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National Institute for Health Development, Estonia

(in Estonian language, Tervise Arengu Instituut, TAI)

PEER-TO-PEER REVIEW AND RECOMMENDATIONS

Final

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Foreword

In May 2022, the National Institute for Health Development in Estonia (in Estonian language, Tervise Arengu Instituut or TAI) invited the International Association of National Public Health Institutes (IANPHI) to conduct a peer-to-peer review of TAI. Peer-to-peer review is one resource offered by IANPHI, providing directors of National Public Health Institutes with an objective external evaluation using a range of tools.

TAI and IANPHI agreed the membership of the Peer Review Team and the arrangements for the review, which was conducted in October 2022. The members of the Peer Review Team were Markku Tervahauta (Chair), Quentin Sandifer (Rapporteur), Duncan Selbie, Hans Brug, Loek Stokx and Andres Rannamäe as an invited local consultant specialist (Appendix I).

The Peer Review Team was provided with extensive documentation describing the Institute and key structures, policies and laws relevant to the status and role of TAI as a "research and development institution which operates as a state agency". TAI staff were very responsive to all requests for information, explanation and, where necessary, translation. The Institute also organised a full programme of meetings with key stakeholders (Appendix IV).

The Peer Review Team is solely responsible for the findings, conclusions and recommendations of this report, drawing on its independent interpretation and assessment of all the information it received in reports and meetings.

The Peer Review Team expresses its warmest thanks for the support and assistance it has received in Estonia carrying out its mission. We would also like to thank the IANPHI secretariat for its help and technical support. We hope that the observations and recommendations in this report will be useful in further sustaining and developing TAI as an important asset for Estonian public health.

Dr. Markkku Tervahauta

Director-General of the Finnish Institute for Health and Welfare (THL)

Chair, Peer Review Team

Part 1 | Introduction

1. A peer-to-peer review of the National Institute for Health Development in Estonia (in Estonian language, Tervise Arengu Instituut or TAI) was conducted between 24 and 28 October 2022 at the request of the Director, Ms Annika Veimer. The Review Team acknowledge with gratitude the preparatory work undertaken by the Director and her staff, their openness as well as their welcome and hospitality during the visit.

2. This report sets out the Review Team's findings and conclusions and makes several recommendations. Part 2 of the report starts with a note about IANPHI, followed by a brief description of the health system in and health status of Estonia, to set the context. A description of TAI then follows. Part 3 briefly describes the review methods and Part 4 of the report responds to each of the questions put to the Review Team as set out in the Terms of Reference. The Review Team's conclusions and recommendations appear in Part 5. Appendices include pen portraits of the Review Team, terms of reference, a list of documents made available to the reviewers, and the programme of meetings held during the Review Team's visit.

Part 2 | Background

About IANPHI

3. The International Association of National Public Health Institutes (IANPHI) "collectively builds public health capacity and capabilities by connecting, developing and strengthening national public health institutes (NPHIs) worldwide" (its mission). At the end of 2022, membership had grown to 115 National Public Health Institutes in 98 countries. IANPHI achieves its mission using evidence-based frameworks for development and the provision of technical assistance to countries that are setting up or considering enhancements to their NPHIs. A peer-to-peer review is one resource offered by IANPHI, providing directors of NPHIs with an objective external evaluation using a range of tools.

Estonia - its health status and system

4. Covering an area of 45,227 km^2, Estonia is the smallest of the three Baltic States. It is a member of the European Union (EU) and the North Atlantic Treaty Organization (NATO). Its population in 2020 was estimated to be 1,328,976 (source: OECD, 2021) and life expectancy at birth in 2021 was 72.8 years for men and 81.4 years for women (source: Statistics Estonia, 2022). Between 2000 and 2016 life expectancy in Estonia rose more rapidly than in any other EU country, gaining more than 6.6 years. However, the gender gap is one of the highest in Europe; though it has declined since 2011, on average women live 8.5 years longer than men (source: WHO Europe). Healthy life years in 2021 was estimated to be 54.9 years for men and 58 years for women (source: Statistics Estonia, 2022).

5. Estonia is a democratic parliamentary republic. Administrative reforms in 2017 created a local government system comprising of 15 cities and 64 rural municipalities. All have the same legal status and perform similar functions. Sizes of local governments vary by population from 701 (Kihnu) to 438,930 (Tallinn) (2019) (source: Ministry of Finance, Local governments in Estonia).

6. Since independence was restored in 1991, the Government of Estonia has worked hard to modernise its health system. In 2020 and 2021 Estonia spent 7.5% of its gross domestic product on health services including preventive health care, achieving 96% population coverage (approximately €2.1 billion overall, €1733 per capita) through a payroll based compulsory health insurance fund (source: the Estonian Health Insurance Fund).

7. The main strategic or governing actors in the Estonian health system are the Ministry of Social Affairs (MoSA), the Estonian Health Insurance Fund (EHIF), the Health Board, the National Institute for Health Development (TAI) and independent providers operating under private law (source: European Observatory on Health Systems and Policies, Estonia: Health Systems Review 2018). A Parliamentary Social Affairs Committee scrutinises draft legislation regulating labour, social welfare, social insurance and health care (including public health). It holds the Government to account within these areas, and initiates bills and draft resolutions within its areas of competence.

8. The WHO Europe Regions for Health Network in 2018 records the following strengths of the health system in Estonia: almost universal coverage, prevention programmes including vaccination (high levels of coverage) and screening (modest levels of coverage), and e-health services. Challenges are recorded as an ageing workforce, sustainability of insurance coverage and the need for providers to deliver high quality care at lower cost, need to develop modern mental health services, and further development of and investment in e-health services.

National Institute for Health Development (TAI)

9. TAI was formed in 2003 from the merger of three legal entities: Institute of Experimental and Clinical Medicine (established 1947), Estonian Health Education Center (established 1993), and the Training Center for Public Health and Social Work (established 1995). Later nationwide functional additions to the organisation include Health Statistics in 2008, Causes of Death Registry (2008), Tuberculosis Registry (2009) and Cancer Registry (2009).

10. TAI is a government established research and development institution administered by the MoSA, engaged in public health research and health promotion as well as development and implementation of disease prevention programmes and activities. The Institute is established under the *Organisation of Research and Development Act* (in Estonian language *Teadus-ja arendustegevuse korralduse seadus* or TAKS) and operates under a statute enacted by the MoSA. This describes the main activities as "research, development and implementation of activities in the health and social sectors and making health statistics", and the main objectives as "the ongoing development of health and continuing improvement of the quality of life of the Estonian population". The statute details the main responsibilities of TAI including its management arrangements, assets and financing, and reporting and supervision.

11. The Review Team noted that the management arrangements refer to a Research Board/Scientific Council in TAI.

12. At the end of 2021 TAI employed 185 people (173 full-time equivalent), of whom 89% are female and 11% male. Almost two thirds (62%) of the staff are aged 31-50. Over 90% are educated to bachelors or higher degree level, including 13% holding doctorates. There has been significant staff turnover in 2022, following concerns in the early part of the year about the future of the organisation. Historically, TAI has had relatively low staff turnover with average length of service at the end of 2021 recorded as 9 years and 2 months.

13. Total expenditure in 2021 was €21.5 million. The services with the highest expenditure were: HIV prevention, treatment and mitigation (€5.2mn), prevention and treatment of drug addiction and mitigation of its damages (€4.1mn), alcohol consumption prevention and reduction and treatment of harmful use of alcohol (€2.3mn), research to inform policy (€2.1mn) and gathering, recording and analysis of health statistics (€1.2mn). Together, these five services make up nearly €15mn or 70% of total expenditure. However, it is noted that 90% of the budget for HIV prevention and prevention and treatment of drug addiction is allocated to health and social services and goes to contractual partners. This includes 30% to social contracting of services from non-governmental organisations.

