

Ngāti Porou Hauora

The wider economic benefits of providing health services

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Background

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Acknowledgement

This report was developed by BERL for Ngāti Porou Hauora.

Ngāti Porou Hauora would like to acknowledge the contribution that BERL has made to our understanding of the impact of NPH on the local economy. We would like to acknowledge the many people who contributed relevant information.

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Summary

Ngāti Porou Hauora is the main provider of health services on the East Coast - from Potikirua near Hicks Bay to Te Toka-a-Taiau – an area of approximately 200 kilometres. The Gisborne district is remote and sparsely populated, and Ngāti Porou Hauora has attempted to alleviate the issues associated with peoples’ inability to access health services in remote, rural areas by providing community health centres throughout their rohe. The services provided at these clinics are at no cost to enrolled patients.

The provision of health services through Ngāti Porou Hauora has a positive impact on the economic and social well-being of people on the East Coast, as shown in Table 1.1 below.

Table 1.1 Impact of Ngāti Porou Hauora

Value	Costs
Outputs	Financial
<ul style="list-style-type: none"> • Seven community health clinics • Nearly 9,000 enrolled patients • Over 56,000 GP consultations • 5,100 consultations for under 5 year olds • Directly employing people for 100 Full-Time jobs • Total employment impact of 150 Full-Time jobs • Annual total economic impact just under \$14m in GDP to the district 	<ul style="list-style-type: none"> • Annual operating costs of \$9.6m
Outcomes	
<ul style="list-style-type: none"> • Primary care services available to 11,000 people (25% of resident population) • Breast screening coverage up to 66% • Cervical cancer screening up to 71% • Cardiovascular disease risk assessments up to 33% • Immunisations for 2 year olds up to 89% 	
Opportunity Costs Avoided	
<ul style="list-style-type: none"> • Reduced health status of population as health services become inaccessible • Increased costs resulting from delayed and deferred health interventions • Transport costs to access services more than 170km away 	

The presence of Ngāti Porou Hauora in the Gisborne district generates economic activity and results in expenditure in the local economy. This occurs through Ngāti Porou Hauora spending money to operate as a health service provider, and through their staff spending and saving their income. Ngāti Porou Hauora employed approximately eight percent of the health sector workforce in the Gisborne district in 2014, and generated approximately eight percent of the Gross Domestic Product (GDP) from this sector.

Economic activity also occurs through health professionals visiting Gisborne to attend various meetings and audits at Ngāti Porou Hauora, and through Ngāti Porou Hauora being involved in research and development, and the professional development of health professionals, including students.

Ngāti Porou Hauora approached BERL to undertake an economic impact assessment of the provision of their services. This assessment determined that the total economic impact of the activities of Ngāti Porou Hauora on the Gisborne economy is an additional \$13.7 million in GDP in 2014 (2014\$ million) and the employment of an additional 152 Full-Time Equivalents (FTEs, people who work 30 hours or more per week).

The ability to access free health services in remote, rural areas is a major benefit to individuals and their whanau. This is because success in improving the health and well-being of enrolled Ngāti Porou Hauora members also has a positive effect on others. These externality benefits can include having a positive impact on the well-being of other family and community members, improved social infrastructure, and increased equality. Reduced pressures on other health and community services from the overall improvement in well-being of the enrolled population of Ngāti Porou Hauora may also result.

The services offered by Ngāti Porou Hauora enable people to live well and live longer, through preventative health measures and early detection. These measures also lead to avoided costs, as early detection is an opportunity to contain costs. Early detection can lead to successful treatment and/or can reduce the need for secondary and specialist care including hospitalisation. This reduction in costs is borne by the state, as well as the community and individuals, in a similar manner as the cost of hospitalisation and treatment is borne by these parties.

From an economics point of view the value of Ngāti Porou Hauora lies in the contribution it makes towards its goal, and this is the core outcome against which the success, or the value, of Ngāti Porou Hauora should be measured. The financial sustainability of Ngāti Porou Hauora and the services it provides is not the goal of this organisation but a necessary pre-requisite. The goal of this organisation relates to the health services it provides and the demands of its clients, funding partners, and other key stakeholders.

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1 The economic impact of Ngāti Porou Hauora

Ngāti Porou Hauora provides an integrated health service for people living within the Ngāti Porou rohe. Established in 1995 after considerable consultation with the local community, Ngāti Porou Hauora became a subsidiary of Te Runanganui O Ngāti Porou and a Charitable Trust in 2011.

1.1 Why was Ngāti Porou Hauora established

The Gisborne district is remote and sparsely populated. Ngāti Porou Hauora has attempted to alleviate the issues associated with peoples' inability to access health services in remote, rural areas by providing community health centres throughout their rohe. Ngāti Porou Hauora is the main provider of health services on the East Coast - from Potikirua near Hicks Bay to Te Toka-a-Taiau – an area of approximately 200 kilometres. These health services have been provided by Ngāti Porou Hauora to the people of the East Coast for some time - firstly as a rural waiapu and now as an incorporated society.

