



National Health Reorientation Plan 2024+

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Executive Summary

Te Marae Ora Ministry of Health (TMO) National Health Reorientation Plan (NHRP) is a strategic initiative aimed at implementing key focus areas outlined in Te Papa Tutara a Te Marae Ora (Health Road Map 2017-2036) and the World Health Organisation (WHO) regional frameworks.

This initiative is focused towards improving health systems, promoting universal health coverage, fostering healthy islands, and developing a workforce capable of effectively responding to the risks and impacts of Non-communicable Diseases (NCDs).

The preparation of the NHRP not only incorporates valuable lessons from the COVID 19 pandemic but also seamlessly aligns with national targets and goals as set out in the Te Ara Akapapaānga Nui National Sustainable Development Agenda (NSDA) 2020+, Te Kaveinga Iti, the National Population Policy, and the 2023 Bridge Town Declaration by the Small Island Developing State (SIDs) Ministerial meeting in Barbados to scale up national actions particularly on NCDs to promote people’s wellbeing. Likewise, the Blue Pacific 2050 Strategy also identified pivotal thematic areas, designating the Cook Islands and Australia to jointly lead the thematic work stream on people centered development. The recently launched Te Marae Ora Ara-Tango Anga’anga: Cook Islands National Health Strategic Plan 2023-2037 captures the key focus areas of the Health Road Map (HRM), including NHRP as a component for reorienting and improving the delivery of healthcare services with a strong focus on prevention.

Moreover, the development of the NHRP is strongly bolstered by the latest health statistics such as the TMO Health Bulletin Report (2019-2020), the WHO STEP survey report (2022), the Men’s Health Screening Report (2022), the Health Specialist Reports (2022), and the recent healthy island population screening. These reports collectively emphasize the pressing need for a thorough reassessment of the current healthcare service delivery model of TMO. Shifting from a disease treatment system centered on a “sick-system” and transition towards “people-centered” approach to effectively addressing the increasing rates of NCDs and improving the health status of the Cook Islands population.

The **Te Kupenga Model** was developed to support the NHRP, which is specifically designed for Cook Islands aimed at establishing links of supportive network. This network is intended to keep individuals who have a Cardio Vascular Risk Assessment (CVRA) of less than 10%, indicating a low risk of NCDs, remains outside the model. Simultaneously, it will efficiently manage individuals falling within the higher risk category to prevent NCD complications. The four-tier model purpose is to build better health resilience for the Cook Islands to further strengthen monitoring and prevention, intensify self-empowerment and protection, preserve life effectively, and improve family care support programmes. By shifting our healthcare focus, we aspire to prevent, manage, and reduce the impact of NCDs, ultimately improving the health and well-being of the population.

Introduction

NCD Stats

The National Health Bulletin 2020 – 2021 indicates that NCDs remains a challenging factor for TMO. The Cook Islands has a high prevalence and incidence rates of NCDs. For the last four years, 72% of deaths that occurred in the Cook Islands were attributed to NCDs, with 25% of these cases occurring prematurely (TMO Annual Health Information Bulletin 2019-2020). In addition, the annual average rate of NCD incidence is 21 per 1,000 population, with a prevalence of 460 cases per year.

There are over 5,500 people diagnosed in the Cook Islands with an NCD, and the majority of these cases involves individuals living with comorbidities. This group comprises 51% female and 49% male, representing 59% of Cook Islands' resident population aged 15-64 years.

The most prevalent NCDs are cardiovascular diseases (CVD) which includes hypertension, stroke, renal failure, heart failure, heart diseases and myocardial infarction followed by diabetes, chronic obstructive pulmonary diseases (COPD) and cancer. Based on the 2022 STEPS Survey report, 2.1% of men and women aged 45-69 were at a 30% greater risk of developing CVD in the next ten year.

Cancer

The prevalence of cancer in the Cook Islands is a growing concern, having increased by 30% since 2018. In the last five years, 83 new cancer cases were diagnosed, with incident rates showing a consistent rise in the number of people diagnosed with cancer each year. The highest number of cancer cases was diagnosed in 2019, with a rate of 37 cases per 1,000 population, followed by a decrease in cases reported over 2020.

Te Marae Ora screens for cervical cancer and breast cancer, while other cancer types are diagnosed based on histology results as part of the investigations or incidentally found during health specialist visits. In 2021, there were 23 cases, with neoplasm of the skin being the most common cancer type, affecting 17% of males and 9% of females.

Prostate and neoplasms of the skin are the prevailing cancer types effecting males since 2012 but only 18% of women had neoplasms of the skin. The most common type of cancer among the Cook Islands female population is the breast cancer followed by the neoplasms of the female genital organs (endometrium, ovary, cervix, and skin).

The table below shows the total cardiovascular disease (CVD)/chronic kidney disease (CKD) screening conducted by TMO from its opening in 2019 through 2022.

Island	10 % and <	11% to 30%	31% and above	No CVRA calculated.	CVD/CKD screening opened from 2019 to 2022
Rarotonga	185	595	225	1453	2,458
Aitutaki	17	87	38	514	656
Atiu	26	1	2	67	96
Mauke	1	0	4	113	118
Mitiaro	0	0	1	40	41
Mangaia	67	96	19	24	206
Manihiki	15	1	3	22	41
Penrhyn	0	0	0	16	16
Pukapuka	66	82	1	59	208
Rakahanga	0	0	0	25	25

Similarly, the table below shows the total number of patients who visited the Tupapa NCD clinic and Hospital NCD Clinic, as well as the total number of queues recorded from 2017 to 2022.

