



TRINIDAD & TOBAGO

NATIONAL HEALTH RESEARCH AGENDA

**National Health Research Agenda
Trinidad and Tobago**

March 2024

TABLE OF CONTENTS

AUTHORS	4
ACKNOWLEDGMENTS	5
BACKGROUND	6
OBJECTIVE	8
METHODS	9
FINDINGS	10
RESEARCH AGENDA	17
1. Regulation, Leadership and Governance	18
2. Human Resources	19
3. Digitalisation of the Health Sector	20
4. Prevention, Care and Treatment of Non-Communicable Diseases	21
5. Prevention, Care and Treatment of Communicable Diseases	23
6. Mental Health and Wellness	24
7. Maternal and Child Health	25
8. Healthy Ageing	27
9. Health Emergencies	28
10. Diversification and Medical Tourism	29
NEXT STEPS	31
REFERENCES	32

AUTHORS

- Caribbean Centre for Health Systems Research and Development, The University of the West Indies
- Research Sub-Committee, Senior Joint Planning Committee

CONTRIBUTORS

- Ministry of Health, Trinidad and Tobago
- Regional Health Authorities
- Faculty of Medical Sciences, The University of the West Indies
- University of Trinidad and Tobago
- University of the Southern Caribbean
- Trinidad and Tobago Association of Nutritionists and Dietitians
- Trinidad and Tobago Medical Association
- Trinidad and Tobago National Nursing Association
- Trinidad and Tobago Association of Psychologists
- The Diabetes Association of Trinidad and Tobago
- Mamatoto Resource and Birth Centre
- National AIDS Coordinating Committee
- Pan American Health Organization



BACKGROUND

Research plays a pivotal role when developing effective health policies and improving practice in clinical care, public health and at the level of the health system (1). Research evidence helps decide what health services and programmes are needed; how to deliver the required services; the financial and governance arrangements needed to support and sustain service delivery; as well as how to implement change – implementation considerations (2). Ultimately, an evidence-informed approach to health systems challenges including healthcare delivery can lead to an improvement in the effectiveness, efficiency, and equity of health systems, as well as improved accountability and transparency (1).

However, in developing countries, health policies, programmes and healthcare interventions are often not well-informed by research evidence. Consequently, (i) health services and programmes fail to reach those most in need; (ii) health indicators are often off-track while countries struggle to achieve developmental targets and goals; and (iii) health systems are inefficient, ineffective, and inequitable (2). It is estimated that as much as 85% of research is wasted¹ and one critical reason for this waste is the failure to align research to the needs of policymakers, clinicians, and patients, that is, the needs of the end-users of research are ignored (3,4). Other reasons for the limited use of research in policy/practice (or the research to policy/practice gap) include the: (i) ineffective communication of research findings to end-users in a format that is user-friendly; (ii)

¹ [Fails to advance scientific understanding or provide a social return on the resources invested.](#)

unavailability of research evidence when needed by end-users; (iii) lack of a mechanism to prompt end-users to utilise research evidence in decision-making (i.e., the institutionalisation of evidence); and (iv) lack of forums where challenges can be discussed with end-users and researchers. Strategies that can be used to remove these barriers include engaging the users of research evidence when setting research priorities and developing research agendas, and in the co-production of research, while simultaneously promoting and building capacity to find, appraise and utilise research evidence in decision-making processes.

The identification of research priorities (research agenda) for health and the coordination of adherence to them have also been recognised as crucial components of the stewardship attribute of a well-functioning National Health Research System (NHRS) (5). Research priorities are essential to guide the production of research that can provide the evidence needed to: (i) contribute to the strengthening of health systems, (ii) guide research expenditure, (iii) facilitate the achievement of developmental goals, and (iv) ultimately improve health equity and outcomes (6). Other benefits include the promotion of science, technology and innovation for health and the stimulation of human resource development for research (7).

The Research Sub-Committee of the Cabinet-appointed Senior Joint Planning Committee has been tasked with the development of a **National Health Research Agenda (NHRA)**, a key step towards facilitating the generation and utilisation of research evidence in decision-making and strengthening the country's national health system.

OBJECTIVE

To facilitate the production and utilisation of research evidence that is aligned to the Strategic Pillars and Priority Areas of the Ministry of Health (MOH):



Figure 1: Ministry of Health's Strategic Priority Pillars and Areas

* Non-Communicable Diseases

** Communicable Diseases

METHODS

01 SITUATION ANALYSIS

In 2021, a rapid Situation Analysis of the health status, health care systems and health research system was conducted. This was updated and aligned to the MOH's Strategic Pillars in 2023. Subsequently, a Stakeholder Map was drafted.

02 REVERSE RESEARCH DAY

In 2022, the [Caribbean Centre for Health Systems Research and Development](#), in collaboration with the MOH, hosted a Reverse Research Day (RRD) to generate initial research priorities that will inform the National Health Research Agenda (NHRA).

This event provided the opportunity for policy actors (policymakers, health planners, project and programme managers and civil society) to share their research needs with research and academic organisations.

> [Click here](#) to access the full report.

03 PRIORITISATION

To facilitate stakeholders' input to ensure that the list of research topics was inclusive, as well as to rate and rank the topics, two surveys were conducted.

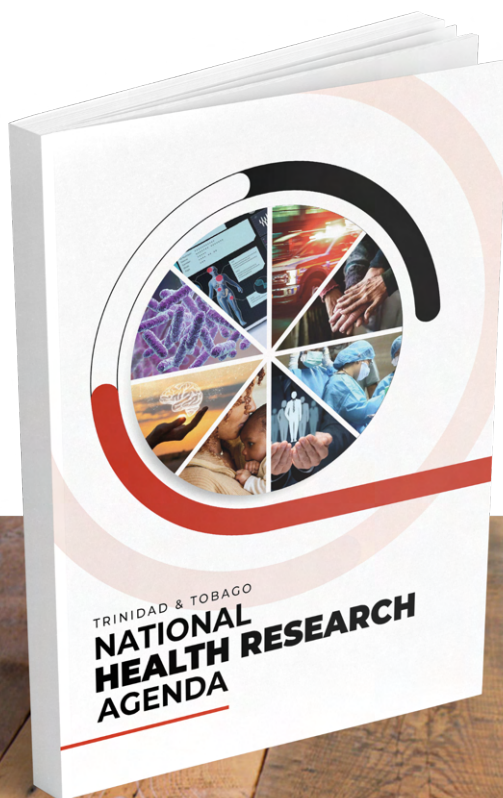
The Council on Health Research for Development (COHRED)'s Criteria for Priority Setting – Mini Module was used to facilitate the rating of topics in terms of: (i) Relevance, (ii) Appropriateness, (iii) Feasibility, and (iv) Impact of Outcome.