The health services offered include general practice consultations, maternity, mental health, quit smoking, immunisation, cervical smears, physiotherapy, home-based support services, health of older people, occupational health, dental health and diabetes care.

Community health centres are located in Gisborne, Ruatoria, Tokomaru Bay, Tolaga Bay, Te Puia Springs, Tikitiki, and Te Araroa. The most distant Ngāti Porou Hauora clinic is a three hour drive from Gisborne hospital. The services provided at these clinics are at a low or no cost to enrolled patients, and Tairāwhiti District Health Board provides funds to support this.

Since its inception, Ngāti Porou Hauora has been owned and managed by a board of elected community members. Ngāti Porou Hauora was originally established in 1995 as an incorporated society. At this time, Ngāti Porou Hauora was the only iwi health organisation to offer hospital care as it inherited the hospital from the Ministry of Health.

The main hospital that Ngāti Porou Hauora operates is located in Te Puia Springs. Te Puia Springs is a location long associated with healing, medicinal and therapeutic uses due to being an ancient pa and kainga. The hospital was built in 1907 in response to an outbreak of typhoid.

In 2012, Ngāti Porou Hauora became part of the Te Runanganui o Ngāti Porou Group of subsidiaries. TRONPnui is Ngāti Porou Hauora's parent body and is the mandated iwi organisation for Ngāti Porou. TRONPnui consists of 14 elected representatives from seven Rohenga Tipuna.

1.1.1 The objectives of the service Ngāti Porou Hauora provides

The aim of Ngāti Porou Hauora Incorporated is to ensure the ongoing locally controlled provision of accessible, sustainable, appropriate, high-quality, integrated health services to all people within the Ngāti Porou rohe.

The Director General of Health argues that there needs to be shift away from the traditional health care model - where the health system waits for people to become unwell and then they go to hospitals and clinics - to a health system that partners with other social services, and actively engages with people and their communities to deliver health services that support people to live well at home and for as long as possible.¹

¹ Ministry of Health. (2014). Ministry of Health Statement of Intent 2014-2018. Ministry of Health: Wellington.

This is the model of care that Ngāti Porou Hauora provides. The principles of equity and equality; efficiency and effectiveness; participation and information; and access and affordability guide their service delivery that focuses on health promotion and a holistic approach to well-being.

Measuring the economic cost, or value, of a service such as the provision of a health service is difficult.

The standard approach is to adopt a financial perspective and measure accounting costs.

This approach focuses on the monetary cost of the provision of the service and measures the number of inputs required to generate a specific number of outputs, and the cost of providing that number of outputs.

Adopting this standard accounting costs approach we derive the following information for the financial year ending in June 2014:

- Ngāti Porou Hauora had an operating expenditure of \$9.6 million and capital expenditure of \$25,000. In total, Ngāti Porou Hauora expenditure was \$9.62 million.
- Around \$7.3 million of total expenditure was spent paying for 146 part-time and full-time staff, and contractors. This is the equivalent of employing 101 Full-Time Equivalents (FTEs).

The Ministry of Health notes there is growing recognition within New Zealand and internationally that some policy issues require a number of perspectives including health, environment, social and economic impact assessments. Ngāti Porou Hauora approached BERL to undertake an economic impact assessment of the provision of their services. This assessment follows earlier reviews that have focused on the sustainability of Ngāti Porou Hauora and what health services can and should be delivered.

Using multiplier analysis, an economic impact assessment of the services provided by Ngāti Porou Hauora in the Gisborne district has been undertaken.

Multiplier analysis uses multipliers derived from inter-industry input-output tables for the Gisborne district and New Zealand.

Multipliers allow us to identify the direct, indirect and induced effects of the additional activity or expenditure generated by Ngāti Porou Hauora.

This activity is measured in terms of output (Gross Domestic Product in 2014 dollars million) and employment (Full-Time Equivalents).

The direct economic impact of the operations of Ngāti Porou Hauora in the Gisborne district in 2014 was \$8.9 million in expenditure, \$0.7 million in expenditure is spent outside of the Gisborne District and therefore not included in the economic impact. This expenditure directly generated an additional \$8.2 million in Gross Domestic Product (GDP) in the Gisborne economy, and lead to the employment of 101 Full-Time Equivalents (FTEs).

The presence of Ngāti Porou Hauora in the Gisborne district generates economic activity and results in expenditure in the local economy. This occurs through Ngāti Porou Hauora spending money to operate as a health service provider, and through their staff spending and saving their income.

Economic activity also occurs through health professionals visiting Gisborne to attend various meetings and audits at Ngāti Porou Hauora, and through Ngāti Porou Hauora being involved in research and development, and the professional development of health professionals including health science students.