14. TAI published its current strategic plan in January 2021 (*Development Plan of the National Institute for Health Development for the Period 2021-2025*). The strategy is informed by the Estonian Government's strategic plans including *Estonia 2035* and the *National Health Plan 2020-2030*. As well as describing its vision, mission and values the Development Plan sets out four strategic goals: People with healthier lifestyles; Research-based public health spokesperson and opinion leader; High quality and up-to-date health data; and Positive employee experience.

15. The Review Team noted that TAI's research activities were reported as having the highest scientific impact among Estonian research organisations as indicated by citations - citations/published paper 73.69 (source: Web of Science, 2022). While acknowledging the importance of this metric in the process of applying for and reporting on research grant applications, the Review Team observed that there did not seem to be any formal measurement of the societal impact of research undertaken by research institutes in Estonia. However, TAI reported several examples of societal impact resulting from its research activities including: TAI research formed the basis for establishing the *Estonian Cancer Control Plan 2021-2030*; research showed the ineffectiveness of cervical cancer screening in Estonia, which led to fundamental changes in the screening programme; cancer survival and high-resolution studies of diagnostics and treatment have led to changes in oncology clinical practice; HIV studies formed the basis for the national HIV strategy; TAI research forms the basis of national dietary recommendations; TAI research on health inequalities has provided input for the *National Health Plan*; and a TAI population based mental health study, with recommendations, informed the mental health action plan and activities.

16. TAI is organised into eight Centres (number of staff, % of staff): Research (48, 28%), Centre for Health Statistics and Registries (37, 21%), Centre for Health and Welfare Promotion (24, 14%), Centre for Health Risk Prevention (13, 8%), Centre for Prevention of Drug Addiction and Infectious Diseases (9, 5%), Support Centre (17, 10%), Training Centre (16, 9%) and the Centre for Health Marketing (9, 5%). The Centres are further divided into departments and units (between one and five in each Centre).

Part 3 | Review methods

17. The terms of reference agreed between TAI and IANPHI included the following objectives:

18. "The peer review will provide answers to (the) following questions:

    1) How do the functions and attributes of TAI compare to the core functions and attributes of public health institutes (based on the EPHS[1] and IANPHI's framework[2])? Which functions would better be carried out by other organizations than public health institute? Which functions could be added to current TAI profile? What competencies should be added to TAI's public health workforce to fulfil its goals and mission?

    2) How does TAI currently meet the goals that are set for the organisation by statute and relevant strategic documents including the strategy Estonia 2035, Estonian National Health Plan 2020-2030 and TAI strategy 2021-2025?

    3) Does TAI demonstrate the leadership, strategy and delivery required to fulfil its responsibilities and strategic goals stated in relevant strategic documents and is there

[1] The 10 Essential Public Health Services (EPHS)

[2] The IANPHI Framework for the Creation and Development of National Public Health Institutes

a need for alterations? Which?

4) Given the small size of Estonia and its national and scientific organizations active in the field of health and social affairs – what would be the most reasonable model for cooperation and coordination between different actors in the field in order to achieve better integration between health and other sectors, including the social sector?

5) In the era of crisis (Covid 19, refugee crisis etc), how should TAI rearrange its activities to most valuably contribute to crisis solutions?"

19. IANPHI agreed the membership of the Peer Review Team with the Director of TAI and arrangements for the review were jointly planned between TAI and the IANPHI Secretariat. The peer review was conducted by way of interviews with stakeholders and document analysis. Comparison with roles and functions of similar institutes in other countries are referred to where appropriate. The frameworks and tools used to guide the Peer Review Team's work are the *IANPHI Framework for the Creation and Development of National Public Health Institutes* and *The 10 Essential Public Health Services* (EPHS). These are captured in a third reference document titled *National Public Health Institutes Core Functions and Attributes*[3].

20. A challenging timescale for the review was set by TAI. An invitation to conduct the peer review was received by IANPHI in May 2022. In-country fieldwork was scheduled for 24-28 October 2022 inclusive, and the request was for the peer review to be completed by 30 November 2022 and the final report sent to the director of the TAI by the end of 2022. It is expected that the report will be presented to relevant Ministers and Government officials and publicly accessible.

Part 4 | Findings of the Review Team: observations and comments

21. The Review Team used the following as their working definition of a National Public Health Institute: *A national public health institute (NPHI) is a government agency, or closely networked group of agencies, that provides science-based leadership, expertise, and coordination for a country's public health activities*. An NPHI is defined by its core functions and core attributes. (source: IANPHI)

22. The findings of the Review Team are set out in responses to each of the questions (objectives) set out in the terms of reference and in the order presented. The first objective/question is split into two for ease of report writing.

    - "How do the functions and attributes of TAI compare to the core functions and attributes of public health institutes (based on the EPHS and IANPHI's framework)?"
    - "Which functions would better be carried out by other organisations than public health institute? Which functions could be added to current TAI profile? What competencies should be added to TAI's public health workforce to fulfil its goals and mission?"

How do the functions and attributes of TAI compare to the core functions and attributes of public health institutes (based on the EPHS and IANPHI's framework)?

23. Table 1 details the Peer Review Team's assessment of the location of NPHI core functions in Estonia. The first column sets out the core functions with descriptors taken from the IANPHI core functions document. The second column is the Peer Review Team's assessment of where

[3] https://ianphi.org/_includes/documents/sections/tools-resources/nphi-core-functions-and-attributes.pdf

the function is located. The third column records the Review Team's observations.

24. Examination of the core functions applied to Estonia and their placement clearly shows that they are shared between agencies with the majority located in TAI. The Health Board has some functional responsibilities, most notably health protection. Indeed, the complementarity between the functional responsibilities of the two agencies suggests that the Health Board could be considered a sister NPHI. It is important to note that the definition of a NPHI recognises that the core functions and attributes may be shared between more than one agency and in some countries IANPHI recognises more than one agency as a NPHI.

25. Table 2 details the Peer Review Team's assessment of the attributes of TAI. Further comment appears later in the narrative of this report.

Table 1: Placement of National Public Health Institute (NPHI) core functions in Estonia

Core function of NPHI	Where in Estonia	Review Team's observations
Evaluation and analysis of health status Collect data to understand the health status of the population, set priorities, and suggest interventions Gather or have access to data on vital statistics, potential threats to health, risk factors for disease and injury, and access to and use of personal health services. Use the data to guide policies and programs	TAI and Health Board (Health Insurance Fund)	This includes monitoring and evaluating population behaviour (TAI), and surveillance of risk factors and threats to health (TAI and Health Board) Note 1. TAI produces country, county level and some municipality level health data in compendium format (Note 2) and publishes data from all registries. Health Board produces epidemiological surveillance data on infectious diseases and laboratory data (except hepatitis and tick-borne diseases; by TAI); TAI produces disease registration data on TB and undertakes epidemiological overview and TB and HIV data. Data about personalised use of health services are held by the Health Insurance Fund; data on reported infectious diseases and non-communicable events are collected by the Health Board for outbreak control and incident response. (Healthcare service utilisation is undertaken by the Health Insurance Fund).
Public health surveillance, problem investigation, and control of risks and threats to public health Collect data on an ongoing basis to monitor for public health problems, and, when problems are identified, take action to control them Conduct ongoing monitoring for outbreaks and other public health problems Make sure that samples can be tested for organisms or chemicals that cause public health problems Investigate outbreaks or other public health problems, and make sure that interventions are put in place to address them	Health Board and TAI	The Health Board is responsible for risk assessment and environmental health surveillance, chemical and product safety, registering and surveillance of infectious diseases, outbreak investigation and response, and public health emergency response. TAI's statute includes systematic collection, analysis and interpretation of health-related data. TAI collects data and undertakes studies on TB and HIV. TAI undertakes problem investigation in population-based surveys, for example, the Health Behavior Survey. TAI does not have inspection, supervision and control functions.
Prevention programmes and health promotion Take action to create the conditions that promote health in the population Inform and educate people about how to improve their health Support legislation and regulations to promote health Support environmental changes to promote health	TAI	Core functions of the Institute.
Social participation in health Strengthen the power of the community to play an active role in public health Involve the community in developing and designing programmes to promote health	TAI working with Local Government	Stakeholders identified this as an area where they would like more support from the TAI.

