Imagine

Your weekend plans: bike, golf, DIY, travel, time with family, dinner with friends

Playing sport: touch with your mates, coaching your child’s team

Your professional plans: continued learning, teaching, retirement

The freedom: of sleeping in or getting up early to go for a run; of reaching for your partner
Imagine, now

...All those normal parts of *your* life – of *your* life plan – changing in an instant.

...Waiting for someone to turn *you*, clean *you*, dress *you*, feed *you*, toilet *you*.

...The changes in how *you* relate to your family, your friends, your co-workers and peers.
Imagine how, in a moment...

Injury

Diagnosis

Everything changes
Rehabilitation allows those whose lives have been saved by skilled emergency care and acute medical and surgical care – to regain a life worth living.
Physical Medicine and Rehabilitation Medicine

• Frank H Krusen: pioneer of **physical medicine**, which emphasized the use of physical agents, such as hydrotherapy and hyperbaric oxygen, coined the term 'physiatry' in 1938.

• Rehabilitation medicine gained prominence during both World Wars in the treatment of injured soldiers and laborers. Howard A Rusk became a pioneer of **rehabilitation** medicine after being appointed to rehabilitate air force pilots during World War II.

• 1943, the Baruch Committee defined the specialty as a combination of the two fields. The committee also distributed funds to establish training and **research** programs across the United States.
UN & WHO

UN declared 1983-1992 the Decade of Disabled Persons

1993 - WHO General Assembly adopted the UN Standard Rules on the *Equalization of Opportunities for Persons with Disabilities*.

2007 **NZ** with 80 countries ratified the United Nations Convention on the Rights of Persons with Disabilities

Article 26: Identifies rehabilitation as a **Human Right**
WHO International Classification of Function

IMPAIRMENT
Alteration in Body Function / Body Structure
- physiological functions of body systems (including psychological function).
- anatomical parts of the body (organs, limbs)

ACTIVITY
Activity is the execution of a task or action by an individual.
- Activity Limitations (previously described as ‘disability’) are difficulties an individual may have in executing basic human activities due to an impairment.
- Basic ADL

PARTICIPATION
Participation is involvement in a life situation /experience.
- Participation Restrictions (previously described as ‘handicap’) are difficulties an individual may experience in being involved in life situations due to the environment.
- Environmental Factors - consist of the physical, social and attitudinal environment in which people live and conduct their lives.
- Industrial ADL

“Disability” & “Handicap” are not within the person but are within the environment and the environment’s restrictions upon the person.
Specialist Rehabilitation is:

• a comprehensive, interdisciplinary and biopsychosocial process
  • directed by Rehabilitation Medicine physician
• aimed at enabling people with short-term or long-term conditions that impact on health and function
• to reach and maintain their optimal physical, sensory, intellectual, psychological and social abilities
  • in order to live a meaningful life
• while recognising fiscal & societal responsibilities.

Rehabilitation is an evidence-based, person-centred, goal-oriented service developed with service user co-design.
Rehabilitation Diagnoses:

Stroke & Acquired Brain Injury

Traumatic & Non-Traumatic Spinal Cord Injury

Multiple Trauma/ Multiple Fractures

Pelvic & Femur fracture; Limb Amputation

acute inflammatory or active degenerative polyarthritic conditions and connective tissue disorders

neuro-degenerative disorders and degenerative neuromuscular disorders (i.e., MS, MND, ALS, polio/post-polio)

*post-TJR (if bilateral or if complications)

congenital disability

other acquired neurological disorders (i.e., GBS, Critical Illness Polyneuropathy)

severe debilitation due to prolonged complicated hospital course.
Rehabilitation in New Zealand

Evidence-based Rehabilitation Medicine practices and treatments that are cost effective and result in the best outcomes for people with acute, short term and long term disability due to illness or injury.

Unfortunately, delivery of rehabilitation services in New Zealand has not kept pace.