Year	Tupapa NCD clinic	Hospital NCD clinic	Tupapa Queue	Hospital Queue
2017	2,306	4,417	12,139	37,375
2018	2,189	4,085	12,917	40,097
2019	2,736	4,334	11,989	38,445
2020	1,518	4,339	8,615	2,378
2021	915	4,194	11,839	2,243
2022	1,620	3,833	5,671	9,088
Total	11,284	25,202	63,170	135,863

**Please note that Tupapa NCD clinic operates only 2 days per week and HHS NCD clinic operates 5 days per week.*

Call to Action

The COVID-19 pandemic from December 2019 to mid-2022 diverted our national focus and efforts towards protecting the community from the risks and threats of COVID-19. After having successfully brought COVID 19 under control, TMO as of 1 July 2022 redirect its focus to addressing the continuing increasing rate of NCDs. Moreover, at the 73rd World Health Western Pacific Regional Committee meeting in Manila (October 2022), Member States endorsed five new regional frameworks where one of the priority frameworks relate to NCD prevention and control. During the meeting, Member States were encouraged to reorient health delivery towards a people-centered health system, emphasizing preventive care and lifelong support, and to accelerate the use of evidence-based, cost-effective policy interventions. The meeting urged Member States to foster cross-societal collaboration and prioritize resources for the prevention and control of NCDs, among other priorities. At the same time, they were encouraged to continue reporting on the progress in implementing the existing eight regional frameworks.

Purpose of the Reorientation Plan

The purpose of this NHRP is to transform the existing curative healthcare system to an integrated people-centered health system that prioritizes people's health and well-being in line with or ahead of national socioeconomic developments. This transformation involves increased focus on prevention shifting from disease treatment system centered on a "sick- system" to "people-centered system" where the provision of care is proactive rather than reactive, comprehensive and streamlined rather than sporadic and disease-specific.

In a modern technological society, it is also important to take advantage of new technologies to support the effective delivery of health services to the wider population and empower individual self-healthcare management. In the long term, as the wellbeing and the health of Cook Islanders improves, the cost and the burden of NCDs to families and to the country is expected to decline.

Alignment to Regional and National Health Plans

Blue Pacific 2050 Strategy

The Strategy sets out long-term approach to working together as a region in response to the health and wellbeing including human right and equity for all in the Pacific. There are seven thematic work streams identified where the Cook Islands and Australia are Chair to the "People Centered Development" thematic area.

Te Ara Akapapa ánga Nui – National Sustainable Development Agenda (NSDA) 2020+

There are six (6) national targets that have been set for the kōua generation (first generation) but only the following applies to TMO:

1. Golden standard of Turanga Memeitaki (wellbeing) – Establish and implement golden standard of Turanga Memeitaki.
2. NCD reduction – reducing the NCD rates by 25% of 2020 levels.

Te Kaveinga Iti – National Sustainable Development Agenda 2020+

NSDA 2020+ **Goal 7 Health and Healthy Lifestyles** is the most direct linkage in addressing the NCDs. It was noted in this goal that health impacts require longer periods to see change.

7.1 Rate of premature deaths from non-communicable diseases. This indicator measures the rate of premature deaths from non-communicable diseases, with the intent to reduce this rate over time. Non-communicable diseases or NCD's are our largest health challenge with high rates of heart disease, diabetes and other lifestyle diseases affecting the lives of many Cook Islanders every year and putting a strain on our health system. Increase investment in health care Indicator.

7.2 Health spending as a percentage of government expenditure. This indicator looks at how much Government spends on health. As our health system is almost exclusively publicly funded, the amount of the Government spend is crucial for improving the health of our people. Promote sexual health Indicator.

7.3 Prevalence of sexually transmitted infections (STI's). Sexually transmitted infections have become a significant health issue in the Cook Islands. A reduction in STI's is a key priority for the

Ministry of Health and serves as a key indicator of safer sexual practices and better sexual health and increased fertility rates. Promote healthier lifestyles through exercise and sports Indicator.

7.4 Youth engagement in physical activity and sports. Exercise, sports, and other physical activities are crucial for a healthy lifestyle. Lifestyle habits are usually engrained at an early age which is why it is crucial that we measure the extent to which children, young people, and adults engage in physical activities on a daily and weekly basis (the Ministry of Health recommends at least half an hour per day for adults and an hour per day for young people). Achieve healthier longer lives Indicator.

7.5 Average life expectancy. Life expectancy is the most widely used measure of the general health of a society. Health care spending, standards of living, environmental improvements, lifestyle changes, public health, disease prevention, and education all contribute to improved life expectancy and quality of life. Improve mental health care Indicator.

7.6 Mental health index. This indicator looks at diagnosis, access to services and suspected suicide as a measure towards improving mental health care (number of people with mental health diagnosis in the past 12 months (moderate–severe mental illness) Percentage of people accessing mental health services and suspected suicide or completed suicide per year).

[Te Kaveinga Tupu'anga iti Tangata Cook Islands Population Policy 2022- 2032](#)

Policy Goal 7 talks about **Reduced NCD mortality and morbidity rates in the adult population, as presented below:**

Prior to the “epidemiological transition” the major causes of morbidity and mortality are the infectious diseases. After the transition, non-communicable diseases are the main cause of illness and deaths. This process is quite “normal” and associated with effective public health measures that reduce infectious diseases to a low level or to complete elimination. A proportional shift from infectious disease to NCDs has been taking place in the Cook Islands since the 1950s. By the mid-1970s, NCDs accounted for 61 percent of deaths and 67 percent on Rarotonga. The proportion of deaths caused by NCDs was lower in the Pa Enua than in Rarotonga (59 percent). Since the 1970s, the proportion of deaths caused by NCDs has steadily increased to reach 72 percent in 2018, not allowing for changes in the age structure.