Core function of NPHI	Where in Estonia	Review Team's observations
Provide assistance and information to organisations that work to promote health		
Planning and management Develop and implement a strategic plan, policies, and programs for the NPHI, as well as systems to ensure efficient operations Have a clear vision and mission statement Conduct periodic strategic planning, using data to identify priorities and set measurable goals Employ staff who are trained in the systems needed for efficient functioning of an NPHI	TAI within scope of its responsibilities	Health Board has an annual action plan based on risk assessment.
Regulation and enforcement Ensure that regulations and rules that support public health are passed and enforced Provide data to help regulators make evidence-based decisions Evaluate the impact of regulations and rules on public health	Health Board	Core functions of the Health Board. TAI does not have inspection, supervision and control functions. Many of the indicators used in the *National Health Plan 2020-2030* come from TAI (data collection, analysis and publication).
Evaluation and promotion of equitable access to necessary health services In close collaboration with government and nongovernment agencies: Monitor access to health care, including access for vulnerable populations Identify barriers to care and strategies to overcome barriers	Health Insurance Fund (purchasing and access to services)	Contracts between the Health Insurance Fund and primary health care include preventive/promotive activities undertaken by GPs and nurses. It is also reported and monitored and there is a payment for performance system in place. The Fund holds a modest prevention fund within their budget. The Insurance Fund is responsible for and finances all screening programs; TAI is responsible for the first part of the screening journey (direct communication and invitations to target group). The Insurance Fund has a variety of quality indicators about delivered care and data on expenditures, future costs and planning for health needs. However, it is not obvious that healthcare public health* or applied quality improvement (to reduce avoidable harm and avoidable future costs) is undertaken in the sense understood in other countries, for example, the US and UK. * UK Faculty of Public Health definition: Healthcare public health is concerned with maximising the population benefits of healthcare and reducing health inequalities while meeting the needs of individuals and groups, by prioritising available resources, by preventing diseases and by improving health-related outcomes through design, access, utilisation and evaluation of effective and efficient health and social care interventions, settings and pathways of care
Human resources development and training Help develop and retain a public health workforce that is adequate for national needs Monitor the capacity and needs of staff Provide training and continuing education Provide fulfilling opportunities and other incentives to encourage staff to remain in the public health workforce	TAI and Health Board	This descriptor refers to internal and external development and training. It is understood that the MoSA is responsible for workforce planning but TAI and the Health Board undertake workforce development and training for their employed staff. TAI also provides training for people responsible for creating health-supporting environments e.g. healthy eating, physical activity and psychosocial wellbeing, in a range of settings including the social services and educational sectors. These people are not public health staff but other professionals who are trained in public health principles and methods. The only target group that can be considered part of the public health workforce are 'health promotion specialists' in municipalities and counties. However, these staff are not employed by TAI.
Quality assurance in personal and population-based health services Work with the health care system to improve health services Conduct surveillance for healthcare-related infections Collect data on or make recommendations about patient safety Conduct evaluations or review data to assess the quality of services	Health Board and Health Insurance Fund	The function of health system performance assessment is under consideration of becoming a TAI role.

Core function of NPHI	Where in Estonia	Review Team's observations
Public health research Conduct research on high-priority issues Characterise the country's most important health problems Provide other data important to decision-making Evaluate the effectiveness of interventions Make sure that research findings are translated into decisions, policies and programmes	TAI and Health Board (in defined areas)	Further comment on research in narrative of this report.
Reduction of the impact of emergencies and disasters on health Conduct planning for emergencies and also be part of government-wide planning efforts Determine in advance what services the NPHI will provide in an emergency Provide materials and training to ensure smooth functioning during an emergency Develop agreements with organisations that will be involved in a response	Health Board	

Notes: 1. Both monitoring and surveillance involve observation and recording. Surveillance is distinguished from monitoring in that it usually includes a reaction, for example, disease surveillance is undertaken for effective control and prevention. 2. A compendium here refers to the collection and presentation of data, usually without comment or interpretation.

Table 2: Assessment of NPHI core attributes applied to TAI

Core attribute	Review Team observations
National scope of influence The NPHI develops policies and interventions that affect the country as a whole and address the country's important health problems The NPHI delivers programmes throughout the country, either through direct action by the NPHI or through relationships with sub-national levels of the public health system	Yes, confirmed in TAKS and the statutes of the Institute.
National recognition The NPHI is a public institution, operating as part of the government or with the concurrence of the government The Minister of Health and other government officials view the NPHI as a critical resource for developing policies, priorities, and programmes The NPHI is known by the public and valued for its contributions to promoting health	Yes, though profile probably higher with the stakeholders it works with than the public. However, the Peer Review Team acknowledges that public awareness of the organisation among a wider public audience may be higher now than at the end of 2021 since when the future of TAI was under consideration.
Limitations on political influence The NPHI's priorities are driven largely by science and data rather than political influence NPHI leaders are selected based on professional, scientific, and management expertise and experience	Yes
Scientific basis for programmes and policies NPHI staff use the best possible data and knowledge to set priorities and develop and evaluate policies and programmes The NPHI is the main source of technical and scientific information for the Ministry of Health, lawmakers, and other parts of government The NPHI advocates for scientific and other evidence to inform decision-making at all levels of government	Yes, but could be better – the Team heard from staff in TAI that the Research Centre's activities could better support the activities of other Centres within the organisation and from stakeholders external to the Institute that research could be more explicitly directed towards science and evidence-based policy leading to change and implementation (what could be referred to as translational research). However, there are good examples of policy following research, for example, the *Estonian Cancer Control Plan* (see paragraph 15).
Focus on the country's major public health problems The NPHI, either through its work or through linkages with other organisations, ensures that all critical public health problems in the country are being addressed, including infectious diseases, chronic diseases, injuries and violence, and environmental and occupational health	Somewhat, within the scope of services that TAI provides. All TAI registries publish annual data and the cancer registry publishes annual reports with analysis and interpretation. Epidemiological analysis is routinely conducted and published in cancer, mortality, TB, health behaviour in adults and children, drug use etc., and expert advice is provided for policy recommendations. The Review Team notes that TAI was involved in the process of compiling the *National Health Plan 2020-2030* including providing statistical, scientific and expert knowledge about the Estonian public health risks. Consequently, TAI's programmes including HIV prevention and treatment and the reduction of the harmful use of alcohol and drug use are

Core attribute	Review Team observations
The NPHI is a dynamic organisation that adapts to meet short- and long-term challenges	established as priorities by the MoSA. However, the Review Team noted that the TAI does not produce a 'state of the nation's health' report or conduct health needs assessment to provide wider assessment. The Review Team did not consider that the health reports produced by the TAI, which are data summaries produced every two or four years (depending on the survey), represented either of these activities, which are established public health practices in many other countries. In this sense it is not clear that an explicit epidemiological analysis and weighing of the most important burdens of disease or ill health has been undertaken.
Adequate human and financial resources The NPHI has a dedicated and largely predicable budget that is adequate to carry out the Core Functions The NPHI maintains a skilled, multidisciplinary workforce The NPHI has systems to evaluate the performance of staff and provides staff with training and continuing education The NPHI has protocols and standards to ensure worker safety NPHI leaders have scientific and management skills and expertise	Somewhat. Although TAI has a highly educated and skilled workforce, are supported to develop professionally, and from feedback provided by staff there is high regard for the organisation as an employer, and notwithstanding the scope for prioritisation of activities, the Review Team concluded that there are significant limitations of both human and financial resources.
Adequate infrastructure support The NPHI provides an environment in which people can work productively The NPHI has reliable phone and email service, and the staff has access to computers, commonly used software, and the scientific literature. The NPHI has access to laboratories that use accepted laboratory practices	Yes, though access to laboratories limited to specific pathogens; most of the public health laboratories are managed by the Health Board.
Linkages and networks The NPHI coordinates activities with other national organisations and organisations at the sub-national level The NPHI participates in regional and global networks	Yes, within the scope of services TAI provides.
Accountability The NPHI is accountable to the public The NPHI provides public access to its strategic plan and information about the use of funds and the impact of the NPHI's work	TAI is accountable to the MoSA and produces and submits to the MoSA annual, quarterly, and monthly reports. The annual report is publicly available as well as annual reports of all research and development activities from the Ministry of Education and Science and the Estonian Research Council as the principal sources of funding for research and research infrastructure.