Rehabilitation Medicine as a medical specialty is still widely unrecognised in NZ

- AH & Medical Schools
- 4/20 DHBs have AFRM Rehabilitation Medicine Specialist
- Public

The state of New Zealand’s rehabilitation services has been described as “woeful” by Health Workforce New Zealand; with the specialty categorised as “vulnerable” → “critical”

- US – 8000 AAPMR [~1/40,000]
- AU – 354 AFRM [~1/63,500]
- NZ – 11.5 [~1/450,000]

Many New Zealanders are not achieving the health – and life - outcomes that are possible and realistic….and their right.
Disability in NZ

New Zealand Census 2006

~ 660,300 New Zealanders disabled
17% of the total population

New Zealand Census 2013

~ 1,062,000 New Zealanders disabled
24% of the total population

2013
3rd leading cause of adult impairment due to “natural ageing”
Disparity in Maori & Pasifika

• Māori experience higher rates of disability (21%) vs non-Māori (16.7%).

• \( \sim 43,000 \) Pacific adults identified as experiencing disability \( \sim 24,300 \); 42% due to injury

• >50% of disabled Pacific people aged < 45 years.
Limited Access to Rehabilitation - Inequity due to Location

4 / 20 DHBs Rehab Medicine Specialists [AFRM(RACP)] & Rehab Units

DHBs AT&R “>65” Wards with Geriatrician, AH, nursing, SW teams
DHBs Developing Community Rehab Services

Post-Specialised Rehabilitation (non-traumatic dx) → home DHB

- poor equipment provision
- limited home modification
- limited skill therapists (AT&R)
Access to Rehabilitation – Inequity due to funding

- Disabled adults in New Zealand supported ~ by three funding systems (ACC, MOH, DHB) – dependent upon aetiology (accident vs illness) and age.

- “This funding model for rehabilitation services has been criticised as an obstacle to a comprehensive rehabilitation system.”
### Access to Rehabilitation – Inequity Due to Aetiology

<table>
<thead>
<tr>
<th>Ministry – Illness/Condition</th>
<th>ACC - Accident/Injury</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Limited personal/household supports</td>
<td>• 24h+ care in home</td>
</tr>
<tr>
<td>• No family support</td>
<td>• Personal, household &amp; family support</td>
</tr>
<tr>
<td>• No psychological support</td>
<td>• Psychological support</td>
</tr>
<tr>
<td>• Limited (very basic) equipment (lottery grant)</td>
<td>• Equipment &amp; home modifications</td>
</tr>
<tr>
<td>• Limited personal supplies</td>
<td>• Interim accommodation or PH</td>
</tr>
<tr>
<td>• No home modifications (ramp)</td>
<td>• Vehicle, driving assessment, vehicle modifications</td>
</tr>
<tr>
<td>• Income testing for PH</td>
<td>• Vocational Rehabilitation RTW</td>
</tr>
<tr>
<td>• Self-funded driving assessment, vehicle purchase &amp; modifications</td>
<td>• On-going private therapy</td>
</tr>
<tr>
<td>• No Vocational Rehabilitation</td>
<td></td>
</tr>
<tr>
<td>• Limited DHB therapy</td>
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## Access to Rehabilitation – further Inequity due to age < 65 >