This activity is captured through the provision of accommodation, food and beverage services, and transport.

1.2 Economic impact assessment

The total economic impact of the activities of Ngāti Porou Hauora on the Gisborne economy is an additional \$5.5 million in GDP in 2014, and the employment of an additional 51 FTEs. This impact includes multiplier effects. This means while Ngāti Porou Hauora directly employed 101 FTEs in 2014, another 51 FTEs were employed in the Gisborne district as a result of Ngāti Porou Hauora.²

Table 1.1 Economic impact of Ngāti Porou Hauora, Gisborne district, 2014

	Direct	Total
Expenditure (2014\$m)	8.9	14.9
GDP (2014\$m)	8.2	13.7
Employment	101	152

Source: BERL

To provide some context to this discussion, the following information is provided on the economy of the Gisborne district.

1.2.1 The operation of Ngāti Porou Hauora within the Gisborne economy

In 2014, approximately 18,900 FTEs were employed in the Gisborne district, and the economy generated an estimated \$2,113 million in GDP. The health sector in this district employed approximately 1,260 FTEs in 2014, and generated an estimated \$103 million in GDP. The spread of this employment and the associated GDP is shown in the table below.

² A detailed explanation of the methodology used to undertake an economic impact assessment is provided in the appendix of this report.

Table 1.2 Health sector employment and GDP, Gisborne region, 2014

Industry	FTEs	GDP
Hospitals (Except Psychiatric Hospitals)	811	65.9
Psychiatric Hospitals	0	0.0
General Practice Medical Services	99	8.1
Specialist Medical Services	12	1.0
Pathology and Diagnostic Imaging Services	29	2.4
Dental Services	41	3.4
Optometry and Optical Dispensing	12	1.0
Physiotherapy Services	7	0.6
Chiropractic and Osteopathic Services	5	0.4
Other Allied Health Services	207	16.8
Ambulance Services	21	1.7
Other Health Care Services n.e.c.	17	1.3
Health sector	1,262	103

Source: BERL

These estimates of employment and GDP indicate that Ngāti Porou Hauora employed approximately eight percent of the health sector workforce in the Gisborne district in 2014, and generated approximately eight percent of the GDP from this sector.

1.3 Ngāti Porou Hauora and opportunity costs

Success in improving the health and well-being of enrolled Ngāti Porou Hauora members also has a positive effect on others, and these externality benefits can include having a positive impact on the well-being of other family and community members, improved social infrastructure, and increased equality. Reduced pressures on other health and community services from the overall improvement in well-being of the enrolled population of Ngāti Porou Hauora may also result.

However, if funding is allocated to Ngāti Porou Hauora then this funding is not being allocated to other health care services. The benefits of providing or accessing these services therefore needs to outweigh the costs. These costs are borne by individuals, society, the broader health system, and the Government.

Opportunity cost of not accessing health care or going to the doctor, and the impact on overall health status

An individual who makes a rational decision regarding their health and well-being will consider whether they should access health services or use their time and effort in other ways.

The distance between Puhī Kaiti and Matakaoa is approximately 170 kilometres, and it has been argued that it can take an average of three hours to travel from Gisborne to Matakaoa. This time and distance is impacted by road and weather conditions, which can vary throughout the year. In addition, access to a vehicle and a lack of public transport can impact on people’s access to health care services.

Enrolled patients at Ngāti Porou Hauora can access health care services at no cost. This is a major benefit to individuals of the provision of Ngāti Porou Hauora services. For those who are not enrolled and access the community health centres as casual patients the fees are the lowest in the Gisborne district. The casual patient fees are \$10 for a child between the ages of 6 and 17 years old; \$20 for an adult with a community services card; and \$50 for an adult without a community services card. Children under the age of six are free.

- In the 2011-2012 financial year there was 56,073 GP consults by Ngāti Porou Hauora members. Of this number, 5,132 consultations were for patients who were aged zero to four years old.³
- For the purposes of this example we will assume that each of the 50,941 GP consultations paid \$17.50 through Ngāti Porou Hauora as an enrolled patient and \$49.50 for a casual consultation in Gisborne as they were unable to access the services of Ngāti Porou Hauora.⁴
- The difference in cost to the individual is approximately \$32 per consultation.
- If the same number of people were to consult a GP paying the additional \$32, an additional \$1.6 million would have been paid by individuals to access health care services.

This example illustrates the higher cost that would be borne by individuals if they were unable to access Ngāti Porou Hauora services.

In addition, if individuals do not access health services due to the additional cost, then the cost borne by individuals would be greater due to their potentially lower health status.

Opportunity cost of not undertaking preventative health checks or being screened for preventable illnesses, or receiving advice on physical or mental health and well-being including lifestyle factors such as smoking cessation.

Regular visits to the doctor and the dentist, it is argued, are recommended to test for and prevent health issues.