Which functions would better be carried out by other organisations than public health institute? Which functions could be added to current TAI profile? What competencies should be added to TAI's public health workforce to fulfil its goals and mission?

26. In answering this question, the Review Team first considered the responsibilities TAI has currently, as set out in the statutes of the organisation. In consideration of these the Review Team identified several areas for further development.

27. The first responsibility of TAI as set out in its statutes (§ 4.1) is the "performance of fundamental, applied and evaluation research in public health and quality of life (including carrying out research in biomedicine, epidemiology, biostatistics, health economics, occupational health and behaviour, measurement of the health status of population groups, examination of impact of health hazards resulting from outdoor environment". Although the Review Team acknowledges the high regard in which the research department at TAI is held, it was not convinced that the organisation is wholly fulfilling this responsibility. This may, in part, be reflective of history; the statute was drawn up when TAI was established and clearly needs to be updated, recognising that some research functions have transferred elsewhere and other research functions could be further developed in TAI, for example, health economics.

28. The Review Team noted that the research conducted by TAI is not financed by the MoSA and all research funding is currently competitive (both grants and even institutional financing). The

Review Team acknowledges the effect this may have on institutional behaviour but nevertheless records two observations. First, that research is at present considered too much as an end in itself, with an academic stance, instead of serving more as a crucial means to an(other) end, namely science and evidence-based policy-advice leading to innovative development and implementation of services. Research needs to follow the main public health policy challenges and priorities, not the other way around. Second, it was only on reading the *Organisation of Research and Development Act* or *Teadus-ja arendustegevuse korralduse seadus* (TAKS), that the Review Team properly understood the meaning and therefore possible organisational assignment of different types of research in Estonia (basic, applied, development, innovation, and evaluation). This reinforces the need to update the statute governing TAI and provides an opportunity to reconsider the research focus for TAI, that builds on the achievements noted in paragraph 15, and is directed more on problem and policy-driven applied (or translational) and evaluative research. Thus, there needs to be a more explicit link between data analysis and research to produce information for policy development and political decision-making. This was consistent with comments made by some people in the organisation, who emphasised the need to integrate research across the breadth of the organisation's activities.

29. The second responsibility of TAI is "data collection and maintenance of registries" (§ 4.2). The Review Team considers that there is scope for TAI to develop further its competence in analysis and data science with a specific focus on: standardisation of reporting and data management; digitalisation (meaning 'to convert business processes over to use digital technologies') and embedding new technical developments, data science tools and techniques into its ways of working; and converting data into information and decision support. As has already been observed, Estonia has a very well-developed e-health system including personal health data. However, the Review Team were informed that the system requires further investment and development and a focus on data science would align TAI with a priority for the Government.

30. Other responsibilities set out in the statutes of TAI refer to "preparing an annual public health report" (§ 4.6) and "collecting, analysing…and publishing" data on specific areas (§ 4.9). The Review Team notes that if this were to be undertaken in collaboration with Statistics Estonia and the Health Board, the outputs could form the basis of a report on the 'state of the nation's health', covering health outcomes, health related behaviours and lifestyle and other factors that influence health, and wider social, economic and environmental drivers of health. National public health institutes in many countries produce such a report annually, published openly, that not only presents data but comments on and interprets the data, and sets out recommendations for consideration by the Government.

31. Statute § 4.9 also refers to the Institute's responsibility to produce "health statistics, including collecting health statistics and health economic activity reports from health care providers, developing relevant instructional materials, processing, analysing, disseminating, and storing data, training data providers and users, if necessary, and participating in development activities and international cooperation in the field". The Review Team acknowledges the areas of TAI's activities where this does happen but also heard from staff that the organisation, despite repeated efforts to be recognised as a 'producer of official statistics' going back at least a decade, is not identified as such in the *Official Statistics Act* (Estonia). This is said to limit some of the functional activities of the organisation as a national public health institute.

32. The Review Team is grateful to the Ministry of Finance for further clarification on this issue and agrees that, in principle, it would be best to avoid creating additional statistical institutions. However, the Review Team does not propose the creation of a new statistics agency but the recognition of TAI as a 'producer of official statistics', within current legislation, amended as necessary. This is the approach that has been taken in other countries and the Review Team notes that many NPHIs around the world are recognised as 'producers of official statistics'. If it

is not possible for TAI to be recognised as a 'producer of official statistics' in the Statistics Act, then as a minimum there should be an agreement between Statistics Estonia and TAI that addresses any legal concerns and facilitates the use of TAI as an expert interpreter of the statistics produced.

33. During the meeting with the MoSA, the Minister of Health and Labour identified health financing as a critical issue and this led to a discussion about the place of health economics. The Review Team noted that TAI does have access to health economics data, though it doesn't use this, and statute § 4.9 refers to the collection of health economic activity reports, although the Review Team was informed that TAI does not have a specific responsibility for health economic assessment. The Review Team were informed that the Health Insurance Fund, unsurprisingly, has data but has not undertaken health economics.

34. The Review Team believes that public health economic assessment is an area for potential future collaboration between TAI and the Health Insurance Fund (and including the Health Board). The role of the national public health institute would be to provide public health scientific expertise to the interpretation of health economic and quality improvement analyses and evaluations, collaborating with health economists and improvement experts.

35. One focus would be on reducing avoidable harm and avoidable future costs from diseases and conditions that are either preventable (for example, healthcare associated infections) or where more effective care can lead to a reduction in long-term complications and associated costs (for example, primary care-centred diabetes care). This function exists in the US and the UK. Another focus is a need to support policy and decision-making with economic projections on the impacts on health and public health.

36. If the national public health system is to become involved in 'healthcare public health' (see definition in Table 1 with reference to the function of a national public health institute to 'evaluate and promote equitable access to necessary health services'), this will require further investment, not least in human resources.

37. One feature of TAI that stood out for the Review Team is the extent of the integration of staff trained in social science and public health science. It is noted that 34 staff (nearly 20% of the workforce) have a social work background. This is an attribute that is not observed in many other NPHIs and the added value of this opportunity should be explored.

38. The Review Team also noted that TAI appears to have been assigned too many tasks and activities given the size of the institute and the critical mass allocated to many of the areas of responsibility. The Review Team therefore asked staff in TAI to list some of the things they should stop doing. Although specific functions were not identified there were some revealing self-insights including a need to stop saying 'yes' to new work without full consideration of the resources needed and a tendency to work in silos. This was accompanied by a recognition of the need for the organisation to prioritise its activities and in doing so give more consideration to building internal resilience.

How does TAI currently meet the goals that are set for the organisation by statute and relevant strategic documents including the strategy Estonia 2035, Estonian National Health Plan 2020-2030 and TAI strategy 2021-2025?

39. The presentations made to the Review Team by Heads of Centres, Departments and Units in TAI suggest that nearly all the main responsibilities of the organisation, as set out in its statutes, are being met and are recognisable in the TAI strategy for 2021-2025. The exceptions are those detailed in the previous section with reference to the use of health economic data and research.

