Auckland and Waitemata District Health Boards

Universal Child Health Services
Child Health Information Link (CHIL) Hub

Knowing every child - birth to six years

Proposal for Change

Consultation Document

January 2019

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Glossary

Abbreviation	Description
ADHB	Auckland District Health Board
ARDS	Auckland Regional Dental Service
B4SC	Before School Check
CaYCS	Child and Youth Coordination Service
CFA	Crown Funding Agreement
CHIL	Child Health Information Link
CHW	Child Health Worker
CMH	Counties Manukau Health
FTE	Full time equivalent
GP	General Practice
IT	Information Technology
KO-HHI	Kainga Ora – Healthy Housing Initiative
LMC	Lead Maternity Carer
MVP	Minimum viable product
MaCSA	Maternal and Child Service Alliance
MSD	Ministry of Social Development
MoE	Ministry of Education
NBE	Newborn Enrolment
NCHIP	National Child Health Information Platform
NES	National Enrolment Service
NGO	Non-governmental Organisation
NHITB	National Health Information Technology Board
NIR	National Immunisation Register
OIA	Official Information Act
OIS	Outreach Immunisation Service
PHO	Primary Healthcare Organisation
RPAG	Regional Privacy Advisory Group
WCTO	Well Child Tamariki Ora
WDHB	Waitemata District Health Board

Key Messages: Proposal for Change
Knowing Every Child 0-6 years

We (Auckland District Health Board (DHB) and Waitemata DHB) want to expand opportunities for community organisations to work as part of an integrated team of health professionals. Our aim is to achieve the best and most equitable health outcomes for babies and their whānau in the first 1000 days of life. This is in line with the Northern Region Child Health Plan and the Auckland and Waitemata DHBs Annual Plans.

We are consulting with providers of the universal child health milestone services on a proposed change to how child health services engage with families. Providers being consulted include maternity services, Lead Maternity Carers (LMCs), General Practices (GPs) and providers of services for newborn hearing screening, metabolic screening, oral health, Well Child Tamariki Ora (WCTO), National Immunisation Register (NIR), Outreach Immunisation Services (OIS) and Before School Checks (B4SC). Other health professionals and communities are also welcome to provide feedback on the enhanced service model.

The enhanced service model aims to achieve equity of healthcare provision for all children through holistic, patient-centred and targeted follow-up and assessment that ensure every child is engaged with a team of providers best suited to their whānau values and needs.

Having a better understanding of child and whānau access to universal healthcare can help improve the current health services. Health registers provide a coordinated data collection system that can improve our understanding of a population, measure receipt of services and we can follow up with those whānau who have been missed. Information of a child's progress through the 29 pre-school health milestones currently sit in a multitude of different registers and databases which are disconnected and difficult to navigate. The National Child Health Platform (NCHIP) is a new IT system that takes information from various source systems and collates this into a single integrated dataset. This integrated view is made available to providers and clinicians via an online portal or directly within the provider's patient management system.

NCHIP was developed by Midlands Health Network and the Ministry of Health. The Northern Region DHBs will implement NCHIP in 2019. The development of NCHIP for the Northern Region has taken it through rigorous processes. The implementation phase now provides an opportunity to review and streamline current register based services in support of the wider child health aims.

As well as information at point of care, NCHIP can provide a regional population health database for children. For the first time we will be able to identify which children are missing out on services and use that information to re-engage these specific children and whānau. The express aim of this work is to improve equity of health delivery and outcomes across multiple services and systems.

Going forward, Auckland DHB and Waitemata DHB propose to implement a coordination service to support and utilise the NCHIP platform. The proposed name for the coordination service is the Child Health Information Link (CHIL) Hub. It will be based within the DHB. The Hub will co-locate clinical governance, administration services and information technology support into a single service. The DHBs will integrate three register based services into a single business unit for NCHIP, Kainga Ora - Healthy Housing Initiative and the National Immunisation Register (NIR). This will require the NIR to be brought in-house to come under DHB management.

In a related change, the Outreach Immunisation Services (OIS) (1.9 Nurse and 1.9 Community Healthcare Worker FTE) may be brought in-house to the DHB or may be delivered by the current provider. Our proposed approach is to leave the OIS service with the current provider at this time.

The enhanced register and coordination service being proposed has four key service components which are described below.

Connected Registers with the NCHIP system giving clinicians a shared, timely view on health milestones across different services, assisting clinicians to quickly identify milestone status, and identify other health professionals working with any individual child.

Coordination services to ensure the safe and appropriate sharing of information between health care providers and re-engagement of children and whānau who are overdue multiple milestones or 'lost to service'.

Health information viewed through an equity lens to ensure that every child and whānau has enough supports in place to enable access to and uptake of the full package of universal health services.

Performance framework and monitoring to inform continuous improvement of service delivery over time. The performance framework will also support improved data gathering to determine future areas of focus.

Waitemata DHB and Auckland DHBs are seeking feedback to ensure that any proposed change will enhance service provision, help inform implementation plans and minimise any unintended consequences.

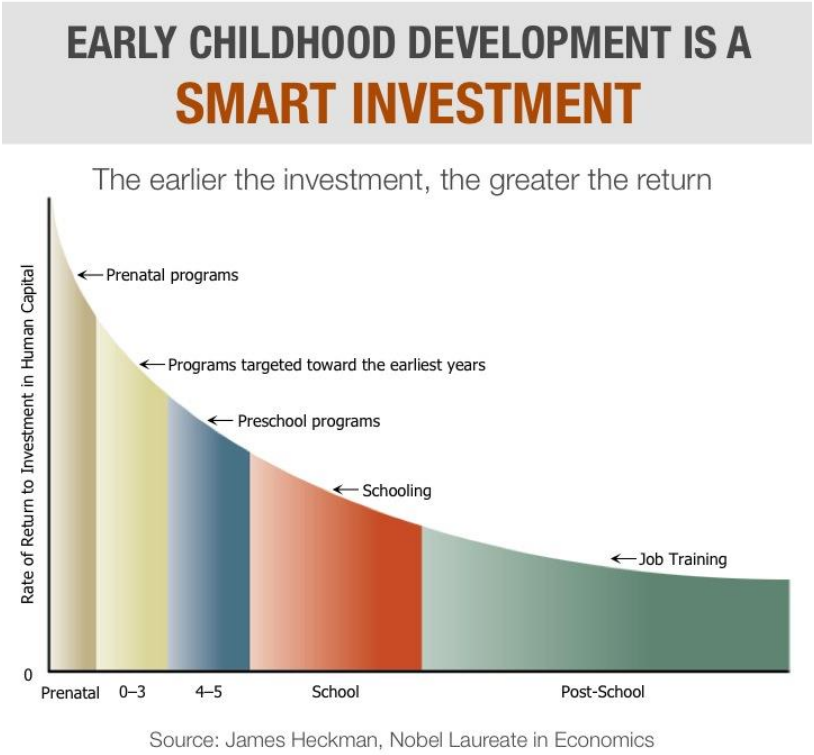
1. Introduction

Why the first 1000 days matter

The first 1,000 days of life is the time from conception to a child's second birthday. There are multiple influences on children's development, starting from pre-conception, and at the level of the individual child, the family, the community, and broader society[1].

