Health and Service Plan

Chronic Obstructive Pulmonary Disease and Asthma

Medicare Locals gratefully acknowledge the financial and other support from the Australian Government Department of Health and Ageing.

Metro South Medicare Local Ltd (ABN 53 151 707 765) Trading as Greater Metro South Brisbane Medicare Local
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Acknowledgements for production of this Health and Services Plan

Greater Metro South Brisbane Medicare Local would like to acknowledge the role of PricewaterhouseCoopers for their contribution to the development of this Health and Service Plan.
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Executive Summary

In the Greater Metro South Brisbane Medicare Local (GMSBML) region, there has been a rising trend in the incidence of Chronic Obstructive Pulmonary Disease (COPD) and asthma. This has had an associated impact on the cost of secondary and tertiary services, particularly in the areas of preventable emergency department presentations and avoidable hospital admissions, and identified a need to look at improving the accessibility and delivery of care provided by preventive and primary healthcare services.

This Health and Service Plan is intended to be used as the basis for agreeing and implementing joint actions with local health partners to improve the management of COPD and asthma in the GMSBML region, as prevalence increases.

The key objectives to be achieved are:
- Increase consumer access to services
- Improve care coordination across the patient journey
- Reduce emergency department presentations and avoidable hospital admissions.
- Reduce the severity of asthma and prevent COPD in high risk patients.

The development of the COPD and Asthma Health and Service Plan included extensive stakeholder consultation combined with data analysis of significant epidemiological, research and demographic reports.

As a result a range of issues regarding the health management and service delivery of COPD and asthma patients were identified and these formed into three priority areas for improvement:

1. Care Coordination
2. Patient Knowledge and Self-Management
3. Clinician Education

These priority areas have been further developed into seven specific initiatives to be jointly implemented by GMSBML and its partners:

1. Improve Emergency Department discharge protocol for COPD and asthma
2. Improve quality and volume of General Practice management plans and adherence to action plans
3. Increase adherence to National COPD and Asthma Guidelines by General Practice
4. Improve quality of General Practice referrals to hospital respiratory services-specialists
5. Provide alternatives to hospitalisation for mild and moderate COPD and asthma
6. Increase General Practice referrals to pulmonary rehabilitation
7. Build community awareness of COPD and asthma

The proposed next steps for this Health and Service Plan are:
- To foster agreement among COPD and asthma health service providers on the proposed initiatives of this plan and;
- To create partnerships for joint action on proposed initiatives.
Methodology

This Health and Service Plan has been developed as a joint activity to respond to community needs. It is proposed that this plan will foster sustainable partnerships and ownership in driving COPD and asthma healthcare improvement strategies.

Focussed on improving the management of these chronic conditions, early diagnosis and targeted interventions for those who do develop COPD or asthma, the plan has been formed to achieve the key objectives of:

- Increase consumer access to services
- Improve care coordination across the patient journey
- Reduce emergency department presentations and avoidable hospital admissions
- Reduce the severity of asthma and prevent COPD in high risk patients.

This health and service plan has a dual focus on COPD and asthma; however GMSBML recognises that both are distinct diseases with some clearly distinguishable characteristics. For the purpose of this plan, COPD and asthma have been linked due to the high prevalence of each in the GMSBML region. The National Asthma Council of Australia also recognises that an understanding of COPD and asthma is relevant to the management of each disease because:

- COPD and asthma have different prognoses and require different management
- both COPD and asthma can overlap or coexist
- COPD and asthma have many common features, and may be difficult to distinguish

As there are important differences between the optimal management of COPD and asthma, this distinction and individual prevention/management strategies have been incorporated into each of the initiatives.

There are important differences between the optimal management of COPD and asthma therefore it is useful to distinguish between the diagnoses of asthma and COPD in each individual patient’s care. Initiatives in this plan have been clearly designed to impact each disease.

Rather than progress the identified community needs in isolation, GMSBML has decided to shape this plan into a broader more integrated approach. The initial stages of this plan involved using a blended research approach to the collection, assessment and analysis of information relating to the health needs and gaps for COPD and asthma.