40. The TAI Director reported that TAI's activities are directly connected to the *Estonian National Health Plan 2020-2030* through a work plan and reports submitted to the MoSA. Even so, the Review Team did not find it easy to assess TAI's alignment with other agencies around national priorities. Stakeholders that the Review Team met were consistently enthusiastic about the role played by TAI in support of their responsibilities but it remained unclear to the Review Team how well aligned TAI was with the needs of policy makers and ministries other than the MoSA, although the Director assured the Team that its research and development activities were aligned to the Ministry of Education and Science, the Ministry of Justice and the Ministry of the Interior.

41. An established approach adopted in many countries, and taken up by their NPHIs, is to promote Health in All Policies (HiAP). This explicitly recognises that population health is largely determined by policies and actions outside the health sector and that policy in every Government ministry can potentially affect health and health inequalities. The Review Team would encourage any NPHI to engage with the breadth of stakeholders whose actions and policies affect health, and with all parts of the Government. The Prevention Council that the Estonian Government has set up will lead a HiAP approach in Estonia (see paragraph 57).

42. It is recognised that this is not an easy role for TAI to adopt, given the small number of staff employed and the range of activities it presently undertakes. However, it is noted that TAI does undertake some HiAP activities although the Director acknowledges that there is room for further development both at the institutional and governmental level. For example, TAI provides training on HiAP at the municipal level and publishes HiAP support materials (see: Tervemad ja paremini toime tulevad linna- ja vallakodanikud: ennetus ja sotsiaaltöö | Tervise Arengu Instituut (tai.ee)). TAI is also developing a health impact assessment tool for local governments in 2023, to support local level decision-making and implementation of HiAP. The Review Team is pleased to see this approach being adopted and encourages TAI and the Government to consider further developments including reports on the state of the nation's health (at national, county administrative and local municipality level), additional training resources, identifying and leveraging capacity building opportunities, setting standards, further promoting cross-sectoral and cross-governmental links, as well as direct support to policymakers across Government. Several stakeholders referred to TAI as the 'spider in the web' and some explicitly called for TAI to play a more active HiAP-like role. The Review Team would endorse this.

Does TAI demonstrate the leadership, strategy and delivery required to fulfil its responsibilities and strategic goals stated in relevant strategic documents and is there a need for alterations? Which?

43. The Director and her senior management team do show strong leadership in strategy, tasks, responsibilities and authorities of TAI. However, the Review Team were concerned about the current governance structure, specifically the distribution of responsibilities between 'management' (the director and her leadership team) and the Research Board/Scientific Council. It is acknowledged that § 7 of the *Organisation of Research and Development Act* or *Teadus-ja arendustegevuse korralduse seadus* (TAKS) sets out clearly the legal framework governing a "research and development institution which operates as a state agency". However, the Review Team were surprised that this has translated into a situation in which employed members of the staff of TAI, amongst others, in their role as Chair and Members of the Research Board/Scientific Council, in effect control the organisation.

44. The Review Team believes that the Research Board/Scientific Council, as currently constituted, should not function as a 'soft governing body', and should not have a role in appointing the director, approving the strategy, and approval of reporting. In our view these are properly the functions of another type of Board and matters related to research and science should be

remitted to a committee of such a Board for that purpose.

45. The Review Team recommends that the Research Board/Scientific Council needs to change. However, it is for the Estonian Government to determine how this might happen given the legal basis under which the Institute is governed. One approach could be to require that the Chair of the Research Board/Scientific Council is an independent (of TAI) appointment, overseen by the MoSA, and the Research Board/Scientific Council acts more like an 'advisory board'. It would also be helpful to consider the inclusion of members with a wide range of public and private sector experience and, at least one member, with international experience (or even a member from another national public health institute). IANPHI would be pleased to advise on this point. The Review Team notes that § 6 of the *Organisation of Research and Development Act* or *Teadus-ja arendustegevuse korralduse seadus* (TAKS) empowers the Government to "reorganise" the Institute and by implication could reset the internal governance arrangements.

46. The Review Team also believes that the relationship with the sponsoring Ministry, which for TAI is the MoSA, could be set out more formally. In other countries this relationship is often set out in an 'annual remit letter' between the Minister (or a senior Government official on the Minister's behalf – in Estonia, the Secretary General/Chancellor) and the director, explicitly and formally recording what TAI will and won't do. In addition, there would be a formal framework agreement that sets out the process of who does what and how it gets done, recognising the importance for TAI of full independence to science and evidence.

47. With reference to delivery, the Review Team noted that TAI has a small number of staff undertaking a very wide range of activities and lots of small teams. Staff commitment to their own role and their pride in the organisation is very high. This is demonstrated by the willingness of people to cross-cover essential tasks, for example, to ensure timely and high-quality data capture in disease registries. However, the Review Team is concerned about the sustainability of key functions that relies on the goodwill of its staff and considers that there is an urgent need to prioritise activities. TAI needs to undertake fewer activities and consider reallocating its resources in support of its priorities to ensure critical mass. Clarifying the links between TAI's strategy, and national strategies and priorities would assist with this.

48. The Review Team noted that TAI has a highly educated workforce but inevitably, in a small country like Estonia, there will be challenges recruiting and sustaining the talent necessary to take the organisation forward, not least because of the size of the pool of available skilled specialists required across the breadth of the organisation's responsibilities. Although staff tenure of service is long, the point was repeatedly made that overall median salaries remained below the national median. In a competitive environment for talent that, in the future, is likely to become more competitive, this places TAI at a disadvantage. Further comment on human resources is made in the response to the next question.

Given the small size of Estonia and its national and scientific organizations active in the field of health and social affairs – what would be the most reasonable model for cooperation and coordination between different actors in the field in order to achieve better integration between health and other sectors, including the social sector?

49. The Review Team has already commented on the current placement of the core functions of a national public health institute between TAI and the Health Board. The fact is that the Health Board, functionally, is a sister NPHI. Nearly all the functions a country should expect of their national public health system are responsibilities of TAI or the Health Board or both (for example, health protection/communicable disease prevention and control, which is predominantly placed in the Health Board with the exception of HIV and TB surveillance and prevention).

50. IANPHI believes that having an entity or system that focuses on the public's health, independent to the science and evidence, providing trusted information and advice to policy and decision-makers, and able to navigate, bringing together and acting as a bridge at the interface of different but related sectors is essential to ensure health security and to address the effects of the important health challenges faced by a country. Estonia cannot afford not to have a national public health institute, whilst recognising that the core functions and attributes may be shared between more than one agency (paragraph 24).

51. The issue then is how to achieve this. During the Review Team's visit to Estonia there was universal support for the functions of TAI. It was also evident that there are significant opportunities from closer working between TAI and the Health Board. For example, as *the* expert body in Estonia for public health research and health promotion, as well as development and implementation of disease prevention programmes and activities, TAI could significantly enhance the responsibilities of the Health Board for public health protection and emergency preparedness and response.

52. All options for integrating the *functional* responsibilities of a NPHI should be considered. For the avoidance of any misunderstanding, the Review Team means *bringing together* the *functional* responsibilities, and does not necessarily mean 'merger'. When considering the options, the Review Team cautions that the experience from other countries is that public health within a healthcare organisation is always, not sometimes, degraded and deprioritised. The Review Team advises that the evaluation of the options must be based on an objective, transparent and rigorous assessment of the expected benefits to the health of the population of Estonia. More efficient use of resources, financial or human, is not a sufficient reason for change.

53. The Review Team noted that there has been a trend towards consolidation and centralisation in Estonia. This is understandable given the small geographic size and relatively small population of the country. For example, the Team heard that concerns about service quality in some localities, fragmentation and inequalities influenced decisions leading to the recent reform of local government.