What happens in the first thousand days affects the whole body, with potentially profound consequences over the life course. Disadvantage can be passed down through the generations at a cellular level. Our biology changes in response to stress, poverty and other prolonged adverse experiences, and these changes can be passed on to children from their parents and grandparents[2].

Not all changes that occur within the first thousand days are permanent. But as children grow, their ability to alter and change to make up for negative experiences and environments in the first thousand days becomes more difficult[3]. Furthermore, economic analysis demonstrates that the rate of return on investment is greatest in the first few years of life (see the Heckman curve diagram below). Actively redirecting resources with a focus on families living with complex circumstances is the starting point for improving equity of outcomes[4].



[1] Moore, T.G., Arefadib, N., Deery, A., & West, S. (2017). *The First Thousand Days: An Evidence Paper.* Parkville, Victoria; Centre for Community Child Health, Murdoch Children's Research Institute.

[2] https://heckmanequation.org/resource/research-summary-lifecycle-benefits-influential-early-childhood-program/

[3] https://heckmanequation.org/resource/research-summary-lifecycle-benefits-influential-early-childhood-program/

[4] Office of the Minister for Child Poverty Reduction. (2018) *Process for Developing the First Child Wellbeing Strategy- Cabinet Paper*. Wellington. Office of the Minister for Children

Improving Linkages within Maternity and Child health Services- Introducing NCHIP

There are currently a range of providers delivering child health programmes in the community where service delivery depends, in part, on effective use of databases and a closely linked outreach or follow-up service. These include the local National Immunisation Register, Newborn Hearing Screening, Oral Health, WellChild Tamariki Ora and the Before School Check programme.

Although the providers work to collaborate, this is relationship-based and information sharing is slow. There is no national system to share data in real time and little co-location of services. As a result, families must repeatedly provide their details to health professionals, and providers lose contact with families whose children then miss out on health care or follow-up. Within immunisation, Auckland and Waitemata DHBs have been attempting to address this through Māori infants' case review groups where all providers share information and agree who will take action to improve service delivery. NCHIP and the CHIL Hub will take this concept beyond immunisation to the full set of universal child health services by creating a broad knowledge of each child's access to services, along with the most up-to-date contact information.

The DHBs undertake a range of work in order to understand community and primary care perspective on service delivery. Recent work has summarised what the public have told us over the last 3-5 years about community and primary services and improvements that could be made. The key themes are listed below.

- **Prevention and Self-care** Focus on healthy lifestyles and self-care.
- **Communication and Education** Messages should be reassuring. Emphasise what is free. There should be consistent dialogue and communication.
- **Focus on Family and Whānau** Working with the family and not just the individual.
- **Cultural appropriateness** Get the processes right culturally. Workforce to reflect local population demographics. Design service pathways with a Maori or Pasifika world view.
- **Holistic** Consider traditional as well as medical models and the whole person not just the diagnosis.
- **Social Determinants of health** Poverty, poor housing and transport are identified as some of the most important barriers to health for people living in some regions.
- **Navigation and Coordination** ensure patient-centred care and support to access it.
    - Shared patient databases so that information can be accessed by authorised health providers – whoever you see. Also a need to ensure confidentiality.
    - Navigators play a key role in support and enhancing whānau accountability through their contact, follow-up, checking in and encouragement.
- **Multi sector work and legislation** Key issues need to be managed in partnership with other agencies and organisations
- **Access** Reduce barriers to services including cost, transport, opening hours, wait times and language.
- **New ways of working** Use of technology, nurse-led models of care, more specialist skills in primary care.

In combination, the CHIL Hub and NCHIP will enable some of these improvements in universal child health services. NCHIP will give clinicians a shared view on health milestones across different services and identify other professionals working with any individual child. The CHIL Hub will ensure the safe and appropriate sharing of information between health care providers which aims to re-engage children and whānau who are over-due multiple milestones or 'lost to service'.

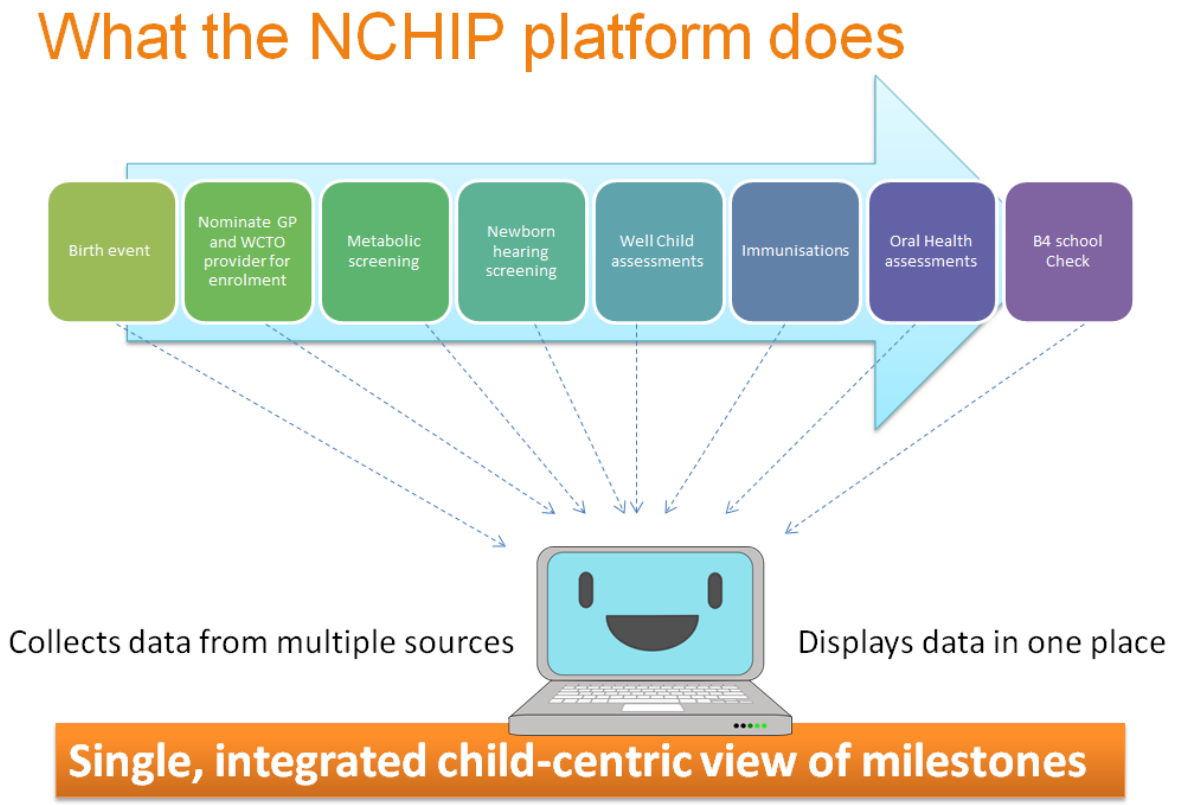
As part of the roll out in 2019, efforts that will be undertaken to ensure parents and caregivers are aware and comfortable that their data is shared via both NCHIP and the CHIL Hub. Prior to the launch, parents and caregivers of children under six years of age will receive information about NCHIP and the CHIL-Hub. On an on-going basis information about NCHIP and the CHIL Hub will be provided to parents and caregivers at the time their new baby is born. Caregivers of children who move into the region will be sent 'Welcome to NCHIP' information at first registration. All parents/caregivers and their babies will have the option to opt-off NCHIP at any time.

