

Conclusions and recommendations of the National Audit Office

Management and governance of the utilization of research data in health sector business

The purpose of the audit was to assess the effectiveness of the support, steering and improvement of research data utilization in health sector business by means of financial instruments. The audit assessed the policy steering of support activities and the different aspects in the governance of support activities: the ability to identify, assess and anticipate results, problems and development needs in the activities.

The audit was targeted at the activities of Business Finland (previously Tekes) and the Academy of Finland, which finance the utilization of research data, and the Ministry of Economic Affairs and Employment and the Ministry of Education and Culture, which steer their operations. The audit was also targeted at the activities of the Ministry of Social Affairs and Health, which steers the social and health sector.

As regards political and strategic steering, the audit was limited to the health sector, particularly to the implementation of the Growth Strategy for Research and Innovation in the Health Sector and its Roadmap 2016–2018. The financial instruments at which the audit was targeted were the Flagship Programme of the Academy of Finland and at the Research Benefit, Challenge Finland and Innovation Scout instruments of Tekes/Business Finland. In addition, the audit examined the steering and coordination of the health sector programmes of Tekes/Business Finland.

The policies and actions of public authorities in the implementation of the growth strategy for the health sector are fragmented

Public governance steers the utilization of research data in the health sector mainly through support forms and systems instead of an operational and structural entity derived from the growth strategy for the health sector. The activities of public authorities are of a general, fragmented and mainly sectoral nature and do not assemble the value chain preceding the utilization and commercialization of research data into a managed entity. Effective implementation of the strategy for the health sector and Roadmap 2016–2018 has been hampered by the general nature of the strategy and the objectives set out in the roadmap, the poor coordination of the steering instruments, as well as the

uncertainty and fragmentation regarding the responsibilities and duties of the different actors.

However, the growth strategy for the health sector and Roadmap 2016–2018 have increased the transparency in the setting of targets for supporting research data utilization. Objectives have been set for the entire data value chain, not only for the utilization of data. However, the objectives set out in the growth strategy are of a general nature, and the roadmap is action-oriented. The documents do not set clear starting points and objectives for cross-sectoral RDI activities and supporting them. Cross-sectoral RDI activities are steered by the objectives and operating models of sector-specific strategic steering. The role and duties of the steering group for the growth strategy have not been sufficiently strong to balance the differences and tensions between the different sectors.

Short-term financial steering has hampered the commercialization of research data and supporting it

Support for the utilization of business-driven research data was highlighted to some extent in the 2016–2018 state budgets, whereas the funding of applied and basic research decreased correspondingly. Prime Minister Sipilä's Government created new funding models to promote the commercialization of research data. Of these, the Flagship Programme of the Academy of Finland and the financial instruments of Tekes/Business Finland contributed to more diversified targeting of funding in the data value chain.

The impact that the growth strategy for the health sector has had on the activities and decision-making of the funding organizations is indirect and difficult to verify. Based on their statutory tasks, the funding organizations have steered their financial instruments primarily with the aim to promote their own tasks, main responsibilities, and strategies. The short-term financial steering of the funding organizations has hampered the commercialization of research data and supporting it.

In the commercialization of research data, it is necessary to develop the management of intellectual capital, which is also necessary for the efficient utilization of material capital. At the moment, the management of intellectual capital is not given sufficient consideration in the steering of financial instruments.

Foresight, development and roadmap measures are intertwined in the implementation of the growth strategy and roadmap

The monitoring of the growth strategy and the identification and management of problems have been complicated by the partly vague starting points for the implementation of the strategy and roadmap, the fragmented and too specifically targeted steering instruments, and the fact that the implementation solutions are

spread across several different ministries and funding organizations. In addition, the steering instruments and resources have not been sufficient to enable the steering group to implement the growth strategy efficiently and resolutely.

The development work carried out by the ministries and funding organizations has focused on sharpening the organization's own perspective in relation to the growth strategy rather than at the measures set out in the growth strategy. This has narrowed the development perspectives. The steering group has strived to broaden them. The steering group has developed the coordination rather than the the implementation of the growth strategy as a whole.

The responsibility for cross-sectoral development measures has not been clearly allocated and defined in the growth strategy or its Roadmap 2016–2018. Therefore, the effectiveness of these measures has been assessed only in a limited, too specifically targeted, and random manner.