54. Standardisation and efficiency are often put forward as important reasons for consolidation and centralisation. However, utilisation of resources should first and foremost be guided by an assessment of population need informed by data on the characteristics of the population (demography), its health status, health inequalities and local factors affecting health, as well as data on local services. This could identify opportunities for health gain from the targeting of resources to specific communities or municipalities, which TAI has done in HIV and harm reduction and drug use prevention and treatment.

55. Any approach to the redesign of the public health system in Estonia has to balance these two requirements: standardisation and efficiency, and targeted resources to address variation in health need and inequalities.

56. Several stakeholders the Review Team met identified a role for the TAI in developing public health capacity at a local level including local municipalities. An enhanced local presence of expert public health is consistent with the approach taken in many countries and the Review Team notes that several European countries provide well-tested examples of local government-based public health. This doesn't have to be provided by the national public health institute but the NPHI can be helpful in supporting coherent and effective public health action.

57. One recent development the Review Team noted with interest is the establishment of a Prevention Council, which is supported by seven ministries: Justice (Ministerial Chair), Finance, Education and Research, Culture, Social Protection, Interior, and Health and Labour. The Review

Team is grateful for the opportunity to review the draft legislation establishing the Prevention Council and notes that this legislation will likely have been enacted by the time this report is published. A cross-governmental approach to prevention and health improvement has been applied with success in many other countries as a way of achieving health in all policies. Noting that TAI has a seat on the Council and prominent roles in two supporting entities, the Prevention Science Council and Cross-Sectoral Prevention Task Force, the Review Team questions whether, in the future, TAI could have an even more prominent role, for example, in coordinating the work of the Prevention Council?

In the era of crisis (Covid 19, refugee crisis etc), how should TAI rearrange its activities to most valuably contribute to crisis solutions?

58. Between September and December 2020 IANPHI undertook a review of the lessons learned by National Public Health Institutes during the first year of the COVID-19 pandemic. Table 3 reproduces some of the key lessons from this review[4].

Table 3: Extract from IANPHI COVID-19 Lessons Learned report

Theme	Lessons learned
The essential roles, responsibilities and positions of national public health institutes	A clear definition of the role and scope of functions of the NPHI itself, and with reference to other national bodies, is essential for managing crises. A need for a clear and mutually agreed understanding of the relationship between policymakers and NPHIs in responding to health emergencies. Long-standing relationships, practical connections and effective communication channels between NPHIs and the government, built up over time, have been important in coordinating national responses to COVID-19. NPHIs must prioritise multi-sectoral, multi-level and collaborative approaches as part of their preparedness planning for a more comprehensive and robust response to health emergencies. Strengthening partnership skills, with a wide range of sectors, is a key strategic area to consider for developing the preparedness and response capacity of NPHIs to future public health threats.
Public health system resilience and the way NPHIs carried out essential functions and operations	The COVID-19 pandemic highlighted how public health systems were not adequately prepared for a major public health crisis in terms of planning, organisation and allocated resources. NPHIs need both to expand their scope and functions and to strengthen their capacities to be better prepared for handling future public health emergencies. There is an opportunity for NPHIs to emerge stronger from the pandemic, in terms of organisation, capacity, professional development and preparedness, but this will require open reflection on the lessons learned and compelling arguments made for any further resources, and this may become more difficult as memory of the pandemic recedes.
The development, strengthening and preparedness of NPHIs for future health crises	There is a need to mobilise a wider range of experts and sectors in the response, such as data scientists and behavioural scientists. Despite transparent data provided by NPHIs, public perception of NPHIs can be affected by the clarity of overall government communications; Public trust and acceptance of COVID-19 response strategies depends in large part on the consistency of communications from all government bodies. The response to the COVID-19 pandemic allowed NPHIs to develop, or expand, essential public health services and competencies including laboratory services, contact tracing, and training that will be essential to respond to future health crises. Some NPHIs played an important role in generating and disseminating new knowledge through research and innovation.

[4] Covid-19 Lessons Learned Report: IANPHI (May 2022)

Theme	Lessons learned
	Chronic diseases, mental health and health inequalities must be included in the response to and recovery from the COVID-19 pandemic. Equity needs to be placed at the heart of the short and longer-term COVID-19 response and recovery.

59. A quick review of Table 3 sets out many opportunities for consideration by NPHIs, their sponsoring Ministry(ies) and other entities with a role in public health emergency preparedness, planning and response. It is noted that, in Estonia, this function sits mainly in the Health Board. Acknowledging the contributions made by TAI to the Covid response in Estonia, there is a need for TAI and the Health Board to reflect on their roles in this context. Worldwide, crises - whether pandemics, armed conflicts or climate change to name three contemporary examples - share several impacts: on health status (physical and mental), health care services (access to timely treatment), and health inequalities and health determinants. This reinforces the benefits of close integration of functions between public health bodies that deliver or support these elements of emergency preparedness, planning and response (see previous section, paragraphs 49-52).

60. Although TAI has no role in the leadership of the public health response to infectious disease and environmental crises, it has an important role in supporting the response both through redeployment of people and providing critical supportive functions including health needs and impact assessment, behavioural science-informed advice to guide public acceptance and inform public communications, advice on prevention short and long-term, and advice on approaches to address inequalities and ensure equity is at the heart of future responses and recovery. The importance of multi-sectoral, multi-level and collaborative approaches prioritise the need for a planned, joined up and jointly practiced approach to the preparation for any future crisis.

Part 5 | Conclusions and Recommendations

61. The IANPHI Peer Review Team notes that most of the essential or core functions of a national public health institute are shared between TAI and the Health Board. Focusing on TAI there are several areas of its responsibilities that would benefit from further development and would strengthen the organisation as a national public health institute. These include reorienting its research activities more towards problem and policy-driven applied or translational research, enhancing data analysis and science, developing its role in health needs assessment and health status reporting, and collaborating in applied health economics. Recognition of TAI as a 'producer of official statistics' would assist with some of these objectives. Set against these are several important constraints that require attention. These include a need to prioritise the activities of the institution to create resilience within some of the areas of responsibility and review the governance arrangements, both internal and external.

62. Considering the public health system as a whole, the need for further and more extensive integration and alignment between agencies that have or share responsibility for core public health functions, bringing together complementary skills and knowledge, is obvious, necessary and should inform the future direction taken by TAI. The Review Team believes this action should be based on a deeper analysis of functions and their placement, and their alignment to national public health needs and priorities.

63. Taken together and from its observations and deliberations, the Review Team has identified

four themes and four recommendations for consideration by TAI and the MoSA:

- Future-focus
- Governance
- Resources
- Functions, competences, and responsibilities

Future-focus

64. In 2023 TAI celebrates its 20th birthday. The institute has good reason to celebrate and a very strong foundation to build on. The Review Team recommends that TAI should use this milestone as a platform to a new, more assured future. Inevitably this will involve more collaboration and alignment with the Health Board to create a strong and effective public health system, science and evidence-focused and established as a trusted adviser to policy and decision-makers across Government and other strategic stakeholders.

Governance

65. The Review Team recommends that TAI, in consultation with the MoSA, reviews its governance, externally and internally, and updates the statutes of the institute. Externally, TAI and the MoSA should consider the use of 'annual remit letters' and a framework agreement to demonstrate clear alignment between the TAI's strategy and priorities to national strategies and priorities. Internally, The Review Team recommends that the Research Board/Scientific Council needs to change and offers some suggestions for this in paragraph 45, noting that § 6 of the *Organisation of Research and Development Act* or *Teadus-ja arendustegevuse korralduse seadus* (TAKS) empowers the Government to "reorganise" the Institute and by implication could reset the internal governance arrangements.

Resources

66. The Review Team recommends that TAI should undertake a detailed assessment of its activities and the resources (human and financial) required to achieve these and prioritise accordingly to deliver strategic objectives that can be clearly linked to national strategies and priorities. This should include a reassessment of the opportunities for closer working with the Health Board in the areas of communicable disease control and emergency preparedness, planning and response.