The office of The Privacy Commissioner reviewed the Privacy Impact Assessment at the roll out of NCHIP in the Midlands region. The Regional Privacy Advisory Group (RPAG) is overseeing the revision and updated of the Privacy Impact Assessment for the implementation of NCHIP in the Northern Region DHBs.

The Northern Region aims to ensure every child is enrolled at birth, and their access to the range of universal health services is tracked and supported through their early childhood years, with the goal of 'Knowing Every Child' and delivering equitable access to universal services. To deliver on this goal, the DHBs' Boards approved the NCHIP project which aims to provide three of the four DHBs (Auckland, Waitemata and Northland) with a single, centralised system that identifies all the children living in the region and reports on enrolment and milestone data from service providers delivering the range of core universal child health services. Counties Manukau Health (CMH) have decided not to invest in the NCHIP solution, at this stage, but have agreed to make data on CMH children available within NCHIP.

Complexity in early childhood health services results from the number of providers and checks. There are six main health provider groups, multiple individual providers and 29 milestones events. The NCHIP solution takes data from the source systems of various maternity and child health services and collates this into a single integrated dataset. This integrated view is made available to providers and clinicians via an online portal or directly within the provider's patient management system.

NCHIP does not contain clinical information.



Adapted from Midlands Health Network

The MoH and National Health Information Technology Board (NHITB) invested in the NCHIP solution and have an interest in wider uptake, with the following DHBs currently using NCHIP:

- Waikato — Live, as from August 2014
- Tairawhiti — Live, as from December 2015
- Taranaki — Live, as from February 2016
- Northland, Waitemata and Auckland — Implementation project underway

The NCHIP National Governance Group was re-established at the outset of the Northern Region DHB implementation project. This group was formed to support the strategic direction and development of the NCHIP system. Its goals include:

- promoting regional consistency
- facilitating the capability of NCHIP and the coordination services to meet their goals
- managing the introduction of changes including the support of implementation projects.

The Child Health Information Link (CHIL) Hub Model

To ensure that use of the NCHIP platform improves access and equity implementing NCHIP requires the establishment of a monitoring and coordination service that manages the database and analyses it to inform active follow up with families, providers, services and other agencies when children are late or missing enrolment or health milestones events. The

service generates reports on the integrated dataset for tracking overall performance, supporting services, and finding children who are missing out on services.

The current Kainga Ora - Healthy Housing Initiative programme provides a DHB model of how to link and prioritise service delivery for the highest needs populations. The programme team use a combination of real time data, analysis and effective relationships to drive positive outcomes for whānau. Learnings from the Kainga Ora model have been incorporated into the development of the CHIL model.

This proposal for a CHIL Hub takes a broad community health view and offers a method to link and utilise information existing in our disparate databases. It recognises that the DHB has a legislative responsibility for protecting the health of all children domiciled in the DHB. As such, a large population health database such as NCHIP becomes a strategic asset and management and programme oversight best sits within the DHB. With direct access to near live data the collaborating providers will improve their productivity by reducing duplication of follow-up and outreach efforts.

The purpose of this document is to:

1) Inform and consult key stakeholders across Auckland DHB and Waitemata DHB on the proposed changes to services delivered
2) Seek feedback on whether the proposed change and service model meet the needs and expectation of children, whānau, facilities and healthcare providers
3) Understand any issues or limitations that should be considered in implementing the new model.

The DHB is seeking feedback to ensure that any proposed changes will enhance service provision, help inform implementation plans and minimise any unintended consequences.

2. Current Service Provision

Across the Auckland and Waitemata DHB region, there are a range of providers delivering child health programmes in the community to approximately 86,000 children 0 - 6 years of age. To achieve equity for all children, service delivery depends, in part, on effective use of databases and a closely linked outreach or follow-up service.

Under the current arrangement, providers are contracted to deliver the following service components to the community:

- Maternity services (including but not limited to)
    - Lead maternity carers
    - Maternity facilities
    - Metabolic Screening Services
    - Newborn Hearing Screening Services
- Primary Health care services (including but not limited to)
    - General Practice
    - Primary Health Care Organisations
- The Joint Auckland and Waitemata DHB National Immunisation Register & Outreach Immunisation Services
- Dental Services – Auckland Regional Dental Service (ARDS)
- WellChild Tamariki Ora (WCTO) Services
- The Before School Check Programme
- Kainga Ora – Healthy Housing Initiative

Targets for each service and programme element are set by the Ministry of Health and service provision requirements are described under national guidelines and service specifications.

The Northern Region aims to ensure every child is enrolled at birth, and their access to the range of universal health services is tracked and supported through their early childhood years, with the goal of 'Knowing Every Child' and delivering equitable access to universal services.

3. Issues

Although the providers work to collaborate, this is relationship based and information sharing is slow. There is no national system to share data in real time and little co-location of services. As a result, families must repeatedly provide their details to health professionals, and providers lose contact with families whose children then miss out on timely health care or follow-up.

Other issues identified within the current service provision to children, families and whānau include:

Quality, safety and experience of care issues such as:

- Inconsistent business rules for acceptance, engagement and follow-up of children make it difficult for families to understand their options and navigate the health system.

- Delayed enrolment of newborn infants with healthcare providers means late checks, delayed or missed immunisations, late identification of medical and social issues and significant delay in referrals.
- Few primary healthcare care services are available on weekends or out of hours despite demand from working parents and caregivers of babies and young children.
- Reports of long wait times at general practices discourage attendance for parents juggling new babies, toddlers and siblings.
- Providers are unable to keep up with rapid changes in contact details, particularly for more transient[5] families.
- Increasing requests for preferred contact via electronic or social media means.
- Previous community focus group work found that most parents thought health information was readily shared amongst all health professionals.

The inequitable uptake of universal child health services, children and whānau evidenced by:

- Inequitable ambulatory sensitive hospitalisation rates, Māori and Pacific infants are significantly more likely to be admitted with preventable disease.
- Significant variability by ethnicity in immunisation coverage rates, well child core checks and oral health outcomes.
- Variability in primary care enrolment rates by ethnicity.

Poor value for money as evidenced by:

- Issues with delay in handover records. Approximately 30% of birth notifications are sent to the wrong general practice provider.
- Duplication of effort across multiple providers trying to locate and follow up the same children, families and whānau.
- Lack of population databases for many child health services makes quality improvement difficult to measure.
- Limited access to identifiable data as children and families move between providers and across DHB boundaries creates barriers to service for transient families.