> [Click here](#) to access the manual.

04 VALIDATION & ENDORSEMENT

A Stakeholder Consultation was hosted on February 28, 2024, to present and validate the penultimate draft of the NHRA. Both qualitative and quantitative data were collected to assess stakeholders' feedback on the relevance, inclusivity, and transparency of the process and on how relevant, implementable, and complete the resultant lists of research priorities are.

> [Click here](#) to access the meeting report.






FINDINGS

Snapshot – Situation Analysis of Health Status and Health System

The MOH's 2021-2025 Health Sector Strategy aligns with the Government's Recovery Plan 2021-2025, the National Development Strategy 2016-2030, and key focus areas for the Ministry. The Strategic Plan outlines pillars and priority areas, emphasising the crucial role of research evidence generation within each Strategic Priority Area (SPA) to guide decision-making at the Ministry.



1 DEMOGRAPHICS

T&T has a population of **1.4 million** (8). The country has a population density of **272 people per square kilometre** (km²) and a fertility rate of **1.6 live births per woman** (9). Males account for **50.2%** of the population, while females account for **49.8%** (8). Life expectancy at birth is **76.1 years**, while healthy life expectancy is **66.2 years** (10).

2

PREVENTION, CARE AND TREATMENT OF CHRONIC NON-COMMUNICABLE DISEASES (NCDs)

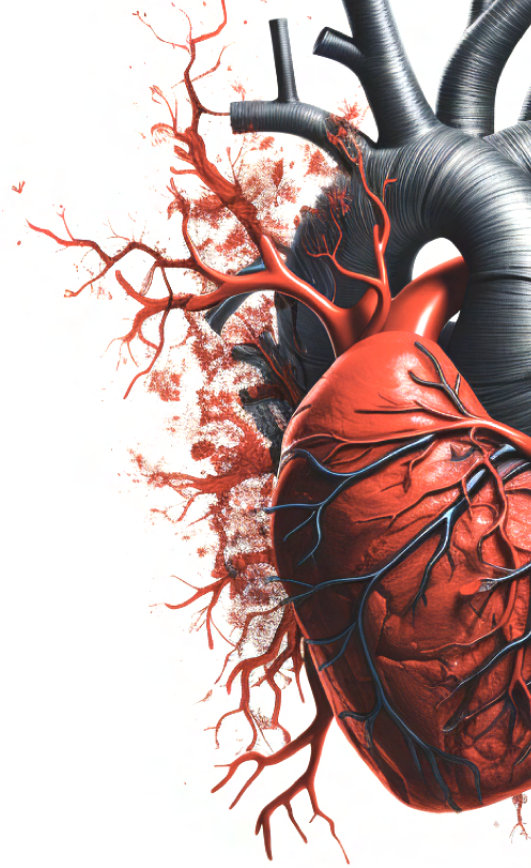
The total number of deaths for 2016 was 12,100 and NCDs were estimated to account for 81% of all deaths; with communicable, maternal, perinatal, and nutritional conditions and injuries accounting for the remaining 19% (11).

Cancer: The highest incidence and mortality rates observed for cancers related to women (namely, breast, cervical, and uterine cancers); and prostate, lung, and colorectal cancers among men, revealed average incidence rates were highest in areas covered by the TRHA (188 per 100,000), while average mortality rates were highest in areas covered by the NWRHA (108 per 100,000) (12).

Hypertension: Between 2008 and 2011, two studies were completed which conveyed that 26-30% of the participants were hypertensive (13).

Diabetes: The Ministry of Health (MOH) estimates that 14.5% of the population has diabetes and 88-90% of patients have Type 2 diabetes. In T&T, diabetes is a leading cause of blindness (14).

Cardiovascular Disease (CVD): CVD accounts for approximately one-third (32.6%) of all NCD-related deaths (15).



3

MATERNAL AND CHILD HEALTH

The maternal mortality rate dropped from 65 per 100,000 live births in 2015 to under 30 per 100,000 between 2017 and 2019. The neonatal mortality rate has reduced from 12 per 1,000 live births in 2015 to a high of 7 per 1,000 live births in 2019 (16). The child mortality rate (deaths per 1,000 live births) for 2019 was 15.5 in children under 5 years and 13.2 in children under 1 year old (17).

4

MENTAL HEALTH AND WELLBEING

T&T has the third highest prevalence of mental illness (schizophrenia, mood disorders, mental and behavioural disorders, and substance abuse) in the Caribbean (18). Depression constitutes a burden of disease of 13.2% in T&T, contributing to 3.35% of Disability-Adjusted Life-Years (DALYs) in the region. It represents the highest proportion among all sources of total disability. T&T also has the third highest suicide rate in the Caribbean, with men accounting for about 82% of all 587 suicides reported between 2015 and 2018 (19). In 2021 from January to August, 86 persons died by suicide. This marked a 9% (80% to 89%) increase during a similar period in 2020 (20). The occurrence of dementia in individuals aged 70 to 89 in Trinidad stands at 23.4%, surpassing estimates from both the 10/66 surveys and consensus predictions by approximately 1.5 to 3 times (18).