Functions, competencies and responsibilities

67. The Review Team recommends that TAI reassesses its functional capabilities and seeks to build on, or strengthen, capacity and capabilities in specific areas including research to inform policy and decision-making, analysis and data science, health needs assessment and health status reporting, applied health economics and healthcare public health. Several of these can only be achieved in collaboration with other agencies and this should be explored. One competence, as a recognised 'producer of official statistics', will require specific agreement and legal recognition.

Appendix I | IANPHI Review Team Members

Title	Dr
Last name	Tervahauta
First name	Markku
Position	Director-General of the Finnish Institute for Health and Welfare (THL) Chair, Peer Review Team
Short Bio	Dr. Tervahauta's main working career has been in leadership positions in municipal and national public health organisations. Since January 2019, Dr. Tervahauta has served as Director-General of the Finnish Institute for Health and Welfare (THL). Before that, he served as Director-General of the Department for Well-being and Services at the Ministry of Social Affairs and Health in 2018 and before that, he worked at the local government level as Director of Health and Social Services, first in the City of Lahti since 2009 and then in the City of Kuopio since 2010. He worked as municipal manager of the Municipality of Leppävirta from 2005 to 2009. Dr. Tervahauta is a Doctor of Medical Science, specialised in Public Health. He has a doctoral degree (PhD) in epidemiology from the University of Eastern Finland (the former University of Kuopio). Director-General Tervahauta is an Executive Board member of The International Association of National Public Health Institutes (IANPHI). He is vice chairman of the Board of Directors of the Alko Inc., the Government owned limited company, and chairman of the National Nutrition Council. He is member of the Kela's Advisory Board, member of The Advisory Board for Public Health and member of the Delegation of the Diakonissalaitos, Deaconess Foundation.
Title	Professor
Last name	Selbie
First name	Duncan
Position	President of the International Association of National Public Health Institutes
Short Bio	Professor Selbie is the President of the International Association of National Public Health Institutes (IANPHI) and chief adviser to the Saudi Public Health Authority. His public service career spanned 41 years in Scotland and London. He was the founding Chief Executive of Public Health England from 2012 to 2020. Prior to this Professor Selbie was Chief Executive of Brighton and Sussex University Hospitals, the regional teaching hospital for the south east of England. From 2003 to 2007 he was the Director-General of Programmes and Performance for the NHS in England and subsequently its first Director-General of Commissioning. Immediate to this, he was Chief Executive of South East London Strategic Health Authority and before that Chief Executive of the South West London and St George's Mental Health NHS Trust.
Title	Dr
Last name	Sandifer
First name	Quentin

Position	Strategic Adviser, IANPHI Executive Board Rapporteur, Peer Review Team
Short Bio	Dr. Quentin Sandifer OBE has practiced public health for more than 30 years and before that spent eight years working in hospital medicine and family practice in the UK and Canada. As well as medical qualifications, Dr. Sandifer has a Masters degree in Public Health from the University of Wales and an Executive Masters in Business Administration awarded jointly by the London Business School and the School of Business at Columbia University in New York. Between 2012 and 2020 he served as executive director for Public Health Services and medical director at Public Health Wales leading the directorate responsible for the provision of all national screening programmes, health protection and microbiology services, and public health emergency planning and response for the population of Wales (3.1 million). In 2020, he served as the strategic director for Public Health Wales' response to COVID-19. Between 2014 and 2020 he served as the executive lead representing Public Health Wales in IANPHI, he organised an IANPHI peer review of Public Health Wales in 2017, and in 2019 became the first chair of the IANPHI Europe regional network. In 2021 he was appointed as a strategic adviser to the IANPHI Executive Board and has contributed to the IANPHI COVID-19 Webinar Series and co-edited the IANPHI COVID-19 Lessons Learnt report published in 2022. After retiring from Public Health Wales in December 2020, he returned in 2021 as a part-time consultant adviser on pandemic and international health. In 2021 Dr. Sandifer was appointed an Officer of the Most Excellent Order of the British Empire (OBE) "for services to public health".
Title	Professor
Last name	Brug
First name	Johannes
Position	Director-General of The National Institute for Public Health and the Environment (RIVM) in the Netherlands
Short Bio	Since September 2018, Professor Brug has served as the Director-General of RIVM. Before his present position, he held positions as Professor at the University of Maastricht, the Erasmus University Medical Center, the VU University Medical Center (VUmc) and the University of Amsterdam (UvA). He gained managerial experience as research director, dean and member of the Board of Directors of VU University Medical Center (VUmc) and dean of the Faculty of Social and Behavioural Sciences at the University of Amsterdam. In addition to the positions already noted, he has been Chair of the permanent Nutrition Committee and member of the presidency committee of the Netherlands Health Council. Professor Brug is a past president of the International Society of Behavioral Nutrition and Physical Activity (ISBNPA), was an Honorary Professor at the Faculty of Health, Medicine, Nursing and Behavioural Sciences at Deakin University, Melbourne, Australia, and is the first editor of the Dutch handbook on Health Education and Behaviour Change.
Title	Dr
Last name	Stokx
First name	Loek

Position	Strategic Advisor, The National Institute for Public Health and the Environment (RIVM) in the Netherlands
Short Bio	Dr. Stokx trained as a medical doctor and studied for a Master of Public Administration. After a few clinical appointments Dr. Loek worked as a scientific researcher at the Netherlands Institute for Health Services Research, for the European Commission and the World Bank in the early 1990's to assess healthcare systems in four Eastern European countries on the brink of joining the EU. He has been working for the National Institute of Public Health and the Environment in the Netherlands (RIVM) since 1995, initially as a senior scientific researcher and the last 15 years as strategic advisor to several directors and as Chief Strategist to the board of directors (2012-2019). During his period at RIVM, Dr. Loek was posted several times to the Dutch Ministry of Health, Welfare and Sports to lead projects on the fringe of politics - policy and science.
Title	Dr
Last name	Rannamäe
First name	Andres
Position	Chief Executive Officer, AR-Portfolio OÜ
Short Bio	During the last 10 years, Dr. Rannamäe's work has been mainly in international and domestic consulting projects in the healthcare sector, mainly in the field of healthcare financing, health sector reform, organisational capacity building and public health. Clients include the World Health Organization and The World Bank. Dr. Rannamäe graduated from St Petersburg State Medical Academy with specialisation in public health, completed the public health master's program at The Nordic School of Public Health in Gothenburg and Master of Business Administration at Reading University in UK. In his previous duties, Dr. Rannamäe has been a member of the board of the Estonian Health Insurance Fund, managed the public health department of the Estonian Ministry of Social Affairs, the regional Public Health Service and was a member of the management team of several private business organisations.

Appendix II | Terms of reference in full

Peer review of public health functions and services provided by National Institute for Health Development, Estonia

Goal:

The aim of the peer review is to give insight into the roles and functions National Institute for Health Development (TAI) has within Estonian health system, assess the performance of TAI and detect possibilities to strengthen Estonian health system through organisational development of TAI.

Background:

TAI is a government established research and development body responsible for applied research, public health monitoring and evaluation, including collection of health statistics and maintaining national medical registries. TAI is also responsible for planning and managing the provision of various public health services. In addition, TAI carries out various health promotion activities, including health marketing, capacity building and trainings. TAI supports stakeholders and decision-makers who influence public health outcomes in different settings and levels and stands for ethical and evidence-based prevention in Estonia.

Estonian Ministry of Finance leads a state reform which aims to consolidate different public functions in order to achieve high quality public services and greater efficiency. Estonian Ministry of Social Affairs (MoSA) proposed a reform plan earlier this year (2022), but the plan to merge some of the organisations in Estonian health system has been cancelled as of now (September 2022). Still, some of the services provided by TAI will be transferred over to Estonian Health Insurance Fund and the Social Insurance Board, also possibly some of the supporting functions might be consolidated (e.g. IT-services).