4. Who might be affected by this work?

- Babies, children and whānau members
- Lead Maternity Carers
- Primary care practices, GPs and PHOs
- Well Child Tamariki Ora providers

5. Approximately a third (32%) of the *Growing Up in New Zealand* families had moved at least once between their nine month and two year interviews – more than a quarter (25%) had moved between the antenatal and nine month interviews. In addition, those who have moved between age nine months and two years were:
• more likely to be a first child rather than a subsequent child;
• less likely to be in a household with parent(s) and extended family or in a household with parent(s) and non-kin than in a household with parent(s) alone;
• more likely to identify as Māori than as New Zealand European;
• more likely to be living in private rental accommodation than in family owned accommodation.
Morton, S.M.B., Atatoa Carr, P.E., Grant, C.C., Berry, S.D., Bandara, D.K., Mohal, J., Tricker, P. J., Ivory, V.C., Kingi, T.R., Liang, R., Perese, L.M., Peterson, E., Pryor, J.E., Reese, E., Waldie, K.E., and Wall, C.R. 2014. *Growing Up in New Zealand: A longitudinal study of New Zealand children and their families. Now we are Two: Describing our first 1000 days.* Auckland: Growing Up in New Zealand.

- Auckland DHB and Waitemata DHB Joint NIR/OIS provider
- Kainga Ora – Healthy Housing Initiative
- Auckland Regional Dental Service DHB Child health service providers
- Hospital clinicians

5. Funding

The delivery of NCHIP has Board approved budget in Auckland, Waitemata and Northland DHBs for implementation and five years of operational costs.

The intent is to redirect resources such that the operational service of the CHIL Hub is cost-neutral. For the change to be cost neutral, personnel costs will be shared with the NIR by bringing the NIR service under DHB management, reducing duplication of administration work and reducing overheads. Additional workforce FTE comes from re-directing existing roles such as the newborn enrolment coordinator (ADHB only) and pre-school oral health enrolment coordinator (ADHB only) and part share of the Kainga Ora HHI clinical lead.

Waitemata DHB has identified additional funding allocation for a newborn enrolment coordinator FTE. A small budget will be required for office equipment, transport and general operational costs.

6. Justification

Child health has long featured as a national, regional and local priority for the New Zealand Health system. Nationally, a Child Health Well-being Strategy with a particular focus on the first 1000 days is being developed. The New Zealand Health Strategy (2016) seeks to improve uptake of universal community-based services for children, and for health professionals to make better use of those contact opportunities to work with families to promote healthy development.

A focus on Vulnerable Children has been prominent in national policy settings in recent years. The Ministry of Health (MoH) has set national expectations around new-born enrolment with a general practice, well child provider and oral health service. It introduced the Well Child Quality Improvement Framework, invests in improving immunisation, funds free GP visits for children up to 14 years, and encourages better access and support for children of vulnerable families. New born enrolment with a general practice and Ambulatory Sensitive Hospitalisations for 0 – 4 year olds are also two of the 'System Level Measures' introduced by the MoH in 2016/17 for all DHBs.

The four Northern Region DHBs share a strategic emphasis on improving child health through the local strategies and a shared Northern Region Child Health Plan. One of three core themes under this regional plan is "Knowing Every Child". To achieve this, the regional focus is on integrated enrolment – managing enrolment of children across a range of services, rather than within individual services. Integrated enrolment is the key strategic driver of this business case, as is ensuring every child receives the services they are entitled to receive. The Northern Region DHBs have collaborated on a business case to develop an integrated child health information platform (NCHIP) and coordination Hubs.

Under the DHB Annual Plans 2018/19, the Auckland and Waitemata DHBs have committed to work towards changes associated with the introduction of NCHIP and the coordination hub.

5.1 Options considered

In conjunction with paediatric and public health clinical leads we maintain a continuous review of the literature available on child health service delivery models with particular attention to evidence for improving equity of outcomes for Māori and Pacific children as well as those living in socio/economic disadvantage. In a benchmarking exercise, we sought advice on potential models including site visits to DHBs which are consistently achieving the highest uptake for immunisations.

PHO based models
NCHIP and the Child and Youth Coordination Service (CaYCS) is delivered in Midlands region and has been based within a PHO, alongside the NIR. This arrangement provides some synergies but also some disadvantages. Midlands report that newborn enrolment with a PHO has shown some gain in recent months but, at 85% still only reaches parity with Auckland and Waitemata DHBs current performance. A considerable portion of infants remain un-enrolled with a GP. The Midlands NCHIP coordination team recognise there would be considerable added value if they could access contact information held in hospital maternity, child health and oral health databases as well as the National Enrolment Service (NES). Waikato DHB has recently taken the decision to bring the CaYCS in-house.

NGO based model
Auckland and Waitemata DHB established a joint NIR and OIS service in 2013 with HealthWEST as the provider. HealthWEST Te Puna Manawa is a non-governmental organisation with Māori Provider Trust status. While most immunisations for pre-school children are delivered in general practices, the HealthWEST NIR/OIS service administers the NIR register and provides home visiting immunisation outreach services for those children who are overdue immunisation events. HealthWEST has operated successfully supporting an improvement in coverage with Auckland DHB achieving 95% of infants fully vaccinated at 8 months of age in 9 of the past 15 quarters. However, Waitemata DHB has seen little sustained improvement in overall performance and has only once achieved the target of 95% of babies fully vaccinated by 8 months of age. It is a concern that Māori infants remain the least likely to be fully vaccinated on time. Unlike several other DHBs, neither Auckland nor Waitemata DHB has made significant progress against the additional Ministry requirement to reach 95% for children at 5 years of age.

As a stand-alone NGO, HealthWEST does not have direct access to daily cross reference contact details with hospital maternity, child health, oral health and before school check databases.

Few NGOs can activate the sustained clinical leadership, relationship management, IT and analytical expertise that will be required to maintain the systems, identify the gaps and develop consistent health pathways needed to improve the equity of health outcomes for all children 0- 6 years of age in the Northern region.

DHB based models
Canterbury DHB manages the NIR in-house in conjunction with their LinKIDS service. LinKIDS was established in May 2017 and provides a Child Health Coordination service for children

under 5 years of age. Canterbury DHB regularly achieves the 8 month Immunisation Health target and is consistently one of the highest performers nationally for both the 24 months and 5 month immunisation events.

The NIR is delivered in-house in Counties Manukau DHB which regularly achieves the 8 month immunisation health target. This local NIR also systematically links with WCTO services via KidsLink. Managing the database has allowed the DHB to monitor early indicators (such as the 3 month immunisation), cross-reference contact details with hospital and national databases, and re-direct resources in times of pressure such as during the influenza immunisation season. Plunket is the provider of outreach immunisation services.

Hawke's Bay DHB also delivers the NIR in-house. They report that robust systems which are ingrained into daily processes enable higher immunisation coverage because it enables the system to work more efficiently. An example of Hawke's Bay systems is the co-location of a multidisciplinary team. This team includes immunisation, NIR and OIS all working within the DHB. The whole team is in one room, which helps with effective communication. This also means that they have access to all the databases when they are looking for people. This team is also co-located with B4SC and this enables strong working relationships.

Kainga Ora Healthy Housing Initiative
The current Kainga Ora - Healthy Housing Initiative programme provides a DHB model of how to link and prioritise service delivery for the highest needs populations. The hub and spoke service model depends on a good database and the systematic implementation of sound business rules and guidance to achieve consistent improvement. Entry criteria are based on clear health-need (including admission to hospital for housing related condition). The team has developed collaborative relationships across the health and social service sectors. In combination, the real time data, analysis and effective relationships are being harnessed to drive positive outcomes for whānau.