The benefits of preventative health care include improvements in population health and economic outcomes, and the associated impact on family and/or community life. In turn the costs associated with individuals not undertaking preventative health measures include suffering from a chronic disease and being debilitated or dying young, or the quality of their life deteriorating and the associated impact on labour force participation, and family and/or community life.

- There are different levels of prevention including primary prevention – maintaining a healthy lifestyle and immunization – secondary prevention – screening for cancer and diabetes checks – and tertiary prevention which is procedures to prevent the spread of disease or reduce its impact through treatment and rehabilitation.
- The Tairāwhiti District Health Board Annual Plan for 2014-2015 notes the importance of good oral health as an integral component of lifelong health and quality of life. This plan also states that good oral health demonstrates early contact with health promotion and prevention services.⁵

It is difficult to measure the chronic diseases and deaths that may have been prevented due to access to Ngāti Porou Hauora services - these are avoided costs. However, a cohort study of Ngāti Porou Hauora patients between 2001 and 2007 demonstrated that patients enrolled with Ngāti Porou Hauora over a five year period had a 17 percent reduction in avoidable hospitalisations, compared to a 9.8 percent reduction for Tairāwhiti DHB enrolled patients over the same period.⁶ This is one indication of avoided costs.

³ Sapere Research Group. (2013). Review of Health Services on the East Coast. (<http://www.tdh.org.nz/assets/Media/Review-of-health-services-on-the-East-Coast.pdf>).

⁴ The data available on GP consultations is broken down into five year age groups; this makes it difficult to separate GP consultations out into those free visits for under six year olds, and those of paying adults.

⁵ Tairāwhiti DHB. (2014). Tairāwhiti DHB Annual Plan 2014-2015. Tairāwhiti DHB: Gisborne.

⁶ Tan. L. (2009). *Analysis of ASH in Cohort of NPH Patients 2001-2007*. Unpublished.

Another indication is statistics on the delivery of health care services by Ngāti Porou Hauora in 2012. These can be used to illustrate preventative health care measures that have associated avoided costs. These statistics indicate improvements in the number of screenings being carried out for cervical and breast cancer, an increase in cardiovascular disease risk assessments, and an increase in the number of immunisations being carried out among children.

Opportunity cost of increased hospital admissions due to not undertaking preventative health checks or seeking medical advice early enough.

Early detection is an opportunity to contain costs. Early detection can lead to successful treatment and/or can reduce the need for secondary and specialist care including hospitalisation. This reduction in costs is borne by the state, as well as the community and individuals, in a similar manner as the cost of hospitalisation and treatment is borne by these parties.

In the 2011-2012 financial year there was 3,076 admissions into Gisborne hospital from Ngāti Porou Hauora enrolled patients.

- During the same period there were 1,290 admissions into Te Puia hospital.
- At this point in time, there were 11,352 enrolled patients with Ngai Porou Hauora, which was approximately 25 percent of the total Tairāwhiti District Health Board population.⁷

The number of hospitalisations could potentially have been higher without early detection or regular monitoring. This example illustrates the higher costs that could be borne by the state, the community and individuals, and the potential impact on health outcomes. Gisborne is a base hospital, and if patients have to receive specialist treatment and/or care that is not available in Gisborne then costs are incurred.

In their review of the health services on the East Coast, Sapere attempted to assess the complexity of the health needs of this population. One of the major limitations that they identified in undertaking this analysis is that they could only measure what they could observe was happening in the services. “If there are access barriers, then this approach will underestimate the number of people with complex needs.”⁸ Despite this limitation they argue that patients with complex health needs comprise nearly 20 percent of the East Coast population. The three criteria for complex health needs include people who are:

- Visiting the GP more than twice as often as expected for their age and sex
- Having more than one acute hospital inpatient event in a year
- Having more than one new outpatient episode of care in a year.

⁷ Sapere Research Group. (2013). Review of Health Services on the East Coast. (<http://www.tdh.org.nz/assets/Media/Review-of-health-services-on-the-East-Coast.pdf>).

⁸ Ibid.