NCD related deaths among an ageing population undergoing economic development is expected, thus policy attention has shifted to “premature” mortality as well as morbidity rather than overall mortality. Premature NCD mortality is defined as deaths occurring within the age range 30– 69. At the same time, more attention is paid to the etiology of NCDs, which may develop from an early age. NCD morbidity may have an impact on quality of life and contribute to disability. These issues are addressed in the Cook Islands Strategic Action Plan to prevent and control non-communicable diseases 2021–2025 (Ngaki'anga Kapiti Ora'anga Meitaki). The reduction of NCDs is also addressed under Goal 7 of the National Sustainable Development Agenda 2020+ (Te Kaveinga Iti). The rate of premature mortality from NCDs is indicator 7.1. The National Population Policy 2022–2032 supplements and reinforces these policy initiatives.

Te Papa Tutara A Te Marae Ora – The Cook Islands National Health Road Map 2017 – 2036

Te Marae Ora developed Te Papa Tutara A Te Marae Ora – The Cook Islands National Health Road Map 2017 – 2036 (referred to as Health Road Map) to reorient health systems, to implement Universal Health Coverage, the Healthy Islands initiatives and to embrace the Cook Islands National Sustainable Development Plan (NSDP 2016-2020).

TMO will draw the action domains and implementation strategies from the Health Road Map which provides focus agendas, focus action domains, and focus operational plans under each of the three key broad focuses. The focus areas include **Strengthening Health Systems, Health Care Service Excellence and Public and Private Partnership**. TMO five yearly strategic plans are to formulate, strategize and implement the focus areas and action domains of the Health Road Map.

Te Marae Ora Ara – Tango Anga’anga: Cook Islands National Health Strategic Plan 2023 – 2027 (NHSP 2023+)

Te Marae Ora launched the Te Marae Ora Ara Anga’anga: National Health Strategic Plan 2023-2027 on 3 November 2023 that captures key focus areas of the Health Road Map (HRM), including NHRP as a component to reorient and improve the delivery of healthcare services underpinning on prevention.

TMO Vision, Mission and Values

Te Marea Ora (TMO) as the main healthcare provider in the Cook Islands is responsible for setting national health policies and managing the day-to-day delivery of healthcare services across the Cook Islands. TMO delivers health services through five directorates: Public Health, Oral Health, Primary Care, Hospital Health, and Planning and Funding. The Secretary of Health and the Executive team lead the Ministry to achieve its Vision, Mission and Values.

TMO Vision

All people living in the Cook Islands living healthier lives and **achieving** their aspiration

TMO Mission

To provide accessible, affordable health care and equitable health services of the highest quality, by and for all, to improve the health status of people living in the Cook Islands

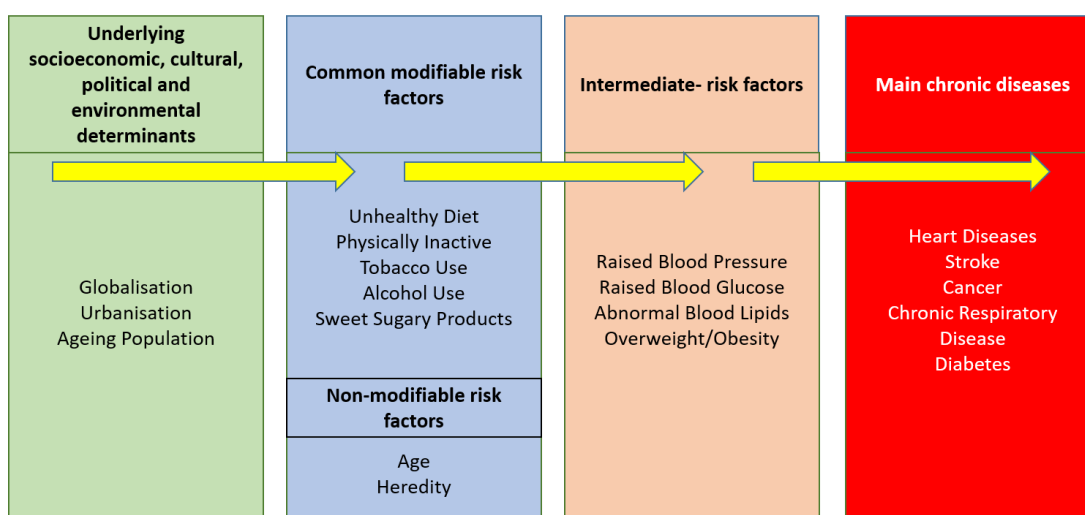
The TMO Values

E- Equity	Treat everyone equally
Q – Quality and Innovation	Deliver quality service with innovation
U – Unity	Work in unity
I – Integrity & Accountability	Uphold integrity daily with accountability
P – People-centered	Patient/People always central in healthcare
P – Passionate	Work with passion
E – Empowerment	Empower one another
R – Respect	Respect one another

Needs Assessment

NCD Risk Factors – Causes of chronic diseases

As shown below, the prevalence and impact of chronic diseases are not isolated but rather the result of a complex interplay of factors rooted in underlying socioeconomic, cultural, political and environmental determinants. These determinants influence the emergence of common modifiable risk factors, which, if left unaddressed, can progress into intermediate risk factors and ultimately manifest as chronic diseases. This chain of causation underscores the importance of addressing the root causes to effectively prevent and manage chronic diseases.