5 HEALTHY AGEING

T&T's projected national number of people with dementia (18,206) is 70-100% higher than most recent estimates of regional consensus prevalence (21). Dementia in persons with high levels of cardiovascular risk factors was present in 442 (23.4%) of 1,832 participants and had a significant association with diabetes and reported stroke (21). In Trinidad, falls are the most common mechanism of injury in the elderly, accounting for 71% of injuries (22). Fallen elderly patients often sustained fractures, with an increased likelihood of injury to the limbs and head, resulting in hospital admission (22). Injuries are directly linked to disabilities, for which moderate-to-severe deprivations (needs denied due to disabilities) exist among older persons in Trinidad; related to food, healthcare, information, and transportation (23).

6 LEADERSHIP AND GOVERNANCE; REGULATION AND SYSTEM GOVERNMENT; AND STRATEGIC ALLIANCES

The MOH provides governance and leadership, “policy setting, quality assurance and regulations, monitoring and evaluation, and public health services for the population” (13). The MOH contracts the clinical health care services to the five (5) Regional Health Authorities (RHAs) which comprise 105 health centres and 8 hospitals. Even though the MOH does not manage the health facilities, they participate in policy and target setting and goal development for each RHA. Parallel to the RHA, there are several governmental departments, statutory boards, and bodies (13).



7 DIGITALISATION OF THE HEALTH SECTOR

The fourth goal of the Vision 2030 National Development Strategy – *The Healthcare System of T&T will be sustainable and modern and deliver higher standards of healthcare* – comprises three underpinnings which hinge upon the modernisation of the health system, through the implementation of Information and Communications Technology (ICT), which can provide patients and health and administrative teams with access to relevant information to function (24).

8 MEDICAL TOURISM

The Trinidad and Tobago Coalition of Services Industries (TTCSI) drafted a National Strategy for Medical Tourism (NSMT) in 2012. The strategy encompassed four goals: (i) Sector Wide Awareness and Promotion; (ii) Promotion of Mainstream Medical Tourism; (iii) Promotion of Medical Tourism Diaspora; and (iv) Promotion to Vacation Medical Tourists. The objective of the draft NSMT was “...to increase the number of foreign patients visiting Trinidad and Tobago by 6,500 contributing an additional US \$37 million to services exports and the economy as a whole after 3 years and then grow at 20% per annum thereafter” (25).





Identification of Research Priorities – Reverse Research Day

The country's 1st Reverse Research Day (RRD) was held on July 18, 2022, at the Hyatt Regency Hotel, Port of Spain, and 50 persons from relevant organisations (producers and users of research) were in attendance (*see Figure 2*). The focal points from the Ministry of Health (MOH) delivered brief presentations on the Ministry's Strategic Priority Areas (SPAs). These were followed by group breakout sessions to identify/discuss:

- the research needs related to the SPAs, and determining the most urgent;
- research that had been completed, was being conducted, or was being planned; and key researchers at the various organisations;
- potential research questions related to the current research needs within the SPAs; and
- a follow-up plan to complete research proposals for the top priority issues.

More than 90 research priorities, linked to the Ministry of Health's Strategic Pillars and Priorities, were identified during these breakout sessions.