Table 1.3 Potential framework of the value of Ngāti Porou Hauora

Value	Costs
Outputs	Financial
<ul style="list-style-type: none"> • Seven community health clinics that provide public and clinical health services • Four main business units, including primary health, hospital services (including aged care), mental health, and support services • 8,980 enrolled patients in 2014 • 56,073 GP consults in 2012, including 5,100 consults for those aged 4 and under • Directly employing people for 100 Full-Time jobs • Total employment impact of 150 Full-Time jobs • Annual total economic impact just under \$14m in GDP to the district 	<ul style="list-style-type: none"> • Casual patient fees are \$10 for 6-17 year olds, \$20 for an adult with a community services card, and \$50 for an adult without a community services card • Operating costs of \$9.6 million to June 2014
Outcomes	
<ul style="list-style-type: none"> • Primary care services provided to approximately 11,000 people, or around 25% of resident population • 83% of enrolled members are Māori, as at 2012. High engagement of Māori, as 50% of resident population in Gisborne region identify as Māori • Healthcare delivered in a holistic manner consistent with the vision, values and strategic pou of Ngati Porou • Improvement in breast screening coverage from 51% in 2009, to 66% in 2012 • Improvement in cervical cancer screening from 65% in 2009, to 71% in 2012 • Above target of 90% in ischaemic CVD detection • Improvement in cardiovascular disease risk assessment from 14% in 2009, to 33% in 2012 • Improvement in childhood immunisations for 2 year olds from 59% in 2009, to 89% in 2012 	
Opportunity Costs Avoided	
<ul style="list-style-type: none"> • Reduced health status of population as health services become inaccessible • Increased costs resulting from delayed and deferred health interventions • Transport costs to access services more than 170km away 	

2 Broader considerations of value

This is the economic impact assessment that BERL has been asked to provide. However, we would argue that a conventional measure of outputs translated in to monetary benefits and weighed again financial costs to determine the sustainability or “value” of Ngāti Porou Hauora appears to be an inappropriate assessment.

Ngāti Porou Hauora is owned by ngā whanau and hapu of Ngāti Porou to provide services to everyone in the rohe, and to improve the health status and increase the life expectancy of the resident population.

The nature of the services provided requires that the measurements of outputs are complimented with indicators of outcomes that illustrate the associated benefits of improved population health.

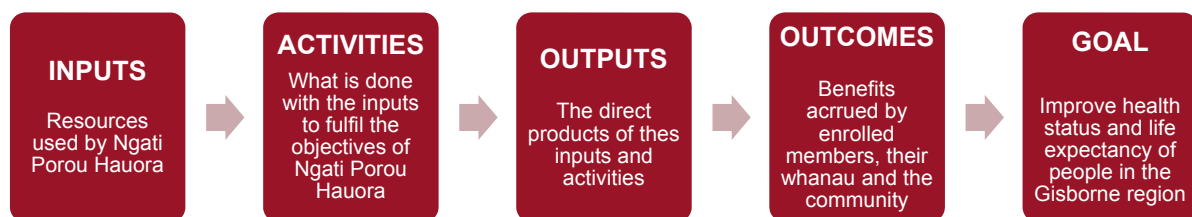
The financial sustainability of Ngāti Porou Hauora and the services it provides is not the goal of this organisation but a necessary pre-requisite. The goal of this organisation relates to the health services it provides and the demands of its clients, funding partners, and other key stakeholders.

- Ngāti Porou Hauora offers services to everyone within the rohe as a “by Māori, for all” health service provider. It delivers health and disability services to predominantly but not exclusively Māori clients (83 percent of enrolled patients are Māori).
- The kaupapa and delivery framework of Ngāti Porou Hauora distinguishes it from other providers. Health services are out in the community, on marae, in the local hall, at the sports field and in homes and workplaces.

The structure, philosophy of care and service delivery of Ngāti Porou Hauora is outcomes focused. This focus has facilitated the move of Ngāti Porou Hauora into the role of a Primary Health Organisation (PHO) and their implementation of the Primary Health Care Strategy and He Korowai Oranga: The Māori Health Strategy.⁹

From an economics point of view the value of Ngāti Porou Hauora lies in the contribution it makes towards its goal, and this is the core outcome against which the success, or the value, of Ngāti Porou Hauora should be measured. Figure 2.1 below illustrates how the outcomes of Ngāti Porou Hauora are linked to their activities as well as inputs and outputs, and how these together move towards the overall objective of the services that Ngāti Porou Hauora provides (illustrated here as the goal).

Figure 2.1 Outcomes of Ngāti Porou Hauora activities



⁹ Abel, S., Gibson, D., Ehau, T., & Tipene Leach, D. Implementing the Primary Health Care Strategy: A Māori Health Provider Perspective. Ngāti Porou Hauora: Te Puia Springs.

2.1 Appropriate measures

We could focus on GDP, the latest Census figures on population change between 2006 and 2013 in the Gisborne Region, or labour force statistics such as the median household income and unemployment rate in a particular quarter of the year, but these measures are incomplete and only tell part of the story.

In addition, we could focus our discussion on health care, the provision of health care services, the meeting of health targets and the performance of DHBs against each other and on balanced scorecards as these are all valid, objective measures, but again these measures are incomplete and only tell part of the story as they focus on inputs and outputs.

Instead, what we will argue is that while financial costs and descriptive statistics are a valid method of analysis, there are other measures that are equally appropriate and equally important to an organisation such as Ngāti Porou Hauora, with a holistic focus on health and well-being at an individual, whanau and community level.

The OECD *Better Life Initiative* focuses on the aspects of life that matter to people and that shape their lives. This initiative has found that being healthy and living a long life free of illness and disability are among the top aspects that people value the most in their lives. Being healthy also affects the probability of having a job, earning an adequate income and actively participating in a wide range of social activities.