NCD Cost in the Cook Islands

In 2019, the Institute for Health Transformation of Deakin University, Melbourne, Australia was commissioned by TMO and the World Health Organisation Western Pacific Region to conduct a study quantifying the economic burden of the four leading non-communicable diseases (diabetes, cardiovascular disease, chronic respiratory disease and neoplasms). This study covered both financial and non-financial costs for the 2017 population of the Cook Islands.

Methods:

The costs included direct health care, costs of lost productivity arising from people leaving the workforce due to premature death, being absent from work, or not being fully productive at work due to illness, carer costs, and welfare payments. In addition to these financial costs, non-financial costs arising from the burden of disease falling on individuals from early death have been separately reported.

The report provides both low cost and a high-cost estimates, depending on the method used to measure productivity losses of people leaving the workforce early.

Key Findings:

Financial costs

- The financial cost to the Cook Islands economy of the four major NCDs was in the range of NZD5.0 million to NZD7.9 million in 2017. This is equivalent to between 1.0% to 1.6% of the country's 2017 Gross Domestic Product, and represents a cost of between NZD258-407 per head of the Cook Islands population.
- An estimated NZD2.02 million was expended on direct health care costs for the four NCD categories. This equates to 25.6% of the total financial costs for the four NCD categories, 14.6% of the nation's health expenditure in 2017 and 0.41% of GDP. Persons with cardiovascular disease posed the greatest financial burden to the health care services accounting for 29.35% of these costs.
- Lost productivity as a result of persons in the workforce dying prematurely was measured in two ways: firstly, the human capital approach, which measures all working years lost between age of death and an average retirement age of 60 years, was used to produce an upper estimate (NZD2.97 million), and secondly, the friction cost approach, which assumes a deceased worker will be replaced after an average period of 10 weeks, provides a lower estimate (NZD74,781). Cardiovascular disease is the biggest contributor to lost productivity as a result of premature death.
- Days absent from work attributable to the NCD categories are estimated to cost NZD382,138, with the largest losses being associated with cardiovascular disease.
- Productivity losses due to presenteeism relate to where a person is at work but is not fully productive. Employing data from overseas studies, presenteeism losses in the Cook Islands as a result of the four NCD categories are estimated to amount to NZD1.34 million. The majority of these costs are attributed to cardiovascular disease and diabetes.
- Based on the human capital approach, total productivity losses (from premature death, absenteeism, presenteeism) amount to NZD4.69 million, whilst the lower estimate, using the friction cost approach, was NZD1.8 million.
- Carer allowances and productivity losses as a result of persons leaving the workforce to care for a person with a NCD are estimated to total NZD721,759.

Non-financial costs

- The non-financial costs comprise the burden of disease losses relating to an individual's loss of healthy life years, by placing a cost on quality of life lost through death or chronic illness. These are different costs to productivity costs which relate to losses to the economy of lost engagement in the workforce. Only the burden of years of life lost due to premature mortality was counted, given the absence of data allowing measurement of years lived with a measure of disability as a result of a NCD.
- The four NCD categories resulted in 410 years of life lost for the 2017 Cook Islands population. This equated to a cost of NZD11.7 million. More than half of this burden of disease cost stems from cardiovascular disease (51.5%), followed by diabetes (26.9%) and cancer (21.6%).

Overall costs

- Overall, cardiovascular disease accounts for the greatest share of both the financial and non-financial costs arising from the four selected NCD categories. Diabetes consistently accounts for around one quarter of most expenditure categories.
- Cancer's share of the economic burden of NCDs to the Cook Islands is under-stated in this report, given that most of the associated treatment costs are incurred by the New Zealand government. Also, where a patient dies from the disease whilst in New Zealand, they are not included in Cook Island mortality statistics; this means that the real productivity losses and burden of disease losses as a consequence of cancers are under-reported herein.

The total costs attributable to these four categories of NCDs pose a sizeable economic burden on the Cook Islands. The resultant pressures placed on the health system are exacerbated by the country's geography and the need to deliver services to persons in remote islands. However, the issues posed by the growing prevalence of NCDs not only concern the health sector. The biggest economic losses arise from the lost workforce capacity as persons in their middle working years die or retire early as a result of a chronic illness. This suggests that a greater focus is warranted on NCD prevention and screening and early detection.

Priority Focus Area and Outcomes

The key principles involved in the reorientation plan are as follows:

1. People-centered health system.

Prioritization of individuals, families, and communities according to their healthcare needs and the broader determinants of health for the people and populations the health system aims to serve.

2. Health services delivery.

Optimizing the services delivery function to ensure that a comprehensive range of interventions are successfully delivered in coordination across all directorates, with continuous monitoring for quality patient care, equitable, efficient and effective mode of delivery.

3. Coordinated/integrated health services delivery.

Improving the integration of health systems to ensure that core system functions are optimally conducive to people-centered services delivery; a people-centered health system providing the design or blueprint for those system-conditions needed, specifically: adequate and aligned accountability arrangements; incentive mechanisms; competencies of the health workforce; communication systems; and innovations and research generating processes.

The following are the expected delivery outcomes as well as the expected results of the collective efforts of this reorientation plan.