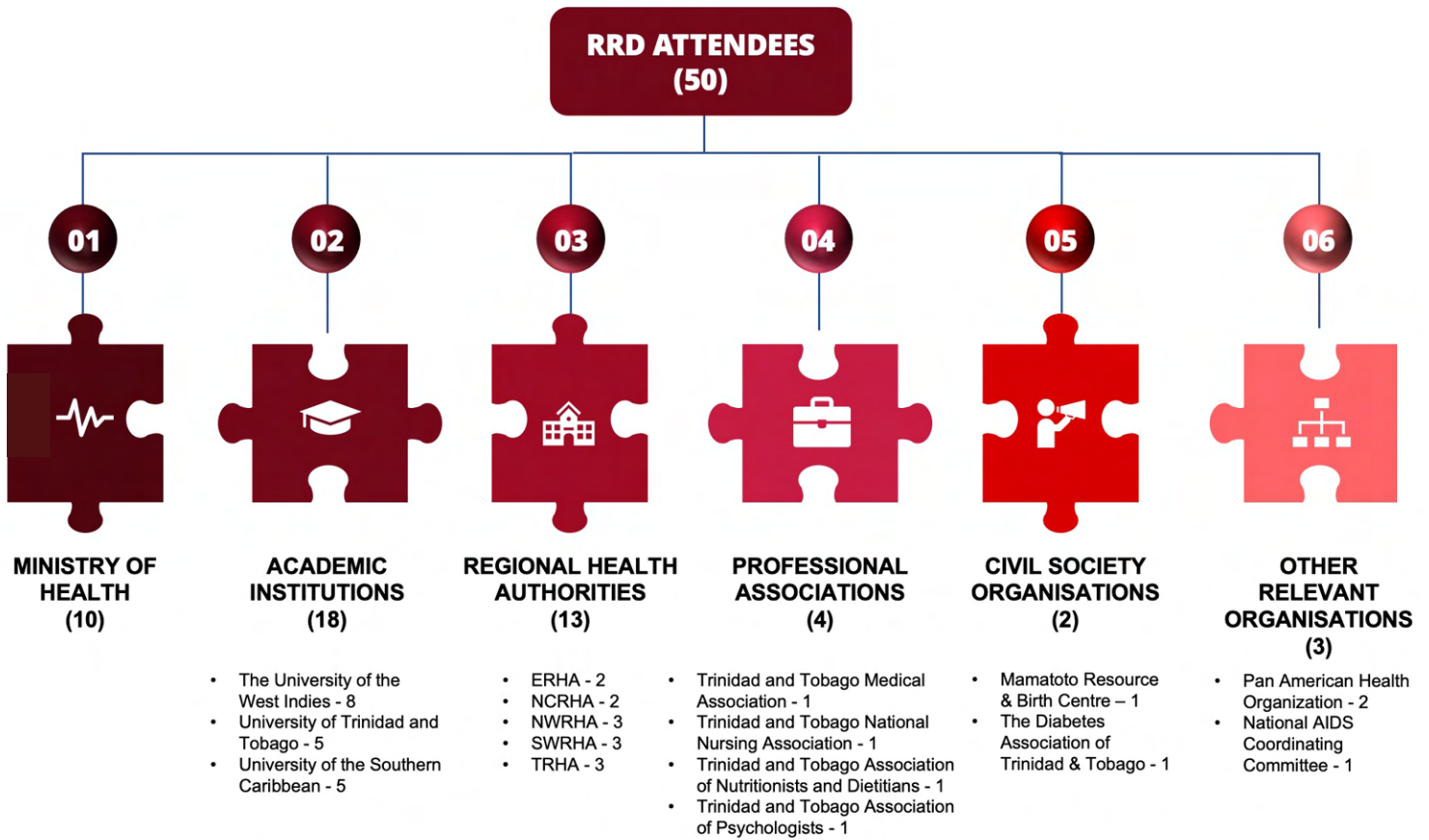


Figure 2: Breakdown of Reverse Research Day Attendees



Following this, I hope that a database of collaborative projects can be set up with the opportunity for persons to join research that they are interested in supporting.

- RRD Participant



The RRD:

- ✓ Increased sensitisation/awareness of the MOH's research needs
- ✓ Increased awareness of the types of research being conducted at research organisations
- ✓ Achieved agreement on the highest research priorities
- ✓ Facilitated the development of draft research questions related to the top research priorities within each SPA

Eight (8) **Working Groups** were convened to voluntarily collaborate on the preparations of research proposals.

— Click [here](#) to access the full RRD Meeting Report.

Prioritisation of Research Topics

Online surveys were used to get wider stakeholder input on the prioritisation process. The Tobago House of Assembly, Eastern Regional Health Authority, North Central Regional Health Authority, North West Regional Health Authority, South West Regional Health Authority, Tobago Regional Health Authority, The University of the West Indies, University of Trinidad and Tobago and the University of the Southern Caribbean were asked to identify focal points within their organisations for each SPA. A survey was shared with the identified focal points, who were required to review and add additional research priorities that were part of the organisation's research agenda, to the initial list generated at the RRD.

The list was then updated with additional priority topics from the stakeholders.

In the second online survey, focal points were asked to rate each research priority (using a five-point scale) based on the Council on Health Research for Development (COHRED)'s "Criteria for Research Priority – Mini Module" (see *Figure 3*).

The maximum attainable score was 20 while the minimum was 4. The research topics within each SPA were then ranked using the mean scores.

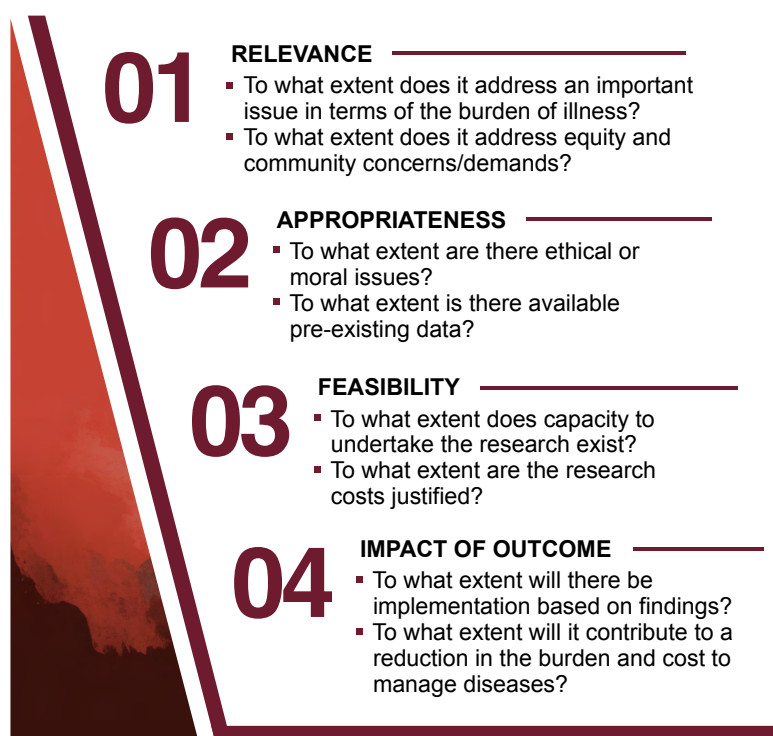


Figure 3: The Council on Health Research for Development (COHRED)'s "Criteria for Research Priority – Mini Module"

Validation and Endorsement – Stakeholder Consultation

The penultimate draft NHRA was shared with stakeholders, and they were invited to a consultation on February 28, 2024, at the MOH Administrative Headquarters. Thirty-seven persons from relevant organisations (producers and users of research) were in attendance (see *Figure 4*). Data were collected to assess stakeholders’ feedback on the process utilised to develop the Research Agenda and the resultant lists of research priorities linked to the MOH’s Strategic Priority Areas.

Presentations were delivered on the importance of developing a NHRA; an overview of the process used in its development; the MOH’s Strategic Priority Areas; and recommended next steps based on the international best practices/guidelines.

These were followed by group discussions to provide feedback on:

- the priority-setting process;
- the penultimate draft of the NHRA (including the addition of research priorities that were omitted/overlooked);
- strategies to promote the NHRA; and
- implementation considerations (barriers to implementation and proposed counterstrategies).

Participants were also asked to complete an online survey to assess the relevance, inclusiveness, and transparency of the priority-setting process and how relevant, implementable, and complete the research priority lists (NHRA) are.