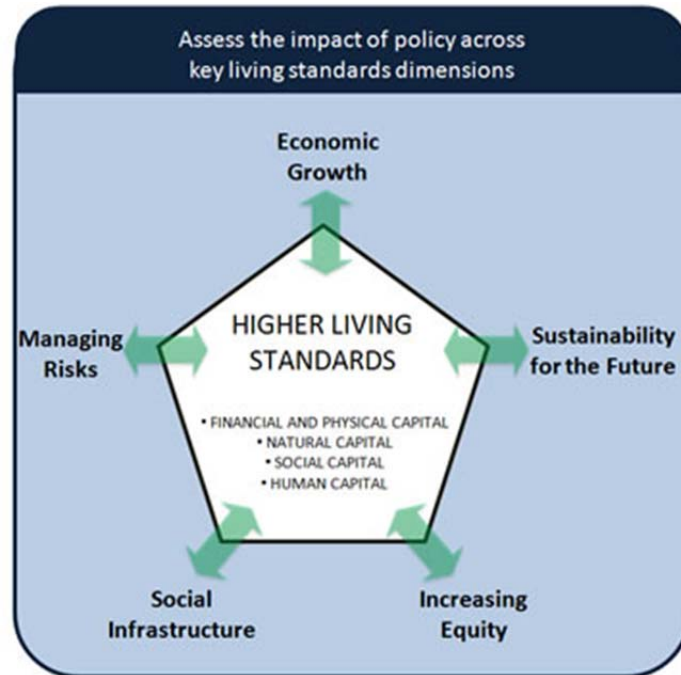
This initiative puts people at the centre of the framework – their income and wealth, their jobs and housing conditions, their health and skills, the time they devote to their families and friends, their ties with other people in their community, how much they trust institutions and their capacity to act as informed citizens, the quality of the environment, and their feelings and life evaluations. These measures focus on well-being not only as a utility function, but as a subjective measure that considers how people think and feel about their lives.

Research such as this is impacting on the New Zealand policy environment, and these measures are growing in importance from a public policy point of view. For example, the New Zealand Treasury is now attempting to “think beyond economic growth and consider the broader range of human, social and environmental factors that contribute to well-being.”¹⁰ A key part of this thinking is the Treasury’s Living Standards Framework. This framework includes measures that focus on well-being, and acknowledge that subjective and objective measures are important in determining how we as individuals and members of a group, collective or nation are doing.

This approach also indicates that measuring progress means considering whether things are moving in the right direction or not. It does not require the announcement of whether a certain level or pattern of activity is sustainable.

¹⁰ The Treasury. Higher Living Standards. (www.treasury.govt.nz/abouttreasury/higherlivingstandards).

Figure 2.2 The Treasury Living Standards Framework



This framework provides Ngāti Porou Hauora with the opportunity to use their own measures of value, service provision, and sustainability to engage with the Ministry of Health, Health Workforce New Zealand, and others about the importance of providing health care services in a sparsely populated, rural region using a common dialogue.

However, if this approach is adopted, an early decision must be for whom are Ngāti Porou Hauora measuring progress? Or who are the possible audiences that Ngāti Porou Hauora are measuring progress for? We would argue that the outcomes sought by Ngāti Porou Hauora are driven by a variety of stakeholders including:

- The Government, through the Minister of Health and Ministry of Health
- Ngāti Porou, through the vision, values and strategic pou of Ngāti Porou
- Clients, through their health needs and the rurality of the region they live in.

Each group has different requirements and Ngāti Porou Hauora already serves them in different ways.

Appendix A Services provided

The services provided by Ngāti Porou Hauora

All of the community health centres on the East Coast has a workforce made up of a GP, practice nurse, rural health nurse, receptionist, and kaiāwhina. The exception is in Tawhiti, where no kaiāwhina is currently present.

Routine primary medical and nursing services are delivered at each community health centre. These services include doctor and nursing consultations, health promotion, screening such as immunisations, cervical smears, diabetes education, monitoring and treatment, cardiovascular risk assessments, sexual health education, and health checks. The following discussion focuses on some of the services provided at the individual community health centres.

Puhi Kaiti Medical Centre in Gisborne operates five days a week, and has medical services on-call in the evenings and weekends. The following services are offered:

- Doctor consultations
- Nursing consultations
- Health education/promotions
- Immunisations
- Cervical smears
- ACC consultations
- Diabetes education
- Asthma education
- Sexual health education
- Health checks
- Cardiovascular assessments
- Home visits
- Rest home visits to enrolled patients as required
- Antenatal care (Mama's and Pepi's)
- Smoking cessation services
- Primary mental health services.