The impacts of the implementation of the growth strategy on central government finances were not foreseen in the strategy. The growth strategy does not include an assessment of the impacts of its implementation on the formation of intellectual capital for the state or RDI actors, nor does it include a requirement to foresee or otherwise assess the financial impacts of its implementation.

Data was collected during the implementation of the growth strategy and roadmap, but it is difficult to assess its utilization

Data supporting the implementation of the growth strategy for the health sector made it easier to understand and focus attention on the critical and topical challenges related to the implementation of the strategy and the roadmap. Thus, it set a framework for problem-solving and laid down guidelines for assessing solutions, but it did not directly provide a foundation for the different actors' solutions. Assessment of the data utilization is complicated by the absence of data policy and data management principles in the health sector in 2016–2018. Such principles would have structured and defined the needs, opportunities and solutions related to data management in the health sector.

Data was also produced during the implementation of the growth strategy and its roadmap to serve the development of research data utilization. However, only part of this data has been used for the implementation and development of the growth strategy and the roadmap. Data management has consisted of systematic identification, compilation and transmission of data and data needs linked to the strategy and roadmap. In the implementation of Roadmap 2016–2018, no clear objectives or resources were allocated for assessing and utilizing the produced data in future activities.

No decisions have yet been made on the final assessment of the Flagship Programme

According to the audit, the data management rationalizing the support for research data utilization and its development in the Flagship Programme of the Academy of Finland is, as a rule, appropriate and based on established practices.

It is customary practice of the Academy of Finland to conduct a final assessment of its programmes. At the time of the audit, no specific decision had been made on the assessment of the Flagship Programme or when it will be made. However, for the development of the financial activities of the Academy of Finland, it would be important to ensure that the flagship programme and other similar programmes are evaluated.

The achievement of the objectives set for the financial instruments of Tekes/Business Finland was monitored only on a general level

Based on the audit, the data management supporting research data utilization was, as a rule, appropriate in the financial instruments of Tekes/Business Finland. The data management was also efficient in so far as it was based on the established practices of the funding organization and related to reporting on the funded projects and on monitoring their progress.

The challenges of data management were most evident in the preparation, introduction and development of new types of instruments and procedures. The established practice of Tekes, and later Business Finland, involves ex-post assessment of the financial programmes and, on a more general level, systematic assessment of the results and impacts. However, Tekes/Business Finland did not, in practice, monitor the achievement of the objectives set for the instruments, although it monitored the effectiveness of the funding on a more general level. In addition, when the instruments were implemented, information on the challenges of achieving the objectives was not compiled systematically, and therefore foresight information was not formed on development needs during the funding process.

The targets steering the financial instruments of Tekes/Business Finland were expressed in a general and complex manner. The objectives were not broken into clear concrete sub-objectives and a more specific objective-means structure. Therefore it remains unclear which objectives are non-contradictory and achievable at the same time, and whether the sub-objectives set for the instruments can be achieved at the same time. It also remains unclear what restrictions or requirements there are for simultaneous pursuit and achievement of the objectives.

Recommendations of the National Audit Office

1. The Ministry of Economic Affairs and Employment, the Ministry of Education and Culture, and the Ministry of Social Affairs and Health should better reconcile cross-sectoral strategies, such as the growth strategy for the health sector, with their other strategic and financial steering of state organizations and the statutory tasks of the funding organizations.
2. The Ministry of Economic Affairs and Employment, the Ministry of Education and Culture, and the funding organizations operating under them should jointly develop the funding of research data utilization in such a manner that
 - supporting research data utilization from data production to data commercialization is more systematically and comprehensively covered by the funding,
 - the funding organizations' capacity and possibility to plan their funding as a whole in the long term is ensured.
3. The Ministry of Economic Affairs and Employment, the Ministry of Education and Culture, and the Ministry of Social Affairs and Health should ensure that the tasks and responsibilities related to the cross-sectoral development activities for supporting the implementation of the growth strategy for the health sector are clear and comprehensive. The ministries should also monitor and assess the effectiveness of development activities.
4. The Academy of Finland and the Ministry of Education and Culture should already when taking decisions on the implementation of programmes commit themselves to assessing them.
5. Business Finland should monitor the achievement of the objectives set for financial instruments more systematically and comprehensively. The achievement of the objectives could be monitored, for example, in connection with the final reporting on projects.