NHRA STAKEHOLDER CONSULTATION & REPORT LAUNCH ATTENDEES (37)

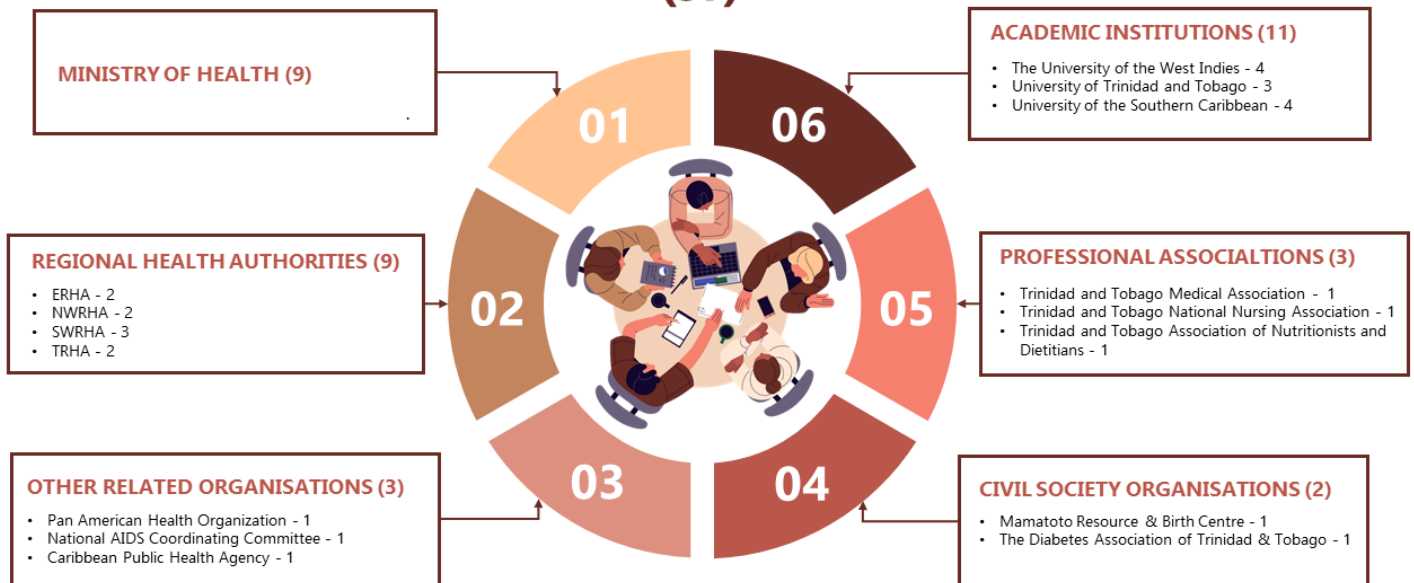


Figure 4: Breakdown of Stakeholder Consultation Attendees



RESEARCH AGENDA

The ranked lists of research topics for each SPA are presented in Tables 1 – 10. Additional research priorities identified during the Stakeholder Consultation are included at the end of each table.

Table 1: Ranked List of Priority Topics for the Strategic Priority Area –
Regulation, Leadership and Governance



<h2 style="margin: 0;">Regulation, Leadership and Governance</h2>	
Ranked List of Priority Topics	Average Score
Health Needs Assessment	19
Evaluation of Regional Health Authorities' operation and the alignment to their mandate and international standards	19
Assessment of the customer (client) needs in relation to regulatory services.	18
Identify the gaps in existing regulatory oversight/control required by the Ministry of Health	17
Assessment of the governance structure and the alignment of the vertical services with national priorities	17
Transformational leadership in the context of a resilient, agile, and highly responsive public health care sector	17
Determine whether the Ministry of Health's role and mandate are in alignment with its current functions	17
Policy reform and business process transformation	16
Assessment of the Ministry of Health regulatory framework in alignment with World Health Organization (WHO)	16
Review of existing relationships (behaviours) between the different Inspectorates operating under different legislations	16

Table 2: Ranked List of Priority Topics for the Strategic Priority Area –
Human Resources




<h1>Human Resources</h1>	
Ranked List of Priority Topics	Average Score
Needs Assessment focusing on Human Resource for Health (HRH) capacity, resource allocation and utilisation	18
Needs Assessment for new health services	18
Assessment of accredited educational institutions for specialised programmes for Nursing, Clinical and Allied staff	18
Best practices / models that facilitate an integrated approach to strengthen health systems	17
Public perception of the health institutions	17
Health systems resilience for future pandemics	17
Audit of the services available in the public healthcare systems	17
Assessment of the accreditation of institutions in both public and private health care systems	16
The impact of strategic plans on health systems strengthening	16

Additional topics received during the stakeholder consultation:


- Health and well-being of health care providers and professionals
- Competing with international demands for staff
- Recruitment process – experience and knowledge/training, succession planning policies
- Assessing competencies

Table 3: Ranked List of Priority Topics for the Strategic Priority Area –
Digitalisation of the Health Sector



Ranked List of Priority Topics	Average Score
Evaluation of Information & Communication Technology (ICT) implementation	19
Security, confidentiality, interpretability, and standardisation in ICT implementation	19
The use of ICT in the management of pandemics, disease control and prevention, and self-management	19
The use of ICT to track and monitor patients with non-communicable diseases and other diseases/conditions	19
An assessment of training needs in ICT literacy (basic and advanced, health informatics and data analytics)	19
The use of ICT in managing the distribution and allocation of health sector resources towards improvement in health outcomes	19
Cost benefit and cost effectiveness analysis of the ICT implementation in the health sector	18
The use of digitalisation for improved patient experience and outcomes in healthcare.	18
Barriers to and facilitators for telehealth (with a focus on HRH)	18
An assessment of ICT capacity to determine usage: (i) by Regional Health Authority (RHA); (ii) in public vs. private sector; and (iii) per service digitalised	17
The integration of public and private health care systems using ICT	17
An assessment of the availability of ICT hardware for healthcare users	17
Human Resources for Health (HRH) resistance to change related to ICT implementation	17
The level of ICT usage/application within the public health care sector vs. "whole of government"	16
Perception of healthcare workers on ICT literacy, infrastructure, and implementation	14

Table 4: Ranked List of Priority Topics for the Strategic Priority Area –
Prevention, Care and Treatment of Non-Communicable Diseases




