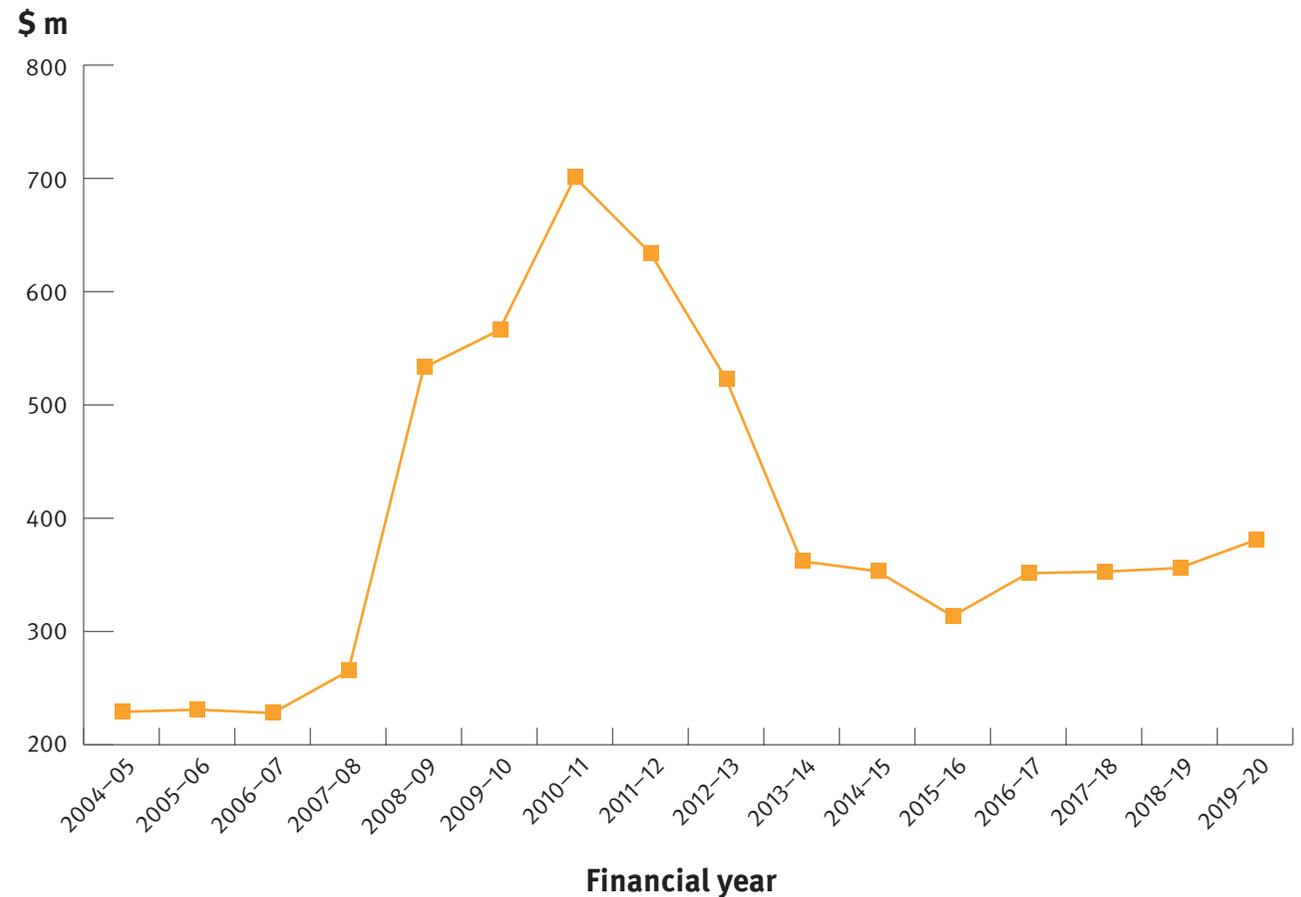


Expenditure over time

In 2019–20 Queensland Government agencies reported spending **\$380,469,811** on R&D, which is 8% more than the average reported expenditure over the last 5 years.

The spike in the period from 2008–09 to 2013–14 reflects the significant Queensland Government investment in research infrastructure.

Institutions such as the Translational Research Institute at Woolloongabba, the QIMR Berghofer Medical Research Institute at Herston, the Health and Food Sciences Precinct at Coopers Plains, and the Ecosciences Precinct at Boggo Road, Dutton Park are the outcomes of that investment.



Thank you

The Office of the Queensland Chief Scientist has been working with Queensland Government departments and organisations since 2004 to identify and report R&D that is carried out or funded by the Queensland Government.

The data is used to monitor R&D investment and record the partnerships and research priorities across agencies.

Thank you to all the staff—internal and external to government—for assisting the Office of the Queensland Chief Scientist with gathering and validating the extensive data. Collection and finalisation of robust data is an intense process that requires a high level of accuracy.

Past reports are published on the *Office of the Queensland Chief Scientist website*, and detailed data from all the reports is available on the *Queensland Government open data portal*.

+61 7 3199 7429

www.chiefscientist.qld.gov.au

info@chiefscientist.qld.gov.au

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