Delivery Outcomes

- Key legislations enacted or amended
- Important Regulations enacted or amended
- Revised NCD Action Plan 2023+ developed and implemented

- Past NCD intervention programs evaluated and replaced with new practical intervention programs
- Expenditure on health increased as a proportion of GDP and per capita
- NCD budget increased to support increasing rate of NCD
- Tobacco and alcohol control measures (tax etc) accelerated and implemented
- Sugar sweet beverage control measures (tax etc) accelerated and implemented
- New budget for Road Safety, Healthy School, Baby Teeth Matters and Baby Friendly Hospital
- National NCD Control Policies developed and implemented
- Health workers familiar with and able to apply WHO's PEN guidelines
- Dietary guidelines and nutrition policy developed and implemented
- Physical activity campaign operational
- Improved surveillance and screening programs implemented
- Improved society understanding of the social determinants of health
- Maternal Health Policy developed and integrated with Oral Health, Primary Care and Public Health
- Improved health systems, well-resourced and highly competent and skilled workforce
- Strengthened partnership with key health partners and community

Expected Outcomes by 2030+

- Reduced rate of childhood obesity
- Reduced NCD premature mortality
- Improved average life expectancy
- Physically fit Cook Islanders
- Improved natural teeth retention

Cook Islands Healthcare Model

Te Kupenga Model

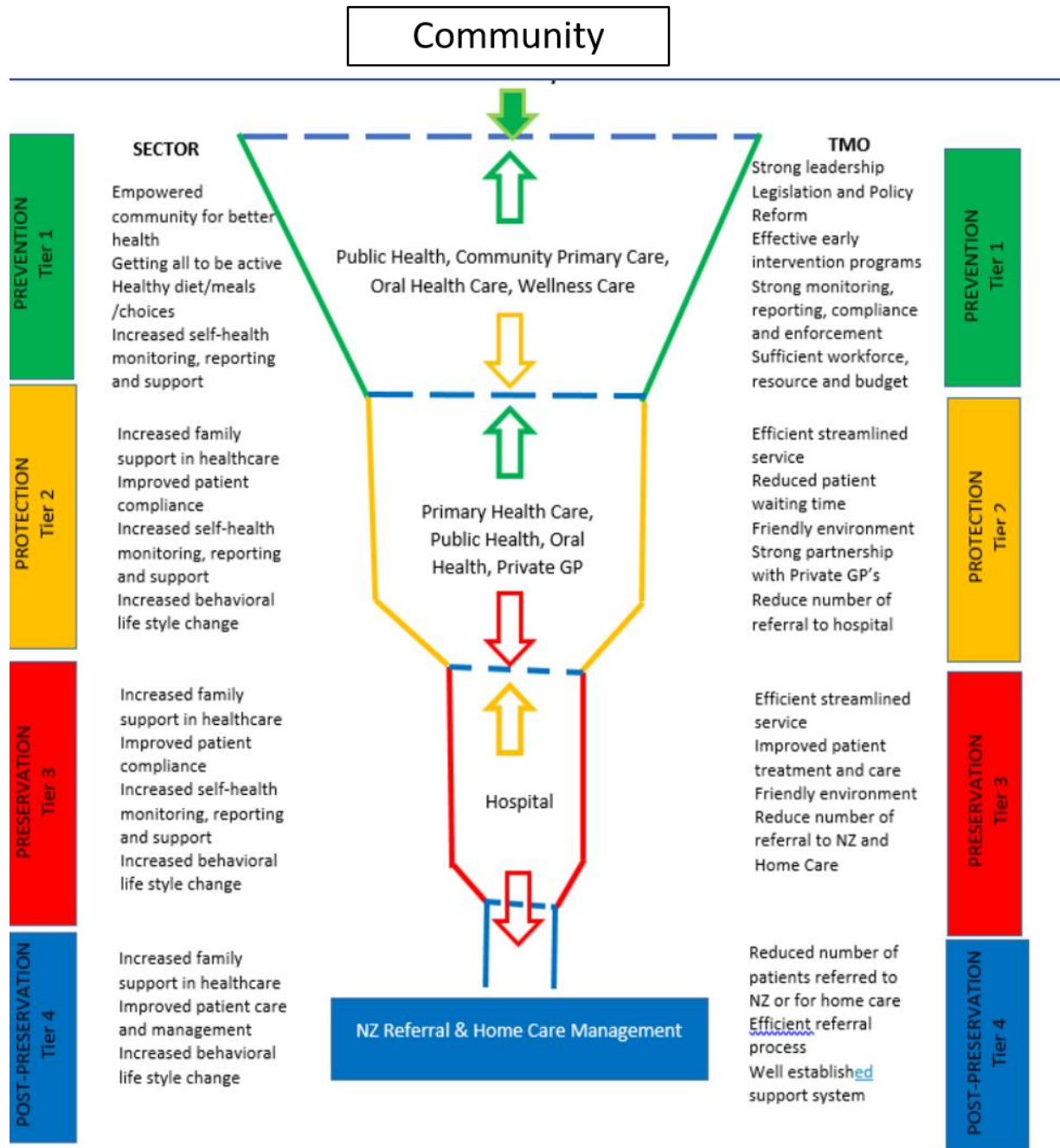
Te Marea Ora will embark to employ the **Te Kupenga Model** in delivering the national healthcare reorientation plan. A *kupenga* is a type of open-weave net used for fishing or gathering food. Just like a fishing net, the size of the net determines what it captures, including oversized fish. In the context of this model, we use the net metaphor to refer not to undersized fish but to individuals with various degrees of illness, from mild to severe comorbidities and chronic conditions, who are at risk of 'falling through the net'. The seriousness or severity of their conditions determines how far they may 'fall through the net' in terms of receiving adequate care.

The Te Kupenga model will serve as a net of support, consisting of a 4-Tier Funnel Model as illustrated below. This Model is specifically designed by TMO for the Cook Islands with the aim of reducing the number of admissions and premature deaths caused by uncontrolled levels of NCD, comorbidities, and chronicity amongst young and ageing population. The ultimate goal is to empower individuals to promote healthier lives and thereby alleviate the burden of NCDs on individual, families, and the country. As part of this objective, the Model is intended to keep those without NCDs (5,500 people diagnosed as at 2021) and those with a CVRA rating of under 10% outside of the Model, meaning they fall outside of Tier 1.