Ranked List of Priority Topics	Average Score
Barriers to treatment and management of NCDs	19
Assessment and streamlining of NCDs care at primary health care facilities	19
Establishment of a National NCDs surveillance system	19
The effect of a healthy lifestyle clinic model employing primary care initiative for NCDs prevention, care, and treatment	19
Promoting self-care: A behaviour change approach in the prevention, care, and treatment of NCDs	19
Re-engineering NCDs services in the public health care system	19
Evaluation of the HEARTS algorithm	18
Diabetes monitoring and control: A Clinical Audit	18
Targeted multi-disciplinary and multi-dimensional interventions (addressing social and mental health issues) to treat and manage NCDs patients	17
Alcohol as a risk factor for NCDs	17
Development of standardised clinical guidelines for Non-Communicable Diseases (NCDs) treatment and management	17
The effect of structured diabetes education program for persons living with diabetes. A multidisciplinary approach.	17
Peers as health change agents: The effect/impact/benefit of implementing peer-led prevention, care, and treatment of NCDs programs to tackle NCDs within organisations.	17
Evaluation of the NCDs Strategic Plan 2017	16
Impact of a comprehensive school nutritional health promotion programme on dietary choices in school age children	16
The efficacy and effectiveness of medications (i.e., polypharmacy) used to treat and manage NCDs in the public and private health care sectors	16

The impact of the sugar sweetened beverages (SSBs) policy on childhood obesity	16
Morbidity and mortality of NCDs pre- and post-COVID-19	15
The effect of Gestational Diabetes Mellitus (GDM) on nutritional status and metabolic outcomes in children	15
Facilitators and barriers to COVID-19 vaccine uptake in NCDs patients	14
Prevalence of risk factors for NCDs and its effect on quality of life for university employees and students	13
NCDs and climate change	13
Faculty and students' perspectives on their institutions' health clinic readiness to prevent and treat NCDs among university students and employees	12

Additional topics received during the stakeholder consultation:

- Prevention and treatment of cancers
- Systemic disease
- Oral health care and periodontal disease
- Genomic Medicine:
 - Pharmacogenomics
 - Polypharmacy
 - Molecular and genetic diagnostic testing to determine cancer subtypes and the most effective treatments.
- Injury surveillance
- Nutrition analysis available to the public
- Palliative care
- Impact of wellness targeted programmes (e.g. TT Moves)

Table 5: Ranked List of Priority Topics for the Strategic Priority Area –
Prevention, Care and Treatment of Communicable Diseases




Prevention, Care and Treatment of Communicable Diseases	
Ranked List of Priority Topics	Average Score
Evaluation of the response of the local health system to: detect; assess and report during a public health event (International Health Regulation 2005)	18
An assessment of the healthcare system to respond to emerging infectious diseases (e.g., Monkey Pox)	18
Antimicrobial resistance (Methicillin-resistant Staphylococcus aureus (MRSA))	18
COVID-19 (lessons learnt, vaccine hesitancy and uptake)	17
Guidelines for the prevention and treatment of communicable diseases	17
Surveillance of emerging and re-emerging infectious diseases	17
Prevalence of emerging and re-emerging vector-borne diseases	16
Assessment of the use and impact of the WHO/ Centers for Disease Control (CDC) recommended strategies or guidelines (e.g., Geographic Information Systems (GIS) surveillance)	16
Evaluation of the impact of interventions (surveillance, materials, staffing) on the burden of communicable diseases	16
Human Immunodeficiency Virus (HIV)	16
Standardisation of a laboratory information system (LIS) within the healthcare sector	15
Sexually Transmitted Infections (syphilis)	14
Tuberculosis (TB)	14

Additional topics received during the stakeholder consultation:

- Non COVID-19 vaccine hesitancy
- Prevalence of HIV and other Communicable Diseases among non-nationals

Table 6: Ranked List of Priority Topics for the Strategic Priority Area –
Mental Health and Wellness



<h2 style="margin: 0;">Mental Health and Wellness</h2>	
Ranked List of Priority Topics	Average Score
National prevalence study and the risk factors for mental health disorders, including children and adolescents	18
Lived experiences and the resulting mental health challenges and support needs of women/female survivors of Intimate Partner Violence (IPV)	18
Mental Health and Psychosocial Impacts on health care workers of the COVID-19 pandemic	17
Leading causes of self-harm or non-suicidal self-injury	17
Trauma (childhood trauma) and grief specifically related to dimensions of abuse, violence, natural disasters, and their impact throughout the lifecycle	17
Substance abuse, including alcohol	17
Availability of support services for postpartum depression	17
Incidence of peripartum depression and psychosis	16
Effects of burnout and stress on the mental health of working and student populations (due to work or academic pressures) and coping mechanisms utilised	16
Effects and incidence of Domestic abuse in pregnancy	15
Intellectual disabilities	15
Mental health impacts of the COVID-19 pandemic among patients accessing care	15
Prevalence of depression/anxiety in persons who suffer with epilepsy	14
Inpatient admissions associated with the decriminalisation of marijuana	14
The psychosocial impact of the COVID-19 pandemic on the mentally ill population	14
Effects of marijuana on the mental health of persons with epilepsy	14
(Couple) Stress and anxiety in COVID-19 lockdown	14
Students' perceptions of readjustment to the University environment after the resumption of on campus activities after COVID-19 restriction measures were lifted	13
Relationship between the onset of stress and age	13

Table 7: Ranked List of Priority Topics for the Strategic Priority Area –
Maternal and Child Health