Following was the process undertaken to develop this plan:

Stakeholder consultation which determined the focus of the three priority areas was achieved through:

- A sample of carer and sufferer (people with COPD or asthma) interviews
- Multiple workshops with multidisciplinary health professionals involved with COPD-asthma care coordination
- Discussions undertaken as part of the Healthy Communities Forum.
Stakeholders involved in this process include:

<table>
<thead>
<tr>
<th>Key Stakeholders</th>
<th>▪ Asthma Foundation Queensland</th>
<th>▪ Nopuff – Smoking Cessation Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Community Members</td>
<td>▪ Queensland Ambulance Service</td>
<td></td>
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<tr>
<td>▪ Blue Care Metro South</td>
<td>▪ Children’s Health Queensland Hospital and Health Service</td>
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<td>▪ Boehringer Ingelheim Pty Limited</td>
<td>▪ St Vincent’s Brisbane</td>
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<tr>
<td>▪ Ethnic Communities Council of Queensland</td>
<td>▪ School of Health and Rehabilitation Sciences (UQ)</td>
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<tr>
<td>▪ Healthcare Consumers</td>
<td>▪ The Pharmacy Guild of Australia-QLD Branch</td>
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<tr>
<td>▪ Lung Foundation Australia</td>
<td>▪ Practice Nurse representative</td>
<td></td>
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<tr>
<td>▪ Mater Health Services</td>
<td>▪ SouthEast Primary Healthcare Network – GP representative</td>
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</tr>
<tr>
<td>▪ Metro South Hospital and Health Service</td>
<td>▪ Statewide Respiratory Clinical Network</td>
<td></td>
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<tr>
<td>▪ National Asthma Council Chair</td>
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</tbody>
</table>
Section 2

GMSBML Community Snapshot

Greater Metro South Brisbane Medicare Local community has a number of unique geographic and demographic characteristics that impact the incidence of COPD and asthma in the region. These key characteristics are highlighted in this section with a more in-depth analysis included in Appendix 1.

Population Health Profile

GMSBML’s region is one of the largest and most diverse Medicare Locals with the boundaries of our region predominantly aligned with those of Metro South Hospital and Health Service (MSHHS). The GMSBML area (3 780.4km$^2$) largely reflects a metropolitan urban character with notable exceptions of North Stradbroke, Moreton and the Southern Bay Islands classified as remote Australia (RA 4).\(^1\)

Key characteristics of GMSBML population\(^1\):

- At 30 June 2011, GMSBML estimated residential population was 915 290 people (Split 50.2% female / 49.7% male)
- GMSBML’s population distribution is similar to Metropolitan Brisbane with 19.6% of persons aged 0 to 14 years, 69.3% were aged 15 to 64 years and 11.2% were aged 65 years and over
- The 2011 census estimates approximately 1.9 per cent or 17 400 persons of the GMSBML population identified as being of Aboriginal or Torres Strait Islander. This ranks as the third highest Aboriginal and Torres Strait Islander population for a Medicare Local in Queensland
- Approximately 2500 persons are living in the RA 4 classified areas of the GMSBML region.
- A significant consideration for all initiatives planned for the region is the high Culturally and Linguistically Diverse (CALD) population with 245 860 (27.9%) of residents having been born overseas and over 130 000 (15.3%) coming from countries where English is not the first language
- The latest (SEIFA) Index of Relative Socio-Economic Disadvantage has stated the top most disadvantaged Statistical Local Areas in the GMSBML region are; Woodridge/Kingston, Redland Balance, Waterford West, Marsden, Loganlea, Scenic Rim-Beaudesert, Rocklea, Park Ridge-Logan Reserve, Archerfield/Coopers Plains, Moreton Island, Murarrie, Dutton Park/Woolloongabba and Hemmant-Lytton/Wynnum.\(^2\)

Population impact on COPD and asthma health status

The latest Health of Queenslander (2012)\(^3\) report produced by the Queensland Government stated for COPD and asthma that:

- **For asthma**, the female rate of hospitalisation was 20% higher than the male rate with a total of 54% of all hospitalisations
- Hospitalisations for asthma occur mostly in the very young with 44% in children aged 0-9 years. These young children accounted for 64% of male and 36% of female hospitalisations
- In 2010-11, of the 68 deaths where asthma was the underlying cause – 68% of these were female, whilst 43% of asthma deaths were of people aged 70 years and older
- **For COPD**, the male rate of hospitalisation was 38% higher than the female rate and the male death rate was 69% higher than the female rate
- Over 70% of hospitalisations and 90% of deaths occur in people aged 65 years and over
- **For COPD and asthma**, the death rate in areas of socioeconomic disadvantage was 1.8 times the rate in advantaged areas
- The death rate for Queenslanders living in remote (or very remote) areas was double the major city rate
- The death rate for Aboriginal and Torres Strait Islanders was 2.6 times the non-Indigenous rate.