Analysis of inpatient admissions for housing related conditions has become a proxy for health to identify our most vulnerable families. The Kainga Ora Service provides direct support for housing, health and social issues. Basing the Healthy Housing service in the Planning, Funding and Outcomes team of the DHB ensures access to clinical leadership as well as expert population health analysis using real data. Information sharing occurs within auditable DHB privacy protocols and with appropriate Paediatric clinical oversight. As a large employer, the DHBs have been able to provide support to the service from a network of senior clinicians, specialist epidemiologist, business analysts and others.

The approach has used a systematic implementation of sound business rules and guidance to achieve consistent systems improvement within Kainga Ora and with our partner organisations which include Housing NZ, MSD, Habitat for Humanity, Tamaki Regeneration Programme. We have seen significant improvement in our ability to address issues with key partners over the period of the service which is attributable to significant systems improvements.

Learnings from the Kainga Ora model have been incorporated into the development of the CHIL model.

Co-location of NIR and OIS
The Ministry of Health review of immunisation services found that co-location of the NIR and OIS services is a key factor for success and recommends that as a preferred model of

service[6]. The experience of Auckland DHB supports that concept with an improved 8 month immunisation uptake occurring after the NIR and OIS were joined into a single business unit. However, Counties Manukau DHB presents an equally successful model with the NIR in-house and the OIS external provided by Plunket, a very large WCTO provider.

Adult Health Service Registers
Taking a whole of system approach there are natural synergies with a ranges of services which coordinate population health screening for adults such as the Cervical Screening, Breast Screening and Bowel Screening programmes as well as tertiary prevention programmes such as retinal screening for diabetes. Like the childhood services, these community programmes also depend, in part, on effective use of clinical registers and a closely linked outreach or follow-up services. Learnings from these programmes and their approaches to engagement and retention have been considered for inclusion in a wider Hub that would enable a more holistic, whānau based model of care. Similarly learnings from the DHB screening research programmes aimed at improving health equity such as Abdominal Aortic Aneurysm (AAA) screening and human papilloma virus (HPV) self-sampling, also register based programmes, have additionally been considered as future integration opportunities. It is likely many adults or whānau 'lost to service' in screening programmes are linked with the same whānau, communities and health providers as the children who are 'lost to service'.

5.2 Reasons for recommended option

To investigate options for a CHIL Hub service, the DHBs obtained information on the strengths and weaknesses of similar services around the country. Overall, feedback indicated there is strength in combining the NIR in a co-location model with other child health services. This improves the ability for all providers to break down silos, identify the children most in need, streamline services, share staff capacity, reduce duplication of effort and enhance clinical leadership across multiple programmes.

Whilst the work of the Auckland and Waitemata NIR/OIS provider has been well regarded, it has become evident that further gain in efficiencies will require stronger links with other registers and IT systems, increased clinical leadership and access to in-hospital systems' support. Placement of the NIR alongside NCHIP and Kainga Ora – Health Housing Initiative in this proposed collocation model will support the northern regional objectives of Knowing Every Child.

This proposal recognises the experience and community links of HealthWEST Te Puna Manawa and recommends that the OIS service remains with HealthWEST at this time.

Based on learning from the successful Kainga Ora Health Housing Initiative service delivery model, CMH and other DHBs, as well as preliminary consultation with the DHB Child Health Community Managers, the preferred host for the CHIL Hub (at least for the establishment phase) is the Planning, Funding and Outcomes Unit. NDHB intends to locate their CHIL Hub within the DHB and CMH has successfully hosted KidsLink within Planning and Funding. Waikato DHB is currently bringing their coordination service in-house. Developing a close working relationship between the HealthWEST OIS, and CHIL Hub, particularly the NIR, will be essential to effective functioning of the Hub.

[6] Ministry of Health. 2016. National Review of Outreach Immunisation Services: Summary and Recommendations. Wellington: Ministry of Health.

The addition of registry-enabled adult screening programmes to develop a more whānau based approach remains an important future direction but, due to multiple complexities with adult registers and screening services, the recommendation is not to include adult registers in a centralised Hub at this point in time. Some may be considered in the future.

7. The Proposed Model

This proposal is that a single CHIL Hub is established to serve both Auckland and Waitemata DHBs. It will co-locate clinical governance, administration services and information technology support into a single service for NCHIP, Kainga Ora HHI and the NIR. The Outreach Immunisation Service would be closely associated with the Hub.

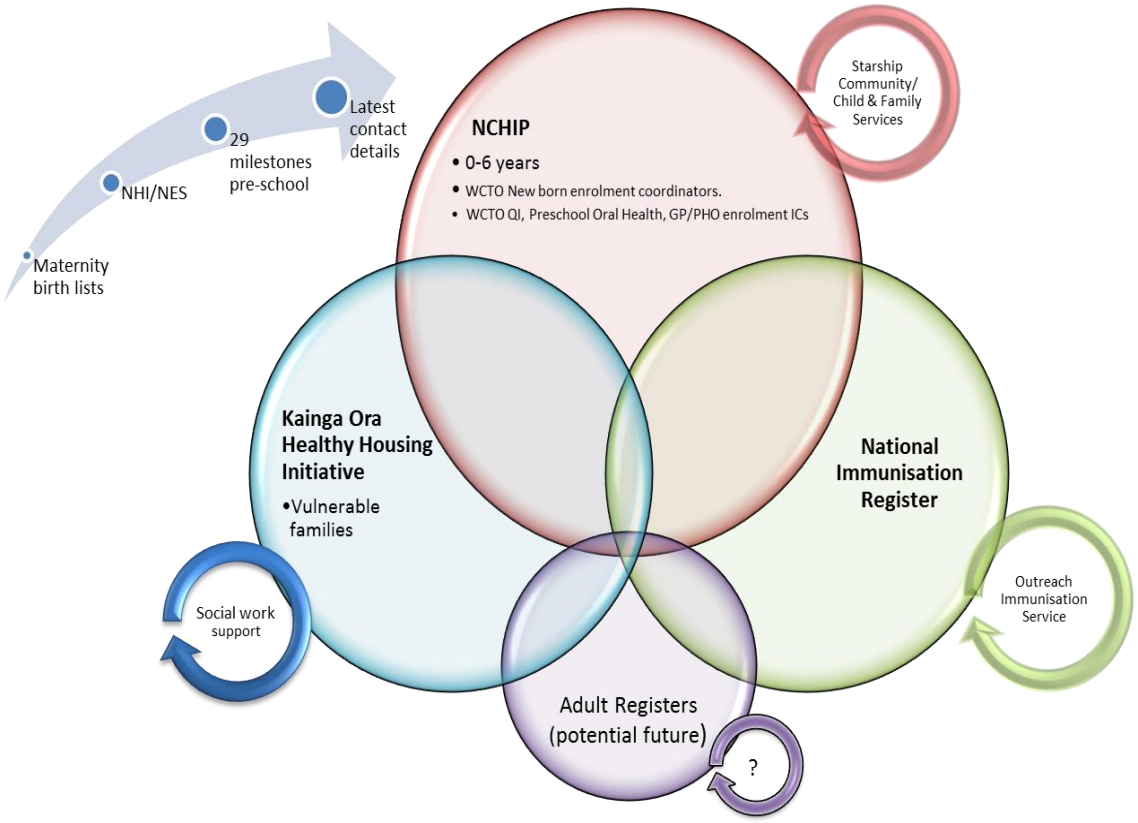
Harnessing workforce FTE from the NIR, newborn enrolment coordinator(s) and pre-school oral health ADHB funding, a strong team leader will support the combined administration teams as a single business unit. Clinical leadership over all the programmes would be embedded in the design.