At each level of funnel, the **Net** represents all the prevention, mitigation, and healthcare management intervention plans that TMO and whole-of-society will implement to manage each patient within the Model and prevent them from falling further down through the Net into the next Tier. The objective is to

support and manage their NCD condition and push them back up through each level as they improve. It will be individuals with severe NCD conditions and with a CVRA rating of over 30% who will likely continue to weaken and fall through the Net to the lower Tiers, at which point TMO may eventually refer them to New Zealand or for homecare management.

The fundamental concept of the Te Kupenga Model will place a strong focus on a proactive approach to behavioral change, patient-centered and efficient healthcare services, and the development of a lasting patient-provider relationships throughout the entire Model, rather than relying on incidental and reactive services.



Tier 1 – Prevention

The Public Health (PH) serves as the 1st line of defense to **prevent** those with no NCD and those with ≤ 10% CVRA from entering the Model. This level will also integrate Community Primary Care, Oral Care Unit, and the Wellness Unit to enhance responsiveness and proactively promote preventative life-changing healthcare programs and further reducing the number of people seeking care in Primacy Care, Oral Health and Mental Health. At Tier 1, the overall aim is to reduce or prevent patients from being referred to Tier 2.

Note: Pre-Covid times of 2017 - 2019, on average about 2,000 patients visited the Tupapa NCD clinic and about 4,000 visited the Hospital NCD clinic annually. Also, on average for the same period about 12,000 people visited the Tupapa Primary Care and about 40,000 visited the Hospital. This includes repeat visits.

Proposed Preventative Life Changing Health Initiatives

- Enactment of the Public Health Act 2024 so that island health plans will be developed
- Develop new Regulations and execute the Public Health Act Implementation Plan
- Review of Prevention and Control of NCD Strategy
- Reform service delivery at Public Health and integrate community Primary Care, Oral Health Care and Wellness Unit to align to people-centered system
- Increase tax on tobacco, alcohol, and sugar sweet beverages to increase NCD Promotions Budget to fund more targeted awareness and screening programs, increasing compliance and enforcement – increasing the cost of health risk products resulting in reduced consumption
- Establish new budget for road safety, healthy school, “baby teeth matters” and baby friendly hospital programmes from tax increase on alcohol, sugar and sweetened beverages.
- Propose national polices on:
 - Extending the lunch hour by an extra 30 minutes for compulsory physical activity
 - Train and appointment of Health Safety Officer in work places to monitor tobacco and use of sugary products at work places
 - Ban of sugary drinks and health risk products at work places
 - Availability of safe drinking water stations in work places, schools, community and public areas
- Establish health self-management system to increase early detection and reporting
- Establish sustainable healthy meals initiatives in schools and work places
- Support community physical activity programs and sports association to advocate non-sugar drinks and stop/quitte smoking for sports teams
- Establish family empowerment programs towards behavioral life style change
- Increase community screening programs and develop early intervention plans
- Improve monitoring and evaluation of programs
- Increase quality assurance and audits on service delivery
- Prioritize legislative reviews and amendments
- Ensure sufficient capable workforce with capacity to deliver service
- Increase presence of health promotion teams/health improvement teams and community health nurses amongst the community
- Roll out of the healthy island projects and integrate into specific Healthy Island Plans
- Increase uptake on relevant vaccination programs – HPV for cancer prevention etc.

- Increase health literacy among patients so that they are able to manage their own health
- Hold community workshops on how to read nutritional values on food packaging for healthy meal choices for family and patients.

Tier 2 – Protection

The Primary Health Care (PHC including the Community NCD Clinic), Public Health (Mental Health and Men’s Health Clinic) and the Oral Health (OH), including Private General Practitioners for Rarotonga, serves as the 2nd line of defense to **protect**:

- non-severe NCD patients
- people with $\geq 11\%$ and $\leq 30\%$ CVRA rating
- non-severe men’s health and/or mental health condition
- non-severe oral health condition

At this level anyone with non-severe medical conditions must be reoriented back to Tier 1 or out of the Model and back into the community.

On Rarotonga it is the responsibilities of the PHC and Private General Practitioner’s (PGP) to improve and support majority of these patients, and be more responsive to provide efficient healthcare services to all walk-in and by appointment patients both for residents and visitors. Stronger partnership with the PGP’s is equally critical in delivering primary healthcare services to the wider community. Reorienting the service delivery to a people-centered system in accordance to the health need of the patient and developing a healthcare management pack with tools to support self-care management, monitoring, and reporting for early healthcare or clinical interventions are equally important. Establishing a longer-term doctor-patient relationship with the NCD Clinic at the PHC, Mental Health, Men’s Health, and Oral Health or at PGP is critical to increase close monitoring of patient progress at Tier 2. Access to patient information by PGP’s and other NGO’s that supports the delivery of related healthcare services be given access through formal arrangements. Patients with the same level of NCD condition and CVRA rating in the Pa Enea will be by direct doctor-patient teleconference consultation with the Charge Nurse in the Pa Enea.