These population characteristics illustrate the need for GMSBML to target certain areas and population groups when employing strategies to impact the incidence of COPD and asthma.
Burden of COPD and asthma

It has been identified that males, who make up approximately half of the GMSBML population, experience over half the total burden of disease for all chronic diseases (51.7%). A major risk factor contributing to the burden of disease for COPD and asthma is tobacco smoking. In 2012:

- Self reported data collected by Queensland Health for residents of the GMSBML region estimated that approximately 17% of adults smoked, 25% of adults were ex-smokers and 58% had never smoked.
- In addition, approximately 43% of males are more likely to smoke daily than females and people living in disadvantaged areas are 2.6 times more like to smoke than people living in other areas.

Prevalence-Incidence of COPD and asthma

**COPD**

- The overall prevalence of COPD (2.27%) in the GMSBML region is close to the national average of 2.32%. Note there are areas of notable exception were the rate was higher, Redlands Balance (3.13%), Loganlea (2.73%), Marsden (2.68%), Stretton Karawatha-Kingston (2.67%) and Waterford West (2.66%)
- In 2012, the incidence of avoidable emergency department presentations for COPD was 1727 with the highest number at Logan Hospital (632) followed by PAH (373), Redlands (382), QEII (252), Beaudesert (62) and Wynnum (26)
- In 2012, there were 1064 incidences of potentially preventable hospital admissions for COPD with the highest number at Logan Hospital (346), followed by PAH (303), Redlands (191), QEII (170), Beaudesert (45) and Wynnum (9)
- It is estimated that there are approximately 29 000 symptomatic COPD patients in the GMSBML region with another 27 000 patients with early stage, asymptomatic COPD.

**Asthma**

- The overall prevalence of asthma (11.01%) in the GMSBML region is higher than the national average of 9.71%, with a higher than local average in the Redland City Balance of 13.19%
- In 2012, the incidence of avoidable emergency department presentations for asthma was 2694 with the highest number at Logan Hospital (1026) followed by Redlands (550), QEII (390), PAH (290) Wynnum (265) and Beaudesert (173)
- In 2012, there were 603 incidences of potentially preventable hospital admissions for asthma with the highest number at Logan Hospital (213), followed by QEII (133) and Redlands (133), PAH (89), and Beaudesert (35).

Cost to hospital system

- For the period of 2003-10, the total funding from the Queensland Government for the treatment of patients who had been admitted for COPD or asthma was approximately $401 million in admitted care settings.
- This equates to the average funding per episode amounted to approximately $5100. Recent reviews of the HitH service has shown a similar cost per admission due to a longer length of stay in the HitH service.

Please note with limited local data on preventive and primary healthcare services, it is difficult to draw conclusions on the quantity and quality of services and cost associated with providing care in these settings. However available data has shown the number of primary healthcare services for Chronic Disease Management related items (as per MBS Item numbers 721-732 for all Chronic Diseases) billed by General Practice in 2011-12 was 142 921. This is a rise from 2009-10 where 84 529 Chronic Disease Management MBS items were billed. Unfortunately this data relates to the spectrum of chronic diseases and is unable to look specifically at COPD or asthma.

The avoidable emergency department presentations and potentially preventable hospital admissions (PPH) have been highlighted as there is a notable difference between the two that impacts on how ‘preventable’ the episode of care is and the delivery of health services. Conditions for which

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1. Redland City Balance covers the Islands in Southern Moreton Bay including North Stradbroke Island, Peel Island, Russell Island, Macleay Island, Karragarra Island, Coochiemudlo Island and Moreton Island. (at the time of this publication)
2. Hospital in the Home involves the provision of acute, sub-acute and post-acute treatments by health care professionals at a patient’s usual place of residence as a substitute for inpatient care received at a hospital.
hospitalisation is considered potentially preventable are those averted through preventive care and early disease management, usually delivered in a primary care setting. An emergency department presentation is defined as an attendance for an actual or suspected condition which is sufficiently serious to require acute unscheduled care, which may be avoidable with correct self management or primary health care intervention/treatment.