<table>
<thead>
<tr>
<th>&lt; 65 MOH</th>
<th>MOH 65+</th>
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<tbody>
<tr>
<td><strong>DHB</strong></td>
<td></td>
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<tr>
<td>• Generally no rehab unless in Geriatric AT&amp;R ward</td>
<td></td>
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<tr>
<td>• Limited personal/household supports; multiple needs assessors w/o delegated authority &amp; within limited budget</td>
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<tr>
<td>• Short-term disability supports: Physical, sensory &amp; ID dx before 18</td>
<td></td>
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<tr>
<td>• Long-term supports:</td>
<td></td>
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<tr>
<td>— DSS (physical disability &amp; cognitive incl dementia - Alzheimer's, EtOH)</td>
<td></td>
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<tr>
<td>— LTS CHC (health related – no “disability”)</td>
<td></td>
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<tr>
<td>• Accommodation ~ no housing mods; no age-appropriate residential care facilities</td>
<td></td>
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<tr>
<td>• No Voc Rehab</td>
<td></td>
</tr>
<tr>
<td>• Family / social disruption</td>
<td></td>
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<tr>
<td>• Living longer with disability</td>
<td></td>
</tr>
<tr>
<td><strong>MOH</strong></td>
<td></td>
</tr>
<tr>
<td>• AT&amp;R rehab units in DHBs</td>
<td></td>
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<tr>
<td>• One NASC</td>
<td></td>
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<tr>
<td>• Equipment &amp; home modifications from NASC delegated authority to identify care package, equipment &amp; mods – no max</td>
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</table>
Stroke < 65
NZ
Not ALL Doom & Gloom....
Rehabilitation in NZ

1974 Accident Compensation Corporation (ACC)

Case-managed, timely rehabilitation of persons injured in NZ – IP, OP & Community

+ key promotor of best-practice models of Rehabilitation after injury.

+ cost effective with outcomes better than Australia. (specialist rehab)

- legislation - ACC only covers rehabilitation, equipment/modifications & support after injury.

→ resulted in an unforeseen consequence of significant disparity in service provision.
National Burn Centre

Burn rehabilitation
(acute)

Middlemore Hospital
Auckland

Established without
Rehabilitation Medicine

→ Regional provider once
stable

ACC funded community rehab

Middlemore Hospital,
Auckland (co-located with
the National Burn Centre)

Waikato Hospital, Hamilton

Hutt Hospital, Lower Hutt,
Wellington

Christchurch Hospital,
Christchurch
Spinal Cord Injury/Impairment

XS Complications – Delays to surgery & rehab, poor surgery, poor post-op support
Services and treatments inconsistent
Poor coordination of services
Questionable knowledge of SCI → poor outcomes

Traumatic & Non-Traumatic SCI : Fragmented & Inequitable

NZ OPPORTUNITY!
...optimise and coordinate resources to improve the outcomes for people with SCI and their families

...through Specialist SCI Surgical, Critical Care & Rehabilitation Medicine care; SCI specific interventions & rehabilitation; and lifelong support for people with spinal cord impairment (SCI).
Traumatic SCI in NZ


Destination Policy & NZSCIR International Registry

• Prevention
• Consumer information
• Clinical pathways & Services
• Consumer supports
TBI Rehab Pathway

Following confirmation that TBI has occurred:

• Criteria
• ACC notification
• Referral Process
• ABI Rehab Assessment Team –
  – ABI Auckland & Hamilton
  – Laura Fergusson Trust
  – Isis (1 Site 1 Service) Rehabilitation (SDHB)
Regional Amputee Rehabilitation Pathway - across DHBs, Auckland Artificial Limb Centre and Community

Final Draft 23rd June 2016
Regional Amputee Rehabilitation Pathway

Locally delivered across the DHBs, Community and Auckland Limb Centre to:

• Ensure that all people with amputations have access to comprehensive, skilled IDT rehabilitation services.

• Support a regionally consistent and timely working relationship with Auckland Artificial Limb Centre (ALC).

• Encourage a robust consumer peer support network throughout New Zealand.

• Support regional and local quality improvement, audit and bench marking.

• The local Amputee Coordinator roles will be instrumental in this function.
Regional Amputee Rehabilitation Pathway

Local Amputee Coordinator role

- **IDT Pre-Surgical assessment and goal setting that considers patient’s needs and life roles.**
- **Ongoing Interdisciplinary team (IDT) assessment, treatment and goal setting including return to life roles such as work/school.**

**Psychological Support. Cultural Support. Peer Support.**

**IDT Pain Management – pre-op, post-op surgical and phantom pain: pharmacological and non-pharmacological.**

- **Organise post-op wheelchair, seating and equipment.**
  - Identify additional support needs.

  - **Wheelchair, seating and equipment provision; training and practice.**
  - **Personal Care Needs Assessment.**
  - **Home Environment Assessment.**

- **Pre-op education and exercise.**
  - **Exercises: strength, balance, stretches.**
  - **Mobility training.**
  - **Gait training with prosthesis.**
  - **Continued exercises.**

- **Oedema management with Rigid Removable Dressing (RRD) and/or shrinker.**

- **Wound and residual limb education and skin management.**

- **Initiate self-management.**

- **Self care: Skin and oedema management.**

- **Risk management and secondary prevention education.**
  - **Family/ Care giver education and training.**

- **Consent for ALC referral. Pre-amputation visit to ALC as appropriate.**

  - **ALC notified of all amputations.**
  - **Referred to ALC post-amputation and ALC appointment confirmed.**
  - **ALC assessment, goal planning, fabricating and fitting.**

- **Discharge Planning: discuss pathway, timeframes, expected home modifications, wheelchair and equipment.**

  - **Liaise with discharge support service. Confirm support needs.**
  - **Education, home programme and follow-up plans.**
  - **Life-long support.**
Major Multiple Trauma

ACCC
Major Trauma National Clinical Network
MOH
DHBs
Early Responders
Critical Care & Acute Services
Rehabilitation

COMING SOON!
Multitrauma Limb Salvage Amputee
Cancer Rehabilitation

INTEGRATED IDT Inpatient & Outpatient Rehabilitation Service for people with cancer related and treatment related deficits

- EDUCATION beyond the diagnosis and cancer treatment
- SUPPORT in understanding physical, emotional, mental and social changes
- PREVENTION of secondary complications
- SUPPORTIVE Rehabilitation guided Return to Work & Return to Life
- MAXIMISING & Maintaining QUALITY of LIFE

Focus away from mere SURVIVAL toward PRESERVATION of function, functional improvement & optimised Quality of Life
Rehabilitation for People with Cancer

- Metastases to Bone
  - Pathologic Fractures, Amputation & assess the risk
- CNS Involvement (primary or metastases)
  - Brain, Spinal Cord
- Lymphedema & complications 2° treatment
  - Pulmonary, swallow, PN, MSK, burn/contracture
- Medical Complications
- Debilitation

- Discharge Planning & Coordination of Community Services
- Prevention of 2° complications
Category of Cancer Treatment

- Stage I – Preventive. Prevent deconditioning, contractures, pressure areas, fxs, etc.
- Stage II – Restorative. Expected return to premorbid state w/o substantial disability. May benefit from orthotic/prosthesis.
- Stage III – Supportive. Disease controlled but w/residual disease/disability. Expect return home & remain active, function below premorbid level. May RTW for a time.
- Stage IV – Palliative. Active rehab program not appropriate; +/- Hospice LOC.
And now for this important announcement...
A redistribution of funding is needed to support:

Equity of rehabilitation services, equipment, modifications & personal and social supports for the > 50% of New Zealanders living with disability due to illness;

The development of rehabilitation medicine & “all age” rehabilitation services in all NZ DHBs;

A national focus on social investment & inter-sectorial funding for rehabilitation and associated services;

A clear rehabilitation framework through a NZ Rehabilitation Strategy that brings together health, disability /ABILITY and fiscal responsibility.
Call for a New Zealand Rehabilitation Strategy

*Guide **government policy and practice of healthcare** WITH & FOR those with disability through Co-design

*Improve the health, wellbeing, functional abilities and thus participation* of New Zealanders who experience disability from illness or injury.

*Enhance functional ability / independence reduce the individual, Whānau/family and societal burden of disability.*

Improve access to & participation in the community and workplace to allow opportunity to contribute to family, the community and the economy by return to life roles and work force participation.
*2014 Update

*WHO Rehabilitation 2030
A Call for Action

http://ww.who.int/disabilities/care/rehab-2030/en/
Rehabilitation Medicine

Universal

Holistic