Proposed Protective Life Changing Health Initiatives

- Create a friendly first impression experience for patients on arrival and while waiting
- Improve the triaging process – to include smoking, alcohol consumption and CVRA assessment and 5-10 minutes counselling sessions to discuss lifestyle changes for better health outcomes of patients
- Efficient receptionist customer services
- Healthy life promotional videos in health facilities on health risk factors and statistics on the impact of NCD and unhealthy behaviors to the health system and the country
- Reduce patient waiting time to under 30mins on normal days and must not exceed 60mins on a very busy day
- Integrate other appropriate screening (mental health, cancer) or a quick survey relative to NCD risk factors while patient is waiting for doctor consultation on physical activity, smoking, alcohol, dietary profile, salt and sugar intake

- Establish family empowerment programs towards behavioral life style change
- Develop personal healthcare management passport for patient
- Patients issued with healthcare self-monitoring equipment's for daily monitoring and reporting
- Increase quality assurance and audits to improve service delivery
- Increased skilled workforce with capacity and capability to deliver service
- Establish dedicated family clinics for children, men and woman with support systems
- Increase health literacy among patients so that they are able to manage their own health
- Empowering community leaders and health ambassadors to promote healthy living
- Hold community workshops on food and nutritional including how to read healthy values on food packaging for healthy meal choices and preparing meals that is quick, healthy and within budget

Tier 3 – Preservation

The Hospital Health Services (HHS) is the 3rd line of defense to **preserve** and provide patients with all appropriate treatment and care for a longer end of life, and where improvement to health condition is achieved then for the patient to be reoriented back to Tier 2. HHS provides secondary and part tertiary healthcare services to the Cook Islands population (including the Pa Enua) and visitors. Patients with severe NCD conditions and with $\geq 30\%$ CVRA rating are to attend NCD Clinics at the hospital for patients on Rarotonga and by direct doctor-patient teleconference consultation with Charge Nurses in the Pa Enua or by the flying doctor program.

TMO will prioritize self-healthcare pack and health profile access to patients in Tier 3 including patients from the Pa Enua for daily self-monitoring, management, and early reporting for any complications to provide early clinical interventions or admissions to the Rarotonga hospital.

The Emergency Department will continue to provide primary healthcare services for the public afterhours when the PHC services are not available to the public.

At Tier 3, the main objective is to provide patients with a comfortable and satisfactory experience when admitted to the hospital ward with the best possible evidence based clinical care. Though very few patients at Tier 3 can be reoriented back to Tier 2 but the clinicians, nursing staff and allied health providers must continue to provide the best care and not to give up on these patients and families.

Proposed Preservative Life Changing Health Initiatives

- Operational key equipment's readily available
- Improve referral process between Primary Health Care and Hospital Health Services;
- Strengthen family empowerment programs towards improved behavioral life style
- Use of personal healthcare management package
- Patient continue to use healthcare self-monitoring equipment's for daily monitoring and reporting
- Increase quality assurance and audits to improve service delivery
- Increased skilled workforce with capacity and capability to deliver service
- Effective and efficient inter-island and international referral services
- Increase health literacy among patients and their families so that they are able to support patient living with NCDs at home

- Hold community workshops on how to read nutritional values on food packaging for healthy meal choices for families and patients.
- Policy interventions to promote all workers to undertake annual health screenings so that workers living with NCDs are supported at workplaces

Tier 4 – Post-Preservation

Tier 4, **Post- Preservation** stage is the last stage of the Model because at this stage the condition of the patient is not going to improve or the care required is beyond the scope of the medical services at the Rarotonga hospital. At this stage the patient and the family will have to make a shared decision with the clinicians for referral to New Zealand or for home based palliative care.

The objective is to continue providing the best clinical care and where possible to reorient the patient back to Tier 3 if the patient improved unexpectedly or by miracle.

The Community Health Nurses, NCD Doctor, Te Vaerua and Private Homecare Service Providers are to provide the necessary support and clinical management of patients when outside of the hospital. At this level, very few patients will likely regain improvement to their health condition but clinicians and all support services must continue to apply the principles of a patient centered system to the very end.

Proposed Preservative Life Changing Health Initiatives

- Efficient and effective wrap around support services readily available
- Empowered family for end-of-life comforting behavioral care
- Patient continue to use healthcare self-monitoring equipment's for daily monitoring and reporting
- Increase quality assurance and audits to improve service delivery
- Skilled workforce with capacity and capability to deliver service
- Effective and efficient inter-island and international referral services
- Increased family care support programme to empower family members to care for their loved ones

Delivery Plan

Below describes the intended delivery plan at each component of the stages of the reorientation plan:

Tier 1 - At Community Level				
Prevent				
Activities	Public Health	Primary Health Care	Oral Health	Community & Partners
Self-empowerment	Health Promotion	NCD Home Visit	OH Appointment	Planned Program
Life-changing choices	Health Awareness	NCD Home Visit	OH Appointment	Planned Program
Self-monitoring/ reporting	Clinic/Home visit	Monitoring devices	OH Appointment	Online M&E system
Manage-my-health	Clinic/Home visit	MedTech Evolution	MedTech Evolution	
Support system	Clinic/Home visit	NCD Community Clinic	Early intervention	Early intervention support programs
Health Passport	Clinic/Home visit	Health compliance	OH compliance	
Family Support	Home visit	Family intervention	Family intervention	Family Support Programs
Community Support	Health Awareness	Media comms	Media comms	Media comms
Monitoring System	HIS Weekly Report	HIS Weekly Report	HIS Weekly Report	HIS Weekly Report
Tier 2 - At Health & Private Facilities				
Protect				
Sector	Public Health	Primary Health care	Oral Health	Private GP
Self-empowerment	Health Promotion	PHC Visit – Triaging	OH Visit	PGP Visit
Patient comfort	Reduce waiting time	Reduce waiting time	Reduce waiting time	Reduce waiting time
Self-monitoring/reporting	Clinic/Home visit	Monitoring devices	OH Appointment	Monitoring devices
Life-changing choices	Health awareness	PHC Visit – videos	OH Visit - video	PGP Visit
Patient Empowerment	Health Promotion	PHC/NCD visit	OH Appointment	PGP Visit
Health Passport	Clinic/Home visit	Check health compliance	Check OH compliance	Check health compliance
Support system	Early intervention	Early intervention	Early intervention	Early intervention
Family Support	Home visit	Family intervention	Family intervention	Family intervention
Community Support	Health Awareness	Media comms	Media comms	Media comms
Monitoring System	HIS Weekly Report	HIS Weekly Report	HIS Weekly Report	HIS Weekly Report
Tier 3 - At Hospital				
Preserve				
Sector	Emergency Department	After hour PHC services	Special clinics	
Emergency Walk-In	Ambo pick-ups/walk in triaging	Walk ins– Triaging	Appointment	
Patient comfort	Reduce waiting time	Reduce waiting time	Reduce waiting time	