An in-depth examination of the COPD and asthma prevalence and associated impact for the GMSBML region is included as Appendix 1. In addition, a mapping of local, state and national initiatives was completed to support this plan, please refer to Appendix 2.
Issues and Improvement

Identified Issues

Identification of range issues arose from analysis of epidemiological, research and demographic data and journey mapping with key stakeholders consultation combined with identified a range of issues

Patient Journey: Early Intervention

A range of issues exist across the patient journey that not only impacts a patient’s ability to receive ongoing care and sufficiently self-manage, but impede the ability of early intervention and diagnosis.

Areas of concern

- Recognising signs and symptoms
- Early diagnosis
- Cohorts less likely to present to GPs (e.g. males aged 20-25)
- Attitude towards respiratory conditions - Perceived not to be a serious disease
- Compliance with asthma and COPD care guidelines
- Inconsistency of resources used (practice nurses, spirometry)
- Accuracy of patient history (e.g. record of smoking history)
- Coordination and integration between GPs and practice nurses
- Accuracy of diagnosis
- General attitude towards chronic disease
- National asthma action plans
- Asthma cycle of care
- Quality of care plans
- Follow up of plan
- Commitment from Patient to care plans
- No remuneration for phone call follow-up
- Transient workforce
- Ongoing review by GP
- Follow up with asthma educators
- Pulmonary rehab access (available but not utilised, e.g. transport issues)
- CALD – Content needs to be simplified
- Patient compliance to care plan
- Not using preventers correctly (e.g. to avoid purchasing additional puffers)

Areas of opportunity

- Targeting vulnerable groups (e.g. teenagers for smoking cessation) for prevention and education
- Early education, identification and diagnosis
- GP knowledge of resources available
- Focused education for clinicians (e.g. spirometry education and use)
- Data collection (e.g. smoking statistics, etc.)
- Contemporary, accurate evidence on prevalence and presentations
- Genetic research on asthma
- GP visits
- Diagnosis to prevent inappropriate over-used and not reviewed prescriptions (e.g. steroid therapy)
- Auto referral to pulmonary rehab
- Health literacy (e.g. CALD, education levels)
- Use of patient goals and expectations in action plans
- Case management for more severe COPD
- Phone call follow-up – Nurse Practitioner
- Coordination among acute, sub-acute and allied services
- MDT approach to provide and reinforce education
- Systems for patient management and review
- Availability and affordability of medication
- COPD – Reinforce messaging (keep it simple) - video
- Ongoing exercise maintenance
- Ongoing care plans
- COPD lifestyle support
- Use of elite athlete/s (swimmer/s) as health promotion
- Asthma is a condition that healthy people can have
Patient Journey: Exacerbation of Condition

The issues that exist within the early intervention of COPD and asthma contribute to the exacerbation of a patient’s condition. Further challenges exist across acute care where a patient presents to an emergency department or is referred to outpatients.

- Awareness of free patient resources
- Access to resources, e.g. asthma educators
- Detection of exacerbating condition for patients
- Access to all services in timely manner
- Queensland Health experiences 14,000 presentations and 7,000 inpatient admissions per year for people with asthma
- Geographic location of patient versus service
- Accuracy of triage
- Early discharge (e.g. pressure to meet National Emergency Access Target impacting ability to provide education)
- Access on Friday afternoons and weekends
- Timeliness of discharge summaries
- Follow ups with GP following presentation at ED
- COPD - Cold call is problematic – better to do home visit – importance of establishing a relationship
- “Capacity issues” impacting willingness to admit mild cases
- Pressure to meet ‘efficient’ lengths of stay
- Palliative care (i.e. end of life discussion)
- Follow ups with respiratory nurse after acute episode

Discharge to GP

Admitted to inpatients

Refer to outpatients

Call QAS

Present at ED

GP visit

Exacerbation of condition
Priority areas for improvement

Through stakeholder consultation, **three priority areas for improvement** were examined further to determine the particular health and service issues requiring improvement and the potential solutions to enable these improvements to take place to address the COPD and asthma health service needs and gaps in the GMSBML region.