The Ruatoria Community Health Centre provides five days a week of service from two doctors on a part-time shared basis, and two part-time practice nurses. A rural health nurse also provides public health services focused on health education, promotion, screening and monitoring. This includes:

- Autonomous Well Child/Tamariki Ora 0-5 years
- Kohanga Reo immunisations
- School health services 5-18 years
- Continence and stomal product services
- Post discharge operative/ACC up to six weeks
- Occupational therapy referrals
- Cervical screening/sexual health
- Health advocacy and education
- Facilitation of access to services and advocacy for Māori health gain such as health checks, screening such as cervical smears, nursing services, wound care, palliative care, and Nasc referrals.

Kaiāwhina/Community Health Worker Services offered include:

- Facilitates access for whanau to health services
- Smooth transition for whanau through the health and related services
- Advocating and supporting whanau in the health services
- Facilitating multidisciplinary approach
- Educating and informing Māori about the health services, health issues and general health matters concerning whanau
- Providing links and consultation between whanau, the community and service agencies
- Quite smoking assistance.

Te Puia Hospital is a rural inpatient level 2 hospital that provides the following services: Aged Residential Care, Respite Care, Maternity, Physiotherapy, Radiology, Specialist Services, and Accident and Emergency.

The Tawhiti Clinic at Te Puia Hospital operates three days a week. The Tawhiti Clinic employs three people, and the two GPs from Ruatoria. The two GPs that work in Ruatoria do week about at the clinic, and they are supported by a rural health nurse who also assists patients with:

- Immunisations
- Cervical smears
- ACC consultations
- Diabetes
- Asthma
- Aukati Kai Paipa (Quit smoking)
- Arthritis
- Podiatry (feet)

The two GPs from Ruatoria also work at the Tokomaru Bay community health centre on Tuesdays and Thursdays. A Kaiāwhina and receptionist are also employed by this health centre. The health centre offers similar services to that at the Tawhiti Clinic.

In Tolaga Bay, the Uawa Community Health Centre offers doctor appointments on Monday, Wednesday, Thursday and Friday and a nurse-led clinic as required. A rural health nurse and Kaiāwhina are employed at the health centre.

The Tikitiki Community Health Centre is open five days a week for the rural health nurse and kaiāwhina services, with doctor appointments on Monday and Thursday.

Matakaoa Community Health Centre is open five days a week and doctor appointments are available on Tuesday, Wednesday and Friday. Nurse led clinics are held on a Monday and Thursday, and on other days of the week when a GP is not available. The doctor works here and at the Tikitiki Community Health Centre. A rural health nurse, practice nurse and kaiāwhina are also available to assist patients. Each of the health centres employs a receptionist.

Dental services are available in Ruatoria, but a mobile surgical services bus also operates in the area every six weeks. Free dental care is available for babies and children from zero to 12 years old. These services are available from the Tairāwhiti District Health mobile dental service. The dental team screens the dental health of adolescents aged 13 to 18 years old. They see students from Te Kura Kaupapa Māori o Te Waiu o Ngāti Porou, Ngata Memorial College, Te Waha O Rerekohu Area School, Te Kura Kaupapa Māori o Kawakawa mai Tawhiti, Taonga Tuturu o Tokomaru Bay and Tolaga Bay Area School. A recall system is in place for adolescent dental treatment.

Appendix B Methodology

Multiplier analysis

This multiplier analysis uses multipliers derived from inter-industry input-output tables for the Gisborne District and New Zealand. Input-output tables have been derived from the national input-output tables and other data by Butcher Partners, Canterbury - a recognised source for regional input-output tables and multipliers.

Multipliers allow us to identify the direct, indirect and induced effects of additional activity or expenditure in terms of output (GDP) and full-time equivalent (FTE) employment.

Measures

Gross Output Multipliers

Gross output is the value of production, built up through the national accounts as a measure, in most industries, of gross sales or turnover. This is expressed in \$ million at constant prices. Gross output is made up of the sum of:

- compensation of employees (i.e. salaries and wages)
- income from self-employment
- depreciation
- profits
- indirect taxes less subsidies
- intermediate purchases of goods (other than stock in trade)
- intermediate purchases of services.

Value Added (GDP) Multipliers

Value added multipliers measure the increase in output generated along the production chain, which, in aggregate, totals Gross Domestic Product (GDP). Value added is made up of the sum of:

- compensation of employees (i.e. salaries and wages)
- income from self-employment
- depreciation
- profits
- indirect taxes less subsidies.

Employment Impact Multipliers

Employment impact multipliers determine the number of FTE roles that are created for every \$1 million spent in an industry for one year. It provides a measure of total labour demand associated with gross output.

An FTE is the percentage of time an employee works represented as a decimal. A full-time position is 1.00; a part-time position is 0.50.

Direct, indirect and induced effects

The underlying logic of multiplier analysis is relatively straightforward. An initial expenditure (direct effect) in an industry creates flows of expenditures that are magnified, or “multiplied”, as they flow on to the wider economy.