In addition to these key building blocks that form the Hub, synergies will be sought with related services via face-to-face weekly meetings of key workers from closely related providers including:

- WCTO - Quality Improvement Nurse for engagement and core checks
- Oral Health – ARDS pre-school coordinators for engagement and follow up of DNAs
- PHO Immunisation Coordinators – for GP enrolment and immunisation follow up.
- OIS – Outreach nurses – for follow up of children overdue immunisations.
- B4SC administrator – for engagement and follow up of children lost to service
- DHB Community Nurses – for engagement and follow up of the most vulnerable (e.g. Kainga Ora HHI, Gateway and babies identified through the Vulnerable Women Groups Te Ako Ora and Aranga Tetekura)

Based on learning from the successful Kainga Ora HHI service, Māori case review groups and preliminary consultation with the DHB Child Health Community Managers, the preferred host for the CHIL Hub is the Planning, Funding and Outcomes Unit. The following diagram shows the key inter-relationships across the CHIL Hub.

Child Health Information Link (CHIL) Hub



In the following section, we have described what a co-located Child Health Information Link service model would mean for the children and health professionals working across the pre-school child health sector

The key differences of this proposed service model are:

- *Establishment of a population database to monitor the progress of all children through the universal milestones.*
- *Clinicians in the community and hospital settings will have a new point-of-care view of a child's status of multiple milestones (completed or over-due)*
- *Providers can see who else is involved in a child's package of care – LMC, GP, WCTO provider, oral health and B4SC providers*
- *Service managers can run aggregated status reports for children in their care.*
- *Key service providers will collaborate in weekly meetings to confidentially share latest contact and eligibility information for priority children who are overdue care.*
- *The CHIL-Hub administration team can liaise with hospital services, MSD and MOE to obtain the latest contact details of children otherwise lost to service.*
- *Collaborating services can better coordinate care to reduce duplication of effort and ensure the best provider is engaged with each child and whānau.*
- *Children currently missing out or late for multiple milestones can be identified and a supported pathway to care can be established.*

CHIL-Hub Service

The Auckland and Waitemata DHBs are proposing the CHIL-Hub coordination service as a key enabler in ensuring that the various health providers and children are joined up in this complex ecosystem of multiple health providers and multiple IT systems. Its main task will be to close the equity gap for children who are missing out on receiving free health services in a timely manner. The service will follow up with the families and health providers when children are late or missing enrolment for their health milestones. The service will also generate reports on the integrated dataset for tracking overall performance, supporting services and finding children who are missing out on services.

The accountability to enrol children to the individual providers and ensure that health milestones are met will remain with the respective health provider eg B4SC remains accountable to ensure that the children who are 4 years of age get their health check done. The CHIL-Hub coordination service will support these providers in meeting their objectives and KPIs eg finding missing children and current contact details. The service will have a widespread network to find these children through established relationships.

It is proposed that the CHIL Hub is a combined service for Auckland and Waitemata DHBs. It would likely be based within the DHB at Greenlane Clinical Centre. The Coordination Service teams will have very close linkages with parallel teams in Northland, Waikato, Taranaki and Tairawhiti DHBs as well as the NIR/Kidslink coordination service in Counties Manukau DHB.

The overall objective of this service is to improve equity of child health outcomes through:

- Improving child & whānau access and uptake of health services
- Achieving or exceeding registration and service coverage targets equitably for the region
- Improving productivity and efficient use of sector resources (people, systems and funding)
- Increasing knowledge and insight available to planning and improving service delivery
- Improving timeliness of health service delivery.

The CHIL Hub coordination service will be set up as part of rolling out the NCHIP system to the Northern region DHBs.

The enhanced register and coordination service being proposed has four key service components which are described below.

Connected Registers with the NCHIP system giving clinicians a shared view on health milestones across different services, assisting clinicians to quickly identify milestone status, and identify other health professionals working with any individual child.

Coordination services to ensure the safe and appropriate sharing of information between health care providers and re-engagement of children and whānau who are over-due multiple milestones or ‘lost to service’.

Health information viewed through an equity lens to ensure that every child and whānau has enough supports in place to enable access to and uptake of the full package of universal health services.

Performance framework and monitoring to inform continuous improvement of service delivery over time. The performance framework will also support improved data gathering to determine future areas of focus.

8. Benefits

Through implementing the NCHIP system and the CHIL Hub coordination service, DHBs gain – for the first time - the ability to track enrolment, access and service coverage of individual children through the range of universal health services delivered across different child health service providers. These include Lead Maternity Carers, Newborn Hearing Screening, Newborn Metabolic Screening, general practice, Well Child Tamariki Ora providers, community oral health, and the Before School Check service.

Undertaking this project will deliver greater insight and capability to the DHBs to improve enrolment, child health milestone coverage and timeliness whilst reducing duplication of effort. Improved measurement and tracking children across service providers will enhance the sector's knowledge and ability to target service interventions/models of care where they are most needed, including for children living in complex circumstances.

The NCHIP system will give clinicians a shared view on health milestones across different services, assist clinicians to quickly identify milestone status, and identify other professionals working with any individual child. The CHIL-Hub service will support service providers to find children missing out on services, and help families to connect with health providers. Benefits and improvements to be gained from NCHIP span:

- Equity
- Patient care
- Service performance
- Administrative efficiency
- System-level insight and responsiveness
- Regional consistency

Key performance indicators are under development and will include:

- 98% of children 0 to 6 years of age who are born and/or domiciled in the DHB are registered with NCHIP and the coordination service.
- 98% of newborns that are domiciled in the DHB are notified to and accepted by services for WCTO, GP, Oral Health, Newborn Hearing Screening and Metabolic Screening within 2 weeks of birth.
- 98% of children under 6 years of age who move into the DHB are notified to and accepted by services for WCTO, GP, Oral Health, and B4SC within 2 weeks of first notification.
- 95% of Māori, Pacific and quintile 5 children identified as lost-to-service are re-engaged with missing health providers within 4 weeks.

- Number of children requiring MSD and MoE requests for information.

Further indicators will be developed for specific high priority groups to monitor continuity of care from birth to 6 years. Pending sector consultation these are likely to include:

- babies under the Vulnerable Women's Group (Aranga Tetekura and Te Ako Ora)
- children notified to Kainga Ora Healthy Housing Initiative
- children referred for Gateway Assessments.