Maternal and Child Health

Ranked List of Priority Topics	Average Score
Factors to decrease maternal, perinatal and new-born morbidity and mortality	19
Cervical, endometrial, and ovarian cancer	19
Association between staffing levels and health outcomes of mothers and neonates at healthcare facilities	19
Analysis of "near miss" obstetric cases	18
Obesity among reproductive-aged women	18
Equity and access to maternal and child health services	18
Prevalence, causes and consequences of delays in decision making for caesareans section births	17
Assessment of obstetric adverse events and recommendations for improvement	17
Incidence of Gestational diabetes mellitus in primary care	17
Neonatal infection in relation to preterm premature rupture of membranes	17
Special healthcare needs in children and adolescents	16
Elimination of mother to child transmission of HIV and syphilis	16
Prematurity and pre-term birth	16
Analgesia in labour	16
Autism and developmental disabilities	16
The effect/impact of Quality Improvement initiatives on postpartum contraceptive counselling for women who experienced high-risk pregnancies	15
Effects of substance abuse in pregnancy and postpartum	15
Prevention of unintended pregnancy and sexually transmitted infections (STIs)	15
Causes of infant (< 1 year) and child (< 5years) mortality	14

Outcomes of Induction of labour for women with a Bishop score of less than 4	14
Drug and alcohol use during pregnancy	14
The association between growth and development and obesity in infants and children	13
Environmental exposures associated with reproductive and developmental outcomes	13
Breastfeeding and complementary feeding	13
Prevalence of inherited diseases	13
Social and commercial determinants of maternal health and birth outcomes	13
Reproductive care for girls and women with disabilities	12
Social and commercial determinants of health in childhood	12
COVID-19 in pregnancy: effects on maternal and neonatal outcomes	12
Contraceptive Use Dynamics	10

Table 8: Ranked List of Priority Topics for the Strategic Priority Area –
Healthy Ageing



Healthy Ageing

Ranked List of Priority Topics	Average Score
Planning for retirement	18
Elder abuse and caregiving	18
Mental health and healthy ageing	18
Leadership and ageing	17
Technology and healthy ageing	17
Challenges associated with the 'The Sandwich Generation'	17
Nutritional needs for healthy ageing	16
Workplace provisions for healthy ageing	16
Work life balance and ageing	16
Financial management and ageing	16
Long-term care of the elderly	15
Effect of Alzheimer's Disease on families and support systems	14
Health management – An appreciation of the ageing process	13
The effects of retirement structures on the health of the ageing population	13

Additional topics received during the stakeholder consultation:

- Menopause

*“...mostly female, mostly middle-aged persons who serve as caregivers for both older and younger family members at once” (26).

Table 9: Ranked List of Priority Topics for the Strategic Priority Area –
Health Emergencies



Health Emergencies

Ranked List of Priority Topics	Average Score
An assessment to determine to level of staff preparedness and resiliency for disasters	17
The use of Geographic Information Systems to improve the disaster operations within the Health Sector of Trinidad and Tobago	17
Hazard mapping and vulnerability assessments using GIS	17
Infrastructure resiliency measures for hospital and other health facilities	17
Strengthening Regional Health Authority (RHA's) capacity for climate change mitigation and adaptation	17
A comprehensive disaster risk assessment of the hazards and vulnerabilities (both natural and anthropogenic) that contribute to health emergencies	16
Early warning systems for health emergencies including preparedness and response systems	16
Flood mitigation measures that can reduce the loss of operational hours at Health Facilities	15
The use of renewable energies to improve the operations of the health care facilities while improving patient comfort	15
Climate Change Mitigation measures to reduce the carbon footprint at RHAs	14
The health impact of climate change and the associated cost	14

Additional topics received during the stakeholder consultation:

- Impact and preparedness – mass casualty training

Table 10: Ranked List of Priority Topics for the Strategic Priority Area –
Diversification and Medical Tourism



Diversification and Medical Tourism

Ranked List of Priority Topics	Average Score
Readiness of universities and tertiary institutions including Couva Medical and Multi-Training Facility (CMMTF) to provide medical tourism education	17
Readiness of Tobago for medical tourist post-receipt of health care	17
Accreditation readiness of health care institutions	16
Readiness of public healthcare institutions to provide medical tourism services and procedures	16
Improvement of public perception of healthcare institutions	16
Assessment and streamlining of medical tourism services in both the public and private sectors in T&T	15
Case studies of the current medical tourism services, including an assessment of best practices (e.g., Tobago's dialysis service)	15
Assessment of medical tourism services and procedures offered (regionally) and their associated costs	14

Other topics received during the stakeholder consultation:

- Impact of the country's economic status on population health
- Adolescent services/programs
 - Sexuality, violence/bullying
 - Services available
- Bullying linked to social determinants of health
- Access to care for non-nationals
- Research ethics – approval process, time to approve, methods of approval, quality of studies submitted



NEXT STEPS

Dissemination

Stakeholders will be requested to disseminate the NHRA to their research teams/staff within their organisations and networks, including funding agencies. Academic/research institutions will be encouraged to align the research conducted by staff and students to the research priorities identified in the NHRA, and that the topics with the highest score are prioritised. Stakeholders will also be asked to share the NHRA via their websites and on social media.

Implementation, Monitoring and Evaluation and Updates

Implementation, continuous promotion, monitoring and evaluation and revisions to the Research Agenda will be led by the Research Sub-Committee, Senior Joint Planning Committee.

Relevant indicators will be identified or developed to monitor the uptake and implementation of the Agenda. The indicators will be reviewed by the stakeholders involved in the development of the Agenda. The impact of the Agenda on the conduct of essential research should be the subject of an independent review within five (5) years. The findings will be used to revise the Research Agenda.