This flow occurs in two ways:

- The industry purchases materials and services from supplier firms, who in turn make further purchases from their suppliers. This generates an indirect (upstream) effect.
- People employed in the direct development and in firms supplying services earn income (mostly from wages and salaries, but also from profits) which, after tax is deducted, is then spent on consumption. There is also an allowance for some savings. These are the induced (downstream) effects.

Hence, for any amount spent in an area (direct effect), the actual output generated from that spend is greater once the flow-on activity generated (indirect and induced effects) is taken into account.

Leakages

Generally the more developed, or self-sufficient an industry in a region is, the higher the multiplier effects. Conversely, the more reliant an industry is on supply inputs from outside the region, the lower the multipliers. These outside factors can be referred to as “leakages”.

To put this another way, if a house was purchased in the Southland Region, and all the materials and labour were sourced in the Southland Region, and all the materials and labour that went into making the housing materials were made in the Southland Region, and then the labour spent their wages or salaries in the Southland Region, again on goods or services produced solely in the Southland Region, then all the multiplier effects would be captured by the Southland Region. Where inputs or outputs come from outside the Southland Region, leakages are said to exist, and the multiplier effect is reduced.

Limitations of multiplier analysis

Partial equilibrium analysis

Multiplier analysis is only a “partial equilibrium” analysis, assessing the direct and indirect effects of the development being considered, without analysing the effects of the resources used on the wider national and regional economy.

In particular, it assumes that the supply of capital, productive inputs and labour can expand to meet the additional demand called forth by the initial injection and the flow-on multiplier effects, without leading to resource constraints in other industries. These constraints would lead to price rises and resulting changes in the overall patterns of production between industries.

To assess inter-industry impacts in full would require economic modelling within a “general equilibrium” framework. Applying such models becomes more relevant where the particular development is considered significant within the overall economy.

Additionality

Related to partial equilibrium, using multipliers for economic impact assessments assumes that the event is something that would not have been undertaken anyway and that it will not displace existing activity. That is, the event is additional to existing activity. If it does either of the above, then the economic impact is less than that determined by the multiplier and it would be necessary to subtract both the activity that would have occurred anyway and the displacement effect.

Impact

Again related to “partial equilibrium”, multiplier analysis assumes that an event will not have an impact on relative prices. However, in a dynamic environment, it can be assumed that a large event would have an impact on demand and supply and hence prices. Hence, the larger the event and the more concentrated it is in a single industry or region, the more likely it is that the multipliers would give an inaccurate analysis of impacts. For example, if multiplier analysis was used to determine the effect of residential building construction nationally it would likely be inaccurate as residential building construction accounts for over six percent of GDP.

Aggregation

Industries outlined in input-output tables are aggregates of smaller sub-industries. Each sub industry has unique inputs and outputs. The higher the level of aggregation the less accurate these inputs and outputs become. Thus, if determining the multiplier effect of a very specific event using highly aggregated data, there will be a lower level of accuracy. Similarly, if an event encompasses a range of industries and multipliers from a single industry are applied the accuracy levels will diminish.

Regions and boundaries

The smaller or less defined a region and its boundaries, the less accurate the multiplier analysis will be. Similarly, the easier it is to move across boundaries, the less accurate the analysis will be. For example, at the national level, the multipliers will be very accurate as it is easy to determine the inputs and outputs crossing through the New Zealand borders.

Similarly, it would also be more accurate to determine a North Island/South Island split. As smaller regions without obvious geographic boundaries are selected, a higher level of assumptions needs to be made and the multipliers become less accurate. For example, an individual could work in the Auckland region but live in the Waikato region and spend a large proportion of his/her recreation money in the Bay of Plenty region.

For any regional analysis the level of accuracy will have to be accepted. As a rule of thumb, the larger and more defined the region, the more accurate the analysis will be.

Appendix C References

Abel, S., Gibson, D., Ehau, T., & Tipene Leach, D. Implementing the Primary Health Care Strategy: A Māori Health Provider Perspective. Ngāti Porou Hauora: Te Puia Springs.

Ministry of Health. (2014). Ministry of Health Statement of Intent 2014-2018. Ministry of Health: Wellington.

Ngāti Porou Hauora. Tai Ora Report 2013-2014. (www.nph.org.nz).

Sapere Research Group. (2013). Review of health services on the East Coast. (www.tdh.org.nz/assets/Media/Review-of-health-services-on-the-East-Coast.pdf).

Tairāwhiti District Health Board. (2014). Tairāwhiti DHB Annual Plan 2014-2015. Tairāwhiti DHB: Gisborne.

Tan, L. (2009). *Analysis of ASH in Cohort of NPH Patients 2001-2007*. Unpublished.

The Treasury. Higher Living Standards. (www.treasury.govt.nz/abouttreasury/higherlivingstandards).