An independent peer review provided by IANPHI will help TAI to seek better focus and adjust TAI's development plan in the near-term future and provide input for possible changes and adjustments by analysing the essential roles and functions of TAI and making proposals for alteration where needed. The peer review will be public and made available on TAI's website www.tai.ee.

See more:

Development Plan of the National Institute for Health Development for the Period 2021–2025

The panel will be provided with additional relevant information and documents before the mission.

Objectives: The peer review will provide answers to following questions:

1) How do the functions and attributes of TAI compare to the core functions and attributes of public health institutes (based on the EPHS[5] and IANPHI's framework[6])? Which functions would better be carried out by other organizations than public health institute? Which functions could be added to current TAI profile? What competencies should be added to TAI's public health workforce to fulfil its goals and mission?

2) How does TAI currently meet the goals that are set for the organisation by statute and relevant strategic documents including the strategy Estonia 2035, Estonian National Health Plan 2020-2030 and TAI strategy 2021-2025?

3) Does TAI demonstrate the leadership, strategy and delivery required to fulfil its responsibilities and strategic goals stated in relevant strategic documents and is there a need for alterations? Which?

4) Given the small size of Estonia and its national and scientific organizations active in the field of health and social affairs – what would be the most reasonable model for cooperation and coordination between

[5] The 10 Essential Public Health Services

[6] The IANPHI Framework for the Creation and Development of National Public Health Institutes

different actors in the field in order to achieve better integration between health and other sectors, including the social sector?

5) In the era of crisis (Covid 19, refugee crisis etc), how should TAI rearrange its activities to most valuably contribute to crisis solutions?

Methods:

The peer review will be based on interviews with stakeholders and document analysis. Comparison with roles and functions of similar institutes in other European countries will be outlined.

Time frame:

The mission of the panel will take place on 24-28th of October 2022. The peer review is expected to be carried out by 30th November of 2022 and report finalized and sent to the director of TAI by the end of 2022. Proposals will then be introduced to policy- and decision makers on different levels.

Appendix III | List of documents submitted to the Review Team

Practical information

Biographies of the review panel members (See Appendix I)

Programme of the peer-to-peer review

Contact details of the panel members

Contact details of TAI

Background information

Terms of Reference (See Appendix II)

Background document prepared by TAI including Legal grounds of TAI's operation, Main responsibilities of TAI and TAI's Director, Funding of TAI, Relationship with MoSA and Ministry of Education and Research, TAI's role at the subnational level, collaboration with Estonian and international stakeholders, use of knowledge provided by TAI by governmental bodies

Stakeholders' information templates

TAI Structure

TAI's Annual Report 2021

Development Plan of TAI for the Period 2021-2025

Suggested reading material

National Health Plan 2020-2030

Estonia 2035 action plan

Overview of the implementation of the Estonia 2035 action plan

Information provided by TAI for research evaluation in 2017

TAI's research evaluation report in 2017

TAI's publications 2017-2022

TAI's international collaboration and involvement in research networks

Estonian Country Health Profile 2021

Additional reading material provided on request from the Review Team

DRAFT Legislation Prevention Council

TAI Statute

Organisation of Research and Development Act (English translation)

Appendix IV | Organisations and people the Review Team met

Monday 24 October

9:00–10.30	TAI	Welcome 1. Introduction of TAI and the context of the peer-to-peer review; 2. Overview of TAI's structure, governance, resources, strategies, financing, human resources and communication/public relations; 3. Q&A session	Director of TAI, Scientific Director, Development manager, Head of Finance, Head of Support Centre, HR manager, Head of PR, Head of Scientific Communications, panel members
10.30–12.30		Introduction of the Centre for Health Statistics and Registries 1. Department of Health Statistics; 2. Department of Registries	Heads and other representatives of the centre and units, panel members
13.15–15.45		Introduction of the Research Centre 1. Department of Epidemiology and Biostatistics; 2. Department of Chronic Diseases; 3. Department of Virology and Immunology; 4. Department of Drug and Infectious Diseases Epidemiology; 5. Department of Nutrition Research	Heads and other representatives of departments, panel members
16.00–17.30		Introduction of the Centre for Health Risks Prevention 1. Alcohol and Tobacco Unit; 2. Nutrition and Exercise Unit	Heads and other representatives of departments, panel members
Evening	Hotel	Closed session of the review panel	Panel members

Tuesday 25 October

9:00–10.00	TAI	Introduction of the Centre for Health and Welfare Promotion 1. Children and Youth Unit; 2. Family and Parenting Unit; 3. Community and Workplace Unit	Heads and other representatives of the centre and units, panel members
10.00–11.00		Introduction of the Centre for Prevention of Drug Addiction and Infectious Diseases Infectious Diseases (HIV, TB) and Drug Addiction Unit	Head of the centre and other representatives of the centre and unit, panel members
11.00–11.30		Introduction of the Centre for Health Marketing	Head and other representatives of the centre, panel members
11.30–12.00		Introduction of the Training Centre	Head and other representatives of the centre, panel members
13.00– 15.00	Ministries' Joint Building	Meeting with MoSA	Minister of Health and Labour, Deputy Secretary General of Health, Deputy Secretary General of Social Affairs and other representatives of MoSA, panel members
16.00–17.00	Ministry of Education and Research	Meeting with the Ministry of Education and Science and Estonian Research Council (ETAG)	Deputy Secretary General (Renno Veinthal) and other representatives of the ministry, representatives of ETAG, panel members
Evening	Hotel	Closed session of the review panel	Panel members

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Wednesday 26 October

9:00–10.00	Estonian Parliament	Meeting with the Parliament's Social Affairs Committee	Chair (Helmen Kütt), Representatives of the Committee, panel members
10.30–11.30	Health Board	Tour of laboratory facilities at the Health Board	Deputy Director-General (Mari-Anne Härma), panel members
11.30–12.30		Meeting with the Health Board	Director General (Birgit Lao), Deputy Director-General (Mari-Anne Härma), panel members
14.00–15.30	TAI	Joint discussion 1. TAI's strategic goals and best ways to reach them? 2. Any topics which might need a joint discussion.	Director of TAI, Scientific Director, Heads of Centres, Development manager, panel members
16.00–17.00		Agency of Medicines - Teams meeting	Director General (Katrin Kiisk), panel members
Evening	Hotel	Closed session of the review panel	Panel members
Evening		Social Dinner	Panel members, Director of TAI

Thursday 27 October

9.00–10.00	Health Insurance Fund	Meeting with the Health Insurance Fund	Member of the Management Board (Pille Banhard), (Rain Laane via video conference), panel members
10.30–12.00	Ministries' Joint Building	Meeting with Ministry of Finance and representatives of local municipalities and county development centre	Representatives of Ministry of Finance and representatives of local municipalities and county development centre, panel members
13.00–14.00		Meeting with Labour Inspectorate	Representative of the Labour Inspectorate, panel members
15.00–16.30		Joint meeting with the Ministry of Justice and Ministry of Interior	Deputy Secretary General (Markus Kärner) and Undersecretary for Internal Security (Veiko Kommusaar), panel members
Evening	Hotel	Closed session of the review panel	Panel members

Friday 28 October

10.00–11.30	TAI	Closed session of review panel	Panel members
11.30–12.00		Presentation of the preliminary conclusions to the Director	Panel members, Director of TAI
12.00–13.00		Presentation of the preliminary conclusions to the TAI management team	Panel members, Director of TAI and TAI representatives
13.00–14.30		End of the review, lunch, refreshments and farewell-gathering	Panel members, Director of TAI and TAI representatives

Tuesday 15 November

14:00-15:00	Teams call	Meeting with Secretary-General, MoSA (Maarjo Mändmaa) and Project Manager (Kristi Mikiver)	Panel members