The tentative indicators which can be used to assess the progress or implementation of the NHRA are:

- The number of funding agencies utilising the NHRA
- The number of institutions adopting/implementing the NHRA
- The percentage of research produced aligned with the NHRA

REFERENCES

1. World Health Organization. Evidence, policy, impact: WHO guide for evidence-informed decision-making [Internet]. 2022 Jul [cited 2023 Sep 21] p. 53. Available from: <https://www.who.int/publications-detail-redirect/9789240039872>
2. Lavis JN, Oxman AD, Lewin S, Fretheim A. SUPPORT Tools for evidence-informed health Policymaking (STP). *Health Res Policy Sys*. 2009 Dec;7(S1):11, 1478-4505-7-S1-I1.
3. Chalmers I, Glasziou P. Avoidable waste in the production and reporting of research evidence. *The Lancet*. 2009 Jul;374(9683):86–9.
4. Chalmers I, Bracken MB, Djulbegovic B, Garattini S, Grant J, Gülmezoglu AM, et al. How to increase value and reduce waste when research priorities are set. *The Lancet*. 2014 Jan;383(9912):156–65.
5. World Health Organisation. *Health Research Systems Analysis: Concepts and Indicators*. Geneva, Switzeeland: World Health Organisation;
6. Sadana R, Pang T. Health research systems: a framework for the future. *Bull World Health Organ*. 2003;81(3):159.
7. Montorzi G, de Haan S, IJsselmuiden C, Kennedy A, Becerra F, Devlin M. *Priority Setting for Research for Health: A Management Process for Countries*.
8. Central Statistical Office (CSO). <https://cso.gov.tt/>. 2023 [cited 2023 Sep 21]. Population Statistics: Trinidad and Tobago. Available from: <https://cso.gov.tt/subjects/population-and-vital-statistics/population/>
9. United Nations Department of Economic and Social Affairs. *World Fertility and Family Planning 2020 Highlights* [Internet]. New York; 2020. Available from: https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/files/documents/2020/Aug/un_2020_worldfertilityfamilyplanning_highlights.pdf
10. World Health Organization. *World Health Organization Data: Trinidad and Tobago [Country overview]* [Internet]. 2023 [cited 2024 Jan 23]. Available from: <https://data.who.int/countries/780>
11. World Health Organization. *Noncommunicable diseases country profiles 2018* [Internet]. World Health Organization; 2018 [cited 2023 Sep 21]. 223 p. Available from: <https://iris.who.int/handle/10665/274512>
12. Warner WA, Lee TY, Badal K, Williams TM, Bajracharya S, Sundaram V, et al. Cancer incidence and mortality rates and trends in Trinidad and Tobago. *BMC Cancer*. 2018 Jul 4;18(1):712.
13. Ministry of Health, Government of Trinidad and Tobago. *National Strategic Plan for the Prevention and Control of Non Communicable Diseases: Trinidad and Tobago 2017-2021* [Internet]. 2017 [cited 2023 Sep 21]. Available from: <https://health.gov.tt/sites/default/files/pdf/20170501-National-Strategic-Plan-Prevention-NCDs-2017-2021.pdf>

14. Mahabir D, Gulliford M. Changing patterns of primary care for diabetes in Trinidad and Tobago over 10 years. *Diabetic medicine: a journal of the British Diabetic Association*. 2005 Jun 1;22:619–24.
15. Pan American Health Organization. Noncommunicable Diseases in the Region of the Americas: Facts and Figures [Internet]. 2019 [cited 2023 Aug 22]. Available from: https://iris.paho.org/bitstream/handle/10665.2/51483/PAHONMH19016_eng.pdf
16. National Sexual and Reproductive Health Policy.pdf [Internet]. [cited 2024 Jan 23]. Available from: <https://www.health.gov.tt/sites/default/files/womenshealth/National%20Sexual%20and%20Reproductive%20Health%20Policy.pdf>
17. Wang H, Abbas KM, Abbasifard M, Abbasi-Kangevari M, Abbastabar H, Abd-Allah F, et al. Global age-sex-specific fertility, mortality, healthy life expectancy (HALE), and population estimates in 204 countries and territories, 1950–2019: a comprehensive demographic analysis for the Global Burden of Disease Study 2019. *The Lancet*. 2020 Oct 17;396(10258):1160–203.
18. Ministry of Health T&T. National Mental Health Policy 2019-2029. 2019 Jul p. 72.
19. Government of the Republic of Trinidad and Tobago. Voluntary National Review: Trinidad and Tobago Connecting the Dots to the SDGs 2020 [Internet]. 2020 Jul [cited 2023 Sep 21]. Available from: https://sustainabledevelopment.un.org/content/documents/26730VNR_2020_Trinidad_Report.pdf
20. Nakhid-Chatoor M. Male mental health and suicide - Trinidad and Tobago Newsday. *Trinidad and Tobago Newsday* [Internet]. 2021 Sep 14 [cited 2023 Aug 22]; Available from: <https://newsday.co.tt/2021/09/14/male-mental-health-and-suicide/>, <https://newsday.co.tt/2021/09/14/male-mental-health-and-suicide/>
21. Davis G, Baboolal N, Rae AM, Stewart R. Dementia prevalence in a population at high vascular risk: The Trinidad national survey of ageing and cognition. *BMJ Open*. 2018 Feb 1;8(2):e018288.
22. Naraynsingh R, Sammy I, Paul JF, Nunes P. Trauma in the elderly in Trinidad and Tobago: a cross-sectional study. *European Journal of Emergency Medicine*. 2015 Jun 1;22(3):219–21.
23. Parey B. Well-being among older persons with disabilities in Trinidad. *Health & Social Care in the Community*. 2022;30(4):e1101–11.
24. Government of the Republic of Trinidad and Tobago. Vision 2030 - The National Development Strategy of Trinidad and Tobago 2016-2030 [Internet]. 2015. Available from: <https://www.planning.gov.tt/sites/default/files/Vision%202030-%20The%20National%20Development%20Strategy%20of%20Trinidad%20and%20Tobago%202016-2030.pdf>
25. Hellyer M. DRAFT National Strategy for Medical Tourism [Internet]. Trinidad and Tobago Coalition of Services Industries; 2012 Aug [cited 2023 Sep 21]. Available from: [http://www.ctaeconomic.com/uploads/files/unsorted/Draft%20Strategy%20\(medical\).pdf](http://www.ctaeconomic.com/uploads/files/unsorted/Draft%20Strategy%20(medical).pdf)

26. Gavin K. “Sandwich generation” study shows challenges of caring for both kids and aging parents [Internet]. 2022 [cited 2024 Jan 29]. Available from: <https://www.michiganmedicine.org/health-lab/sandwich-generation-study-shows-challenges-caring-both-kids-and-aging-parents>