Victorian Nurse Practitioner Project

Phase 4, Round 4.11 - Chronic Disease Management

Eastern Health

Multiple Sclerosis Nurse Practitioner

Service Model

April 2014

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“There is little faith involved in setting out on a journey where the destination is certain and every step in between has been mapped in detail. Bravery, trust, is about leaving camp in the dark, when we do not know the route ahead and cannot be certain we will ever return.”

## Abbreviations

<table>
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<th>Description</th>
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<tr>
<td>BHH</td>
<td>Box Hill Hospital</td>
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<td>EH</td>
<td>Eastern Health</td>
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<tr>
<td>EIMSS</td>
<td>Early intervention multiple sclerosis service</td>
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<td>MS</td>
<td>Multiple Sclerosis</td>
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<tr>
<td>MSNP</td>
<td>Multiple Sclerosis Nurse Practitioner</td>
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<tr>
<td>NP</td>
<td>Nurse Practitioner</td>
</tr>
<tr>
<td>NPC</td>
<td>Nurse Practitioner Candidate</td>
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1. Eastern Health Multiple Sclerosis Service

1.1 EH MS Service Introduction

The Eastern Health MS Service was established in 2001. The service currently provides care to over 850 people with MS. It is the 3rd largest specialised MS service in Victoria, the growth rate sustained over the last 6 years is >120 per annum, with an average 90% retention to service rate. The MS Service includes a team of MS Specialist Neurologists, a Psychologist, a Continence Nurse, a Clinical Nurse Consultant and research team.

MS is a chronic progressive neurological disorder affecting 95.2: 100,000 per population in Australia. Diagnosed predominantly age 20-40 years old, and with an estimated cost burden per person is $48,945, it affects three times as many females as males (1). For most people the onset of the disease is at a time where they are establishing careers and families.

MS is an inflammatory disease of the central nervous system with variable onset and disease course. It is occasionally benign, frequently remitting, but often progressive with gradually increasing disability. Although that disability will vary, the uncertainty and unpredictability is universal. For most, MS does not have a significant effect on life expectancy but for some it may mean facing 50 years of disability and distress.

In today’s era, MS is considered a treatable disease and early treatment reduces delay disability and reduce relapse rate. The persistent burden of the disease for people living with MS relates to the many MS symptoms including complex pain syndromes, bladder and bowel dysfunction, disabling fatigue, spasticity and motor impairment, tremor, mood changes, cognitive deterioration and visual disorders.

Good management of MS is challenging given the nature of the condition, the complex progressive symptoms and the psychosocial consequences that can impact as profoundly as the physical symptoms. For people with MS, the partnership with the healthcare professional begins at the time of diagnosis and continues, with periods of high activity or stabilisation, throughout their lifetimes.

Newly diagnosed patients with MS enter the EH MS Service via the traditional public health pathway of referral to the MS outpatient clinic. This service model is associated with lengthy waiting periods for specialist assessment and intervention including follow up education, support and care. Across Victoria this waiting period can be up to 6 months, with EH currently having a maximum of 4 months.

From diagnosis, the disease course of MS is mostly characterised by periods of stability and episodes of clinical deterioration, this may be related to MS relapse (new CNS inflammation) or the worsening of existing disability. The complexity of these episodes requires specialist intervention. The EH MS team offers a phone/email triage service where the patient is triaged to a Medical review in either the Emergency Department or in the outpatient’s clinic.

Diagram 1: Current EH MS Service Model
1.2 EH MS Service Gaps/Opportunities

The proposed model of care that the MS NP would support recognises that the sustainability of the specialised service delivery requires a reconstruction of the existing service model and workforce. The EH MS Service has identified that gaps exist in access to services and early intervention strategies that could be improved by the introduction of a MS NP (Refer to appendix 1 for details of critical gaps, and opportunities).