The benefits of the proposed system are as follows:

 **Children and Whānau**	• Simplified registration/enrolment processes • Reduced missed events for universal care • Earlier identification of health and/or social needs • Supported pathways to care if required • Child-centred services designed to meet their specific health needs.
 **Child health providers**	• Easier updates on change of address and contact details, reducing administrative burden • A safe and appropriate method to share information with the multi-disciplinary team • Increased capability of staff in the management of children who are due or overdue milestones. • Improved support to locate children who are 'lost to service'
 **Clinicians**	• A point of care single view of a child's progress through multiple milestones to inform conversations with whānau. • Increased certainty of which other providers are involved in a child's care • Improved collaboration between child health providers • Improved ease of transfer information between primary and secondary care

Impact on reducing inequalities and Māori Health Gain

Proportionate universalism is the resourcing and delivery of universal services at a scale and intensity proportionate to the degree of need. It is well established in the Auckland region that Māori and Pacific, as well as those living in quintile 5, have the greatest health needs. However, child health service delivery models are not fully coordinated and we lack information as to why and how we can increase the intensity of service delivery for Māori and Pacific and those living in Q5.

The proposed model placing the CHIL Hub within the Planning Funding & Outcomes unit will provide real time, NHI level data for expert analysis. That analysis can inform programme managers and sector decisions as well as monitor the impact of change. This provides the mechanism for programmes and service delivery models to be agile and driven by timely local evidence to support equity of service delivery.

The proposed model will allow the child health providers to maximise efficiencies by sharing latest contact information, developing standardised business processes and reducing duplication. Learnings from the local DHB Māori immunisation review groups have informed the development of the proposed model, including safety of information and engagement with whānau and communities. Outcomes are based on three key principles:

1. Chidren have equitable outcomes from universal child health services
2. Improving the quality (timeliness, effectiveness, patient experience) of community child health services
3. Reducing duplication by integrating data management services.

9. Implementation

9.1. Issues/considerations

To achieve the synergies of effort, there will need to be some change in current contracting arrangements. A full implementation plan will be developed identifying all affected contracts and roles. Notification of exit of contracts is likely to disrupt existing service provision and will require careful management, particularly for the Immunisation Health Target. HealthWEST will be impacted through loss of contract funding. The Māori Health Gains Team in Waitemata and Auckland DHBs has worked with and continues to support HealthWEST.

It is proposed that the Outreach Immunisation Service (1.9 Nurse and 1.9 Community Healthcare Worker FTE) component of service continues to be delivered by HealthWEST. Alternatives considered for the delivery of the OIS component included bringing the service in-house to the DHB, or seeking an alternative provider.

9.2. Timelines

Timelines will be developed following the consultation process and to coincide with the implementation and roll out of NCHIP in early 2019.

Provisional timing of key phases in the Northern Region NCHIP & Coordination Service Implementation are as follows:

Activity	Timeline
Initial stakeholder consultation and NCHIP business case developed	2017/18
Business case approved by Auckland, Waitemata & Northland DHB Boards	April 2018
NCHIP project team commences	May 2018
Validation of NCHIP business case. **PIA review, legal reviews, design enhancements to scale up for roll out to northern region DHBs**	June 2018 – Nov 2018
Detailed development of NCHIP IT for northern region implementation	Dec 2018 – Feb 2019
CHIL-Hub proposal and stakeholder consultation (ADHB & WDHB)	Dec 2018 – Feb 2019

CHIL-Hub/ NCHIP Coordination service establishment phase	Feb - Apr 2019
Soft go-live. NCHIP user acceptance testing and roll out to CHIL-Hub (MVP1)	Feb - Mar 2019
Communications campaign to launch NCHIP and CHIL-Hub to communities and health care providers	Apr - May 2019
NCHIP design (MVP2) development and user acceptance testing	Apr – May 2019
Full Go-live. **NCHIP roll out to health professionals and organisations (MVP2).** **Communications and training of clinicians and service managers**	Jun 2019 and on-going
Service integrations NCHIP, NIR and Kainga Ora	July 2019 and on-going
Weekly case review meetings	July 2019 and on-going

10.Procurement Process

Following the Government Rules of Sourcing, the DHBs are not required to go to the open market to establish the CHIL-Hub as a DHB-led service and bringing the NIR services in-house. It is the intent of the Auckland and Waitemata DHBs to work with all the providers of maternal and child health services to develop and implement a fit-for-purpose system.

11. Consultation Timeframes

The timeframes for the consultation have been revised to allow an extension to the period for feedback. The updated timeline and process are below:

Milestones	Timeframe
Announcement of consultation	8 January 2019
Question and Answer Session Venue WDHB Boardroom, Level 1, 15 Shea Tce, Takapuna.	Week of 14 Jan 2019 (date and time to be advised)
Written feedback closes	5 February 2019
Extension – written feedback closes	**15 February 2019**
Extension - Summary of feedback presented to stakeholders	**Week of 4th March 2019**
Extension - Consultation outcome communicated to stakeholders	**Week of 11 March 2019**

12.How to Provide Feedback

The Auckland and Waitemata DHBs are seeking your feedback on the themes raised in this consultation paper. Please do not limit yourselves to the questions provided in the appendix; we welcome feedback on any issues, options and views that you may have relating to any aspects of this paper. We have also provided a summary of these questions as an appendix.

We ask that you share the consultation document with your groups. This document has been sent to the following organisations and groups;

- Members of Maternal and Child Service Alliance (MaCSA)
- Treaty Partners: Te Whānau o Waipareira and Te Runanga Ngati Whatua o Orakei
- Auckland Regional Public Health Service
- Auckland Regional Dental Service (ARDS)
- HealthWEST Te Puna Manawa
- Ministry of Health – Child Health Lead & National Immunisation Programme
- WellChild Tamariki Ora Providers
    - Te Ha
    - Te Whānau o Waipareira
    - Waiheke Health Trust
    - Piritahi
    - Starship Community Service
    - Plunket
- PHOs
    - Auckland PHO
    - Alliance Health Plus
    - Comprehensive Care PHO
    - National Hauora Coalition
    - Procare PHO
    - Total Health Care
- Community Paediatricians – ADHB & WDHB

If you would like to discuss any of the themes raised in this paper, or register your interest in attending the questions and answers session on week of 14th Jan 2019 you can contact Natalie Desmond using the contact details supplied below.

To provide feedback, please submit in writing by 4:30 pm, Friday 15th February 2019 via:

- Our online feedback tool here https://se.buzzchannelgroup.com/?u=9e35b213d66b49b4ab23c0e20deb2f6d
- **Email:** Natalie.Desmond@waitematadhb.govt.nz
- Write to: Natalie Desmond,
  Snr. Programme Manager – Child and Youth,
  Waitemata DHB,
  Private Bag 93-503,
  Takapuna 0740

All feedback received before the closing date will be considered by the DHBs before making a decision on the way forward.

The feedback we receive is subject to the Official Information Act 1982 (OIA), and we will consider any request to have information withheld in accordance with our obligations under the OIA. Anyone providing feedback, whether on their own account or on behalf of an organisation, and whether in a personal or professional capacity, should be aware that the

content of their feedback and their identity may need to be disclosed in response to an OIA request.

We are not able to treat any part of your feedback as confidential unless you specifically request that we do, and then only to the extent permissible under the OIA and other relevant laws and requirements. If you would like us to withhold any commercially sensitive, confidential proprietary, or personal information included in your submission, please clearly state this in your submission and identify the relevant sections of your submission that you would like it withheld. The DHBs will give due consideration to any such request.