The three **priority areas** identified are:
1. **Care Coordination**
2. **Patient Knowledge and Self-Management**
3. **Clinician Education**

<table>
<thead>
<tr>
<th>1</th>
<th>Care Coordination</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stakeholder identified issues</strong></td>
<td><strong>Potential solutions</strong></td>
</tr>
<tr>
<td>• Consistency of care provided by health professionals and health services.</td>
<td>• Establish a central point of coordination, e.g. an organisation to drive coordination and patient-centred care enabled by an electronic portal or eHealth</td>
</tr>
<tr>
<td>• Health service provider knowledge of other services for the chronic condition.</td>
<td>• Close the gap between services (funding - private, public and community)</td>
</tr>
<tr>
<td>• Sharing of resources between services.</td>
<td></td>
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<tr>
<td>• Utilisation of key respiratory organisations.</td>
<td></td>
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<tr>
<td>• Use of a centralised patient folder-eHealth record which includes information for all concerned in the patient's care</td>
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<tr>
<td>• Appropriate use of services available</td>
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<tr>
<td>• Quality of referrals from General Practitioners to hospital respiratory services (including correct diagnosis using spirometry) and pulmonary rehabilitation programs</td>
<td></td>
</tr>
<tr>
<td>• Quality of discharge summaries from hospitals to General Practitioners and associated discharge support</td>
<td></td>
</tr>
<tr>
<td>• Coordinate community care across healthcare districts/Medicare Locals/Hospital and Health Services</td>
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<tr>
<td>• Health literacy of general community, patients with COPD and asthma, health service providers and support organisations</td>
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</tbody>
</table>

**Note**
- Mapping of local, state and national initiatives has been undertaken to inform solution development – refer to Appendix 2.

<table>
<thead>
<tr>
<th>2</th>
<th>Patient Knowledge and Self-management</th>
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<tbody>
<tr>
<td><strong>Stakeholder identified issues</strong></td>
<td></td>
</tr>
<tr>
<td>• Raise awareness of early intervention strategies</td>
<td></td>
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<tr>
<td>• Promotion of importance of lung health and the severity of conditions</td>
<td></td>
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<tr>
<td>• Patient or sufferer acceptance of diagnosis and condition</td>
<td></td>
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<tr>
<td>• Awareness and knowledge of care plans and how to access plans</td>
<td></td>
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<tr>
<td>• Emphasis of benefits of control/self-management and smoking cessation</td>
<td></td>
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<tr>
<td>• Knowledge of where to find information/resources for condition</td>
<td></td>
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<tr>
<td>• Knowledge of medication and adherence to medication</td>
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<tr>
<td>• Understand the purpose of oxygen therapy (focus on criteria and purpose of home oxygen)</td>
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<tr>
<td>• Understand who is who across the continuum of care and navigate the system (points of contacts)</td>
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<tr>
<td>• Better use of community and hospital pharmacists</td>
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<tr>
<td>• Compliance with clinic attendance</td>
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<tr>
<td>• Language barriers and health literacy (focus on CALD)</td>
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</tr>
<tr>
<td>• Improved health literacy of general community, patients with COPD and asthma, health service providers and support organisations</td>
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### Potential solutions

- Ensure ongoing education and awareness of chronic disease
- Deliver smoking cessation information sessions
- Alternative models of care / initiatives e.g. phone coaching
- Educate health professionals on smoking cessation strategies
- Target minority groups in prevention and education (e.g. teenagers, CALD, Aboriginal and Torres Strait Islanders)
- Establish health service directory (easy reference to COPD and asthma specialists)

### Note

- Mapping of local, state and national initiatives has been undertaken to inform solution development – refer to Appendix 2.

### 3 Clinician Education

<table>
<thead>
<tr>
<th>Stakeholder identified issues</th>
<th>Potential solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Practice compliance with national guidelines for treatment</td>
<td>Increase availability of education courses, e.g. 8 hour nurses online COPD training (through Lung Foundation Australia)</td>
</tr>
<tr>
<td>General Practice knowledge of educational resources available for patients</td>
<td>Establish health services directory</td>
</tr>
<tr>
<td>Ongoing education for clinicians working with COPD and asthma patients</td>
<td></td>
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<tr>
<td>Improved understanding of medications and prescription according to national guidelines</td>
<td></td>
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<tr>
<td>Use of spirometry in establishing a correct diagnosis</td>
<td></td>
</tr>
<tr>
<td>Education for General Practice on long term oxygen therapy</td>
<td></td>
</tr>
<tr>
<td>Improved health literacy of primary, secondary and tertiary service providers</td>
<td></td>
</tr>
</tbody>
</table>

### Note

- Mapping of local, state and national initiatives has been undertaken to inform solution development – refer to Appendix 2.