Emergency Admission	Quick response and referral/admission	Quick response and referral/admission	Quick response	
Severe NCD/30%+ CVRA	Immediate management/admission/referral	Referral to Specialist clinic	Personalized management/care plans	
NCD Monitoring	Early intervention and expedited review	Early intervention and expedited review	Early intervention and expedited review	
Patient Empowerment	Public Health Nurse and NCD Doctor home visit	Public Health Nurse and NCD Doctor home visit	Public Health Nurse and NCD Doctor home visit	
Patient Compliance	Check health compliance	Check health compliance	Check health compliance	
Support System	Early intervention	Early intervention	Early intervention	
Family Support	Family intervention	Family intervention	Family intervention	
Monitoring System	HIS Weekly Report	HIS Weekly Report	HIS Weekly Report	
Tier 4 - At Home Care or Referral to NZ		Post Preservation		
Sector	TMO	Home Care	Te Vaerua	NZ
Support Systems	Home Visit/Re-admit	Home Visit	Home Visit/Bed	TMO Referral
Family Support	End of Life Briefing	End of Life Preparation	Family Empowerment	
Family Life Change	Family Conference	Family Conference	Family Conference	

NCD Cost Effective Initiatives

Non-Communicable Diseases (NCDs) represent a significant global health challenge, and addressing them requires a range of cost-effective initiatives. Here are some of the identified key cost-effective initiatives to tackle NCDs:

Risk Factors	Policy Options/Interventions
Tobacco Use	<ul style="list-style-type: none"> • Increase tobacco excise tax to reduce affordability and consumption • Enact Legislation or Regulation: <ul style="list-style-type: none"> ➤ to ban importation and sale of vaping instruments ➤ for no smoking zones in all indoor work places, public places, and public transport ➤ to ban all forms of tobacco advertising, promotion, and sponsorships ➤ to license sales of tobacco ➤ increase smoking age from 18 to 21 years • Consider New Zealand's policy to prohibit sales of tobacco to anyone born after 1 Jan 2009.

Harmful Use of Alcohol	<ul style="list-style-type: none"> • Increase alcohol excise tax to reduce affordability and consumption or reduce the duty free allowance of tobacco products per visitor/user • Control Purchase Operations • Research in to the Cook Islands ‘drinking culture’ • Research how to reduce alcohol-related accidents/MVA • Work with Road Safety
Unhealthy Diet	<ul style="list-style-type: none"> • Issue media awareness of unhealthy status • Publish data on health status • Publish dietary guideline • Issue national policies on dietary requirements for schools and government functions • Advocate for healthy diet • Clinician and patient consultations • Reduce salt and sugar intake • Accentuate positive models of healthy eating • Research what’s working/what’s not working? • Motivational Interviewing training for all staff • Celebrate and reward success
Physical Inactivity	<ul style="list-style-type: none"> • Publish data on obesity • Issue media awareness of the benefit of keeping active • Issue national policies for compulsory physical activity during working hours • Issue school policy for appropriate compulsory physical activity for students • Sports federation support of sports for all • Integration of cultural dancing as a form of physical activity • Whole of society support to keep everyone active
Cardio Vascular Disease	<ul style="list-style-type: none"> • Publish data on cardiac heart disease • Raise awareness on the causes and how to manage • Complete the CVRA for all eligible population’ • Provide moderate and high-risk patients with management plan • Provide check-up plans
Diabetes	<ul style="list-style-type: none"> • Publish data on diabetes • Raise awareness on the causes and how to manage • Issue diabetes monitoring equipment for self-monitoring • Provide patient with management plan • Undertake 6 monthly full check-up

Cancer	<ul style="list-style-type: none"> • Publish data on cancer • Increase awareness on HPV vaccination for girls and boys • Increase prevention through hepatitis B immunization to prevent liver cancer • Increase prevention to cervical cancer by increasing pap smear and screening, and self-testing options. • Timely treatment of pre-cancerous lesions • Increase prevention of bowel cancer by increased men's health screening • Stress reduction; deep breathing; practical lifestyle changes
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Monitoring and Evaluation

- Continuous monitoring, evaluation, and learning integrated into the implementation of the reorientation plan to enable adaptive management and evidence-based decision-making to achieve better health outcomes.
- Continuous collaboration with regional and international partners, including the World Health Organization, is crucial for leveraging technical expertise, resources, and best practices.

Expected Outcome	Baseline	Source
▪ Reduced the rate of childhood obesity	19%	School Physical Examination Report 2019
▪ Reduced NCD premature mortality	70%	National Health Information Bulletin 2019-2020
▪ Improve average life expectancy	86 female 82 male	National Health Information Bulletin 2019-2020
▪ Maintained Physically fit Cook Islanders	77.4% met WHO recommendation for physical activity	STEPS Report 2022
▪ Improve natural teeth retention	78.3%	STEPS Report 2022