13. Appendix One: Summary of Questions (Online Survey)

Proposal for Change: Child Health Information Link (CHIL) Hub

Expanding opportunities for community child health providers to work as part of an integrated team

We (Auckland DHB and Waitemata DHB) want to expand opportunities for community organisations to work as part of an integrated team of health professionals to achieve the best and most equitable health outcomes for babies and their whānau in the first 1000 days of life. This is in line with the Northern Region Child Health Plan and the Auckland DHB and Waitemata DHB Annual Plans.

We are consulting with providers of the universal child health milestone services on a proposed change to how child health services engage with families. Providers being consulted include maternity services, Lead Maternity Carers (LMCs), General Practices (GPs) and providers of services for newborn hearing screening, metabolic screening, oral health, Well Child Tamariki Ora (WCTO), National Immunisation Register (NIR), Outreach Immunisation Services (OIS) and Before School Checks (B4SC). Other health professionals and communities are also welcome to provide feedback on the enhanced service model.

The proposed enhanced service model aims to achieve consistency for all children through holistic, patient-centred follow-up and reviews that ensure every child is engaged with a team of providers best suited to their whānau values and needs.

Waitemata DHB and Auckland DHB propose to implement a coordination service to support and utilise the NCHIP platform. The proposed name for the coordination service is the Child Health Information Link (CHIL) Hub. It will be based within the DHBs. The Hub will co-locate clinical governance, administration services and information technology support into a single service. The DHBs will integrate three register-based services into a single business unit for NCHIP, Kainga Ora - Healthy Housing Initiative and the National Immunisation Register (NIR). This will require the NIR to be brought in-house to come under DHB management.

In a related change, the Outreach Immunisation Services (OIS) (1.9 Nurse and 1.9 Community Healthcare Worker FTE) may be brought in-house to the DHB or may be delivered by the current provider. Our proposed approach is to leave the OIS service with the current provider at this time.

The enhanced register and coordination service being proposed has four key service components which are described below.

Connected Registers with the NCHIP system giving clinicians a shared, timely view on health milestones across different services, assisting clinicians to quickly identify milestone status, and identify other health professionals working with any individual child.

Coordination services to ensure the safe and appropriate sharing of information between health care providers and re-engagement of children and whānau who are overdue multiple milestones or 'lost to service'.

Health information viewed through an equity lens to ensure that every child and whānau has enough supports in place to enable access to and uptake of the full package of universal health services.

Performance framework and monitoring to inform continuous improvement of service delivery over time. The performance framework will also support improved data gathering to determine future areas of focus.

The following questions will help us to better understand how we can work with you to develop and implement coordination services that meet the needs of our local communities.

We welcome your feedback on our proposal.

Consultation closes at **4:30 pm Friday, 15th February 2019**

Statistical Information

This information will be helpful to identify key regional and representation themes.

1. Please indicate if you are providing feedback on behalf of an organisation or as an individual.
    - Organisation (Name and designation)
    - Individual

2. Which of the following best describes you or the organisation you represent?
   (Select one option)

   - Individual
     - Lead Maternity Carer
     - Newborn Hearing Screening provider
     - Well Child Tamariki Ora provider
     - General practitioner
     - Registered nurse
     - Oral Health care provider
     - B4SC provider
     - Social worker
     - Administrator/Manager
     - Other child health provider
     - District Health Board staff member
     - Other healthcare professional / provider
     - Parent caregiver/ Member of the public

   - Organisation
     - Māori Health provider
     - DHB Treaty partner
     - Government department or agency
     - Maternity organisation
     - Non-governmental organisation (NGO)
     - Primary Health Organisation
     - Community group or network
     - Other _____

3. If Q2 answer is 'Parent caregiver / Member of the public',
   Q3 will be "In which DHB region do you **live** in?"
   (Select one option)

   - Auckland (Central and East Auckland)
   - Counties Manukau (South and East Auckland)
   - Waitemata (West and North Auckland)
   - Other DHBs
   - Unsure – State your suburb _____
   - Multiple DHBs (Please specify)

   All other answers selected for Q1,
   Q3 will be "In which DHB region do you **work** in?"

Section One: Connected Registers

4. Do you agree that providing a single view of a child's milestones status at the point of care will be helpful in your care of a child?
   Please indicate the level of your agreement.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

5. Do you have any comments?
   Please type your answer in the box below

6. Do you agree that knowing which other health care providers are involved with a child will be helpful in your care of a child?
   Please indicate the level of your agreement.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

7. Do you have any comments?
   Please type your answer in the box below

8. Do you agree that providing an aggregated view of milestone status for all the children in your care will be helpful for your service planning?
   Please indicate the level of your agreement.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

9. Do you have any comments?
   Please type your answer in the box below

10. Do you agree that the three register service components should be brought together (NCHIP, NIR and Kainga Ora-Healthy Housing)?
    Please indicate the level of your agreement.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

11. Are there any other service components which should be considered? Do you have any comments?

12. Do you agree that the Outreach Immunisation Service should ***not*** be integrated with the CHIL Hub coordination services at this time?
Please indicate the level of your agreement.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

13. Are there any other service components which should be considered? Do you have any comments?

14. Do you agree that adult screening register-based services should ***not*** be integrated with the CHIL Hub coordination services, at this time?
Please indicate the level of your agreement.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

15. Are there any linkages with other service components which should be considered? Do you have any comments?

16. Do you agree that a single CHIL-Hub service should be provided across Auckland and Waitemata DHBs?
Please indicate the level of your agreement.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

17. Are there any linkages with other DHBs which should be considered? Do you have any comments?

18. Do you agree that the high level benefits can be realised through the new service model?

Please indicate the level of your agreement.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

19. Do you have any comments?

20. Are there any other benefits you see for children, whānau, and health professionals in the proposed service model? Y/N

21. Please use this space to explain your answer to the previous question

22. Do you consider that the information contained in the CHIL Hub will help improve service planning and re-direction of resources?

Please indicate the level of your agreement.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

23. Do you have any other comments?

24. What other factors should we consider to ensure children and their whānau are supported to access the universal package of care?

25. What risks do you see for children, whānau, health professionals, and communities in the proposed service model? Do you have any additional comments?

26. Are there any gaps in the proposed model that we have not considered or areas that you do not understand? Y/N

27. Please use this space to explain your answer to the previous question

28. Do you have any additional comments?

Section two: Performance framework and monitoring

29. Do you agree or disagree that a performance framework should be formed to inform continuous improvement of service delivery for universal child health services over time?
Please indicate the level of your agreement.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

30. Do you have any comments?

31. Can you please list specific indicators or measures that should be considered to form a performance framework for the CHIL Hub and associated services in relation to improving equity of access and uptake of universal child health services?

32. Do you have any specific areas for quality improvement where child health care provider input will be useful?

Section three: Further comment on the proposed new model

Thank you for taking the time to consider the proposed new model.

Please answer Question 33 if you have any additional comments.

33. Please use this space to add any further comments.

Consultation closes at 4:30 pm, Friday 15th February 2019

A summary of feedback provided will be published online at www.wdhb.govt.nz/news/public-consultations