Further consultation with key stakeholders expanded on issues for COPD and asthma that will also need to be considered when developing joint partnerships and action. These included:

- Capacity of resources (financial/human) – the coordination and integration of care needs to consider the adequate allocation and capacity of resources at each point of the patient journey to enable consumers to access services in a timely manner and receive urgent care when required.
- Clinical education in the tertiary sector – Comprehensive respiratory clinical education and training at and undergraduate level and whilst in the tertiary sector has been identified as limited.
- Expanded Allied Health professional disciplines – the expansion of allied health service team to include non-traditional COPD or asthma focussed disciplines, for example, physiotherapy, exercise physiology and community pharmacy will assist patients in the areas of self-management, compliance with prescribed medications and exercise tolerance.

In addition to the three priority areas, stakeholder consultation identified a range of issues across the existing patient journey for COPD and asthma. These issues have been mapped for early intervention and exacerbation of condition.
Section 3

Implementation and Action Plan

Initiative Design

In consultation with stakeholders, **seven key initiatives** have been identified to improve COPD and asthma in the GMSBML region. These initiatives are intended to be undertaken through joint partnership and action to ensure a coordinated and integrated approach.

Below is a high level overview of the seven initiatives and whether they target COPD and/or asthma and which stakeholder identified priority area they impact.

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Initiative name</th>
<th>Condition</th>
<th>Priority area</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>COPD</td>
<td>Asthma</td>
</tr>
<tr>
<td>1</td>
<td>Improve Emergency Department discharge protocol for COPD and asthma</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>2</td>
<td>Improve quality and volume of General Practice management plans and adherence to action plans</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>3</td>
<td>Increase adherence to National COPD and asthma Guidelines by General Practice</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>4</td>
<td>Improve quality of General Practice referrals to hospital respiratory services/specialists</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>5</td>
<td>Provide alternatives to hospitalisation for mild and moderate COPD and asthma</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>6</td>
<td>Increase General Practice referrals to pulmonary rehabilitation</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>7</td>
<td>Build community awareness of COPD and asthma</td>
<td>✓</td>
<td>✓</td>
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Initiatives Outlined

The following section details each initiative and a proposed initial implementation plan. Individual initiative implementation plans will need to be developed, owned and driven by the appointed initiative owner.

Each initiative is marked against the Health and Service Plan’s key objectives.

1. Increase consumer access to services
2. Improve care coordination across the patient journey
3. Reduce emergency department presentations and avoidable hospital admissions
4. Reduce the severity of asthma and prevent COPD in high risk patients.

Legend

| No change | Meets objective |

| #1 | #2 | #3 | #4 |

| Initiative description | ED discharge protocol for COPD and asthma |
| COPD or asthma | COPD and asthma |
| Priority area | 1. Care coordination  
2. Patient knowledge and self-management  
3. Clinician education |
| Key issues | Patients in ED are discharged without appropriate education  
Time lag from patient being discharged from ED and General Practitioner receiving discharge summary  
Poor follow up from some General Practitioners following patient’s presentation at ED |
| Evidence/has this happened elsewhere | Dedicated discharge protocol and resource pack (“Bundle”) for asthma patients presenting to ED at Ipswich, Robina and Southport Hospitals (with Asthma Foundation Queensland)  
South Australia, Victoria, Tasmania (pulmonary rehab opt-out)  
Hospital early intervention nurse |
| How to make it work in GMSBML | Identify ‘frequent flyers’ – ED presentations and inpatient admissions  
Pilot at one hospital (e.g. Logan, Redland who each experience high COPD and asthma activity)  
Understand current COPD/asthma discharge protocol for patients  
‘cc’ Asthma Foundation Queensland (AFQ) on discharge summary to follow up with phone call to patient and refer to AFQ website/resources – only for consenting patients  
‘cc’ LFA on discharge summary to follow up with phone call to patient and refer to LFA website/resources – only for consenting patients  
Discharge to include auto pulmonary rehab referral (opt-out system)  
Discharge information pack for patients using AFQ, NAC or LFA resources  
General Practitioner follow up checklist post ED presentation |
| Who needs to be involved | GMSBML  
AFQ, National Asthma Council (NAC), LFA  
GPs, practice nurses, practice managers  
ED staff (including administrative and clinical staff)  
Pulmonary rehabilitation services  
Patients |
| Timeframe | 3 months (quick win) |
| KPIs | Reduce ED presentations  