Critical gaps include:

1. Extended waiting periods between diagnosis and review (up to 4 months)
2. Limited outpatient clinic access to Specialist review for clinical deterioration – may lead to Emergency Department presentation.
3. Unnecessary admissions and delays to discharge as a result of limited access to Specialist
4. Specialist MS services are restricted to one EH site (BHH)
5. High patient numbers on consulting days resulting in heavy workload for Neurologists and lack of time for patient review resulting in rushed practitioners not following established practice guidelines
6. Limited expertise available for training medical and nursing staff due to lack of consultant availability.
7. Lack of Care Coordination

Opportunities include:

8. Improve the limited service provision to rural and remote populations.
9. Develop a service delivery model that specifically targets the needs of young people with chronic disease.
10. Shift episodic care away from inpatient care to care in the home through MS NP support.
11. No after hours specialist review services
2. Multiple Sclerosis Nurse Practitioner Service Model – Early Intervention Multiple Sclerosis Service (EIMSS)

2.1 MS NP Service Model - Philosophy
MS disease progression can be delayed, symptoms effectively managed and quality of life improved through early intervention and timely, appropriate care.

2.2 MS NP Service Model – Key Features
The service model will be designed to provide early intervention to newly diagnosed patients with MS and patients experiencing a clinical deterioration related to MS disease progression. The Service model will be named “Early Intervention Multiple Sclerosis Service (EIMSS)” to capture the intent of the service delivery. The key features include:

1. Recognises diversity and promotes individualised care
   - MSNP clinics provided in the hours that suit the needs of patients and families.
   - Partner with the patient primary care providers to coordinate care

2. Responsive and adaptive to patient needs
   - Regular MSNP clinics (3x a week)

3. Accessible and simple to use (user friendly)
   - Shifts episodic care away from inpatient care to care in the home (e.g. medical infusion therapies) through MSNP support of these services
   - MSNP clinics provided at multiple sites across Eastern Health to more closely locate the care to the patient.

4. Embraces the use of technologies
   - Enhance partnerships with patients and other health care providers via the use of multimedia.
   - Provide access to rural and remote patients via utilisation of electronic media eg: tele-health

The proposed model aligns with The Victorian Health Priorities Framework 2012-2022, the Eastern Health Strategic Direction plan 2012-2022 and the Victorian Dept of Health and Ageing Chronic Integrated Disease Management approach by recognising the unique needs of a specific patient population and developing a patient centred, responsive and innovative model of care to accommodate for changing needs of consumers of health care. The Eastern Health strategic plan focuses on the re-modelling of Neurology services (priority 2) to provide appropriate level of care, at the appropriate time and place. Considering its large geographical catchment, this includes the delivery of care across sites, to remote and/or disadvantaged population groups. The Eastern Health workforce plan promotes the development of the NP roles within chronic health care, to better serve its populations needs.

2.3 MS NP – Service Model Clinical Pathways
The service model will provide two distinct pathways of care.

Pathway 1 will include all patients newly diagnosed with MS (the diagnosis must have been established prior to first Consultation). This accounts for approximately 20-30 patients per year.

Pathway 2 will include patients with an existing diagnosis of MS who are experiencing a clinical deterioration (approximately 850 EH patients with MS).
2.4 MS NP - Entry to Service Model

2.4.1 Sources of referral

Pathways 1 and 2 will receive referrals from:
- External sources - General Practitioners and non EH Neurologists
- Internal sources – Medical referrals from Acute, Sub Acute and Ambulatory Directorates within Eastern Health.

In addition, Pathway 2 will also include:
- Patient self referral (self referral is an established phone/email triage process within the EH MS Service). The MS NP will consult with the patient over the phone and then direct the most appropriate avenue for care including:
  a. MS NP Clinic
  b. Emergency Department
  c. General Practitioner
  d. Neurologist
  e. Nil need for consultation

2.4.2 Referral Criteria (for MS NP Consultation)

Pathway 1 – A new diagnosis of Multiple Sclerosis has been established.
Pathway 2 – Patients with an existing diagnosis of MS experiencing a clinical deterioration which may include:
  a. the development of a new symptom or acute worsening of an existing symptom; or
  b. a relapse; or
  c. a side effect related to medications prescribed for MS.

Referral Exclusions:
  a. Referrals to establish diagnosis
  b. Routine follow up
  c. Referrals received from sources/for patients external to EH catchment
### 2.5 MS NP Clinical Intervention within Service Model

The MS NP will demonstrate advanced assessment skills and extensions to Registered Nurse scope of practice in 9 key clinical areas:

<table>
<thead>
<tr>
<th>Clinical Area</th>
<th>Advanced skills and extended practice</th>
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| 1. Acute MS relapse assessment and management | - Advanced Neurological Assessment and documentation  
- Acute relapse assessment and appropriate medication management  
- Assessment of differential diagnosis and appropriate investigations of alternative diagnosis  
- Evaluation of MRI Brain to assess for gadolinium enhancement to support relapse diagnosis as required and determine if differential diagnosis |
| 2. Assessment and therapeutic (including) medication management of Spasticity in MS | - Assessment of muscle tone and strength in a neurological examination  
- Medication management on MS spasticity  
- Evaluation of appropriateness for referral to external providers, Physiotherapist, Botox specialist, other rehabilitation provider  
- Establish other alternative therapeutic intervention for management of MS spasticity  
- Assessing for and identifying differential diagnosis for changes in strength and tone in MS (including ordering appropriate investigations such as neurodiagnostic examinations) |
| 3. Assessment and preparation of newly diagnosed patient for MS disease modification therapy | - Identify appropriate investigations for preparation introduction of new MS disease modifying therapy  
- Understanding, interpretation and identification of related pathology results (ECG, Infectious diseases screening)  
- Assessing appropriate and timely referrals to relevant HCP’s including Cardiology, Urology, Infectious Diseases |
| 4. Advanced assessment and medication management of bladder and bowel dysfunction in MS | - Assessment of bladder and bowel dysfunction in MS, including identification of appropriate assessment investigations  
- Medication management on MS bladder and bowel dysfunction  
- Evaluation of appropriateness for referral to external providers, continence nurses, Urology, Gastroenterology  
- Establish other alternative therapeutic intervention for management of MS bladder and bowel dysfunction  
- Assessing for and identifying differential diagnosis for changes in bladder and bowel function in MS. |
| 5. Advanced assessment and medication management of mood disorders and depression in MS | - Assessment of mood disorders and depression in MS, including identification of appropriate assessment tools.  
- Medication management on mood disorders and depression in MS  
- Evaluation of appropriateness for referral to external providers, psychologist, psychiatrist  
- Establish other alternative therapeutic intervention for management mood disorders and depression in MS  
- Assessing for and identifying differential diagnosis for mood disorders and depression in MS. |
| 6. Advanced assessment of cognition and appropriate referral to neuropsychological services | • Assessment of cognition in MS, including identification of appropriate assessment tools.  
• Evaluation of appropriateness for referral to external providers, neuro-psychologist, cognitive–dementia service  
• Establish other alternative therapeutic intervention for management of cognitive dysfunction in MS  
• Assessing for and identifying differential diagnosis for cognitive dysfunction in MS. |
| 7. Advanced assessment and medication management of neuropathic pain in MS | • Assessment of pain in MS, including identification of appropriate assessment investigations and tools  
• Medication management on MS pain  
• Evaluation of appropriateness for referral to external providers, pain services  
• Establish other alternative therapeutic intervention for management of pain in MS  
• Assessing for and identifying differential diagnosis for pain in MS |
| 8. Advanced assessment and intervention in health promotional activities in relation to MS | • Identification of needs for health promotion and secondary prevention strategies in MS.  
• Identifying, understanding and interpreting investigations relevant for specific health promotional needs as above.  
• Establishing resources and referral pathways for appropriate health promotional activities |
| 9. Assessment and intervention in common adverse events of MS disease modifying therapies. | • Identify appropriate investigations for anticipated adverse events  
• Implementation of appropriate therapeutic intervention relevant to the adverse event |
2.6 Transition from MS NP Service Model

Pathway 1 – Transition from the care of the MS NP will occur 8 weeks post initial assessment. At this stage, the patient will be scheduled for 6 monthly routine follow ups with a Neurologist.

Pathway 2 – There are multiple stages where the patient may transition from the MS NP’s care.
1. Phone triage (Patient Self referral) – where patient health issue does not meet criteria for MS NP Consultation. These patients will be referred on to their GP or Neurologist as required.
2. The patient will be reviewed at least once within 8 weeks post the initial assessment and may require ongoing review up to a maximum of 6 months to achieve stabilisation. At any time point, once stabilisation is achieved the patient will transition from NP care. The transition from NP care will depend on follow up requirements and the clinical issue.

2.7 Governance

The NP is professionally responsible to the Director of Nursing and Midwifery, and operationally responsible to the Associate Program Director Specialty Medicine.

In the clinical setting, the NP is responsible to the Director of Eastern Health Neurology and Multiple Sclerosis Service.

2.8 Key Performance Indicators

The MS NP will measure the progress and associated benefits of the role using the following indicators:

Access indicators:
1. Reduce Emergency Department presentations with primary issue related to MS by 50%
2. Reduce waiting time to MS Specialist review following initial diagnosis – aim for 2 week review
3. Reduce patient numbers attending MS specialist Neurologist outpatient clinic sessions by 30%

Clinical Indicators:
4. 100% of all newly diagnosed patients to be assessed/reviewed by the MS NP
5. Unplanned re-presentations for patients seen by NP
6. Annual patient satisfaction audit for patients seen by NP
7. Neurology Registrar/Fellow receive 2 tutorials/annum related to MS treatment/management options

References
1. Economic Impact of Multiple Sclerosis in 2010, Australian MS Longitudinal Study. Multiple Sclerosis Research Australia 2011.
2. The Chronic Care Model found on Improving Chronic Care.org accessed 19 April 2013
## Appendix 1: Gaps and Opportunities Summary

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<th>Gaps</th>
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<td>Extended waiting periods between diagnosis and review (up to 4 months)</td>
<td>Over the last 10 years, as the EH MS Service has grown (at a rate of over 100 new patients per annum), the waiting time between diagnosis and review has lengthened from 2 weeks up to 4 months. The delay to Specialist review contributes to anxiety and stress, and in some cases failure to recognise further symptoms requiring intervention.</td>
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<tr>
<td>Limited outpatient clinic access to Specialist review for clinical deterioration – may lead to Emergency Department presentation.</td>
<td>Current waiting lists for MS clinics are up to 4 months and thus not responsive to the needs of the population. Urgent cases are always prioritised for urgent review in the Outpatient clinic. The impact of this prioritisation increases the numbers of patients attending each outpatient clinic. This can result in a 2 – 3 hour wait for all MS patients. In some cases were prioritisation to a clinic is not possible, patients are asked to present to the Emergency Department for management.</td>
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<td>Unnecessary admissions and delays to discharge as a result of limited access to Specialist</td>
<td>Whilst admitted numbers are low - July 2013 – February 2014 an average of 4 patients per month and an average length of stay of 4.6 days, there are a number of patients where early intervention may have avoided the ED presentation and subsequent admission. In the most part, MS should be able to be managed effectively in the Outpatient, ambulatory setting.</td>
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<td>Specialist MS services are restricted to one EH site (BHH)</td>
<td>Current MS Clinics are operated from BHH. BHH is a difficult facility to access for patients with a mild to moderate disability. The new facility may increase walking distances and have limited impact on ease of access. Eastern Health has a large catchment area and therefore patients requiring review or regular treatments may have to travel long distances for the ongoing management of their chronic disease. The impact of this travel and access challenges (particularly parking) results in significant anxiety and reduces the effectiveness of their clinical review.</td>
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<td>High patient numbers on consulting days resulting in heavy workload for Neurologists and lack of time for patient review resulting in rushed practitioners not following established practice guidelines.</td>
<td>Mal alignment - Capacity and demand</td>
</tr>
<tr>
<td>Limited expertise available for training medical and nursing staff due to lack of consultant availability.</td>
<td>Under the current model the MS Specialist Neurologists are in the outpatient’s clinic one day a week or available via phone for urgent cases. The impact of this is that Neurology Registrars have limited exposure to the complexities of managing patients with MS which is an important part of their general Neurology training.</td>
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<td>Lack of active follow up to ensure the best outcomes.</td>
<td>In the current model a clinical deterioration will be managed and followed up on average at 3 months from the intervention. The MS NP model will ensure early review post interventions and the timely coordination with the patients Primary Care Providers.</td>
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<td>Lack of Care Coordination</td>
<td>In the current model, Primary Care Coordinators including GPs are not always actively engaged due to the traditional communication pathway of dictated letters. The MS NP service model would actively engage the GPs as part of a multi disciplinary coordinated approach.</td>
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<tr>
<td><strong>Opportunities</strong></td>
<td><strong>Details</strong></td>
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<td>Limited rural service provision.</td>
<td>Rural communities within EH catchment have limited access to MS Specialist care. Further opportunities exist in relation to remote populations who have no access to MS specialist care. Through the innovative use of technology (including tele medicine) the MS NP service model could extend to providing a service for this population.</td>
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<td>Develop a service delivery model that specifically targets the needs of young people with chronic disease.</td>
<td>Enhancing partnerships with the young population with chronic disease requires service delivery that is “snappy”, uses technology and is provided in a way that responds to their demands in the time that they need it.</td>
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<td>Shift episodic care away from inpatient care to care in the home through MS NP support.</td>
<td>The current model provides infusion based medical intervention in the acute hospital setting. There is opportunity to implement a risk management plan that enables a percentage of these infusions to be delivered in the home environment. The integration of services at home would require specialised support that could be delivered through the NP Model.</td>
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<td>No after hours specialist services</td>
<td>Currently Neurologist appointments are only available in business hours. Service delivery to this unique population of young, working population that have chosen not to disclose this disease to their employer would benefit from service provision outside of business hours.</td>
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Appendix 2 – Service model Diagram

**EARLY INTERVENTION MULTIPLE SCLEROSIS SERVICE (EIMSS)**

**Pathway 1**
New diagnosis
(Exclude referrals to establish diagnosis)

**Pathway 2**
Existing diagnosis
IDENTIFIED DEGMENTATION
1. New symptom/acute worsening of existing symptom
2. MS relapse
3. Side effect of MS medication

**Exclusions**
1. Referrals to establish diagnosis
2. Routine follow up

**EXTERNAL REFERRALS**
- GP
- Neurologist

**INTERNAL REFERRALS**
Medical referrals from Acute (incl ED), Sub Acute, Ambulatory

**INITIAL ASSESSMENT**
* Current Symptom Management
* Referrals
* Health Promotion
* Education

**FIRST REVIEW**
(4 weeks)
* Assess effectiveness of intervention
* Follow up investigations and referrals (eg: Psychologist)
* Health Promotion

**SECOND REVIEW**
(8 weeks)
* Assess effectiveness of intervention
* Follow up investigations and referrals
* Health Promotion
* Transition from NP care
  1. Neurologist
  2. General Practitioner

**ENTRY TO EIMSS**
Clinical Intervention within EIMSS

**TRANSITION FROM EIMSS**

**PATIENT SELF REFERRAL**
(Phone triage = Clinic review criteria or Emergency Care)

**CLINIC REVIEW**
(Incl ED/Ward)
* Urgent/ED/Ward (same day)
* Semi urgent (within 1 week)
* Assessment, investigation and intervention, referral

**CLINIC REVIEW**
(Within 8 weeks and to a maximum of 6 months)
* Assessment for stabilisation
Up to 6 months eg: pain, depression, medication side effects, bladder, bowel management

* Transition from NP care once stable or at 6 months post intervention
  1. Neurologist
  2. Specialist (other eg: Pain)
  3. General Practitioner

**Exclusions**
1. Phone triage = request patient see GP or Neurologist
2. Referrals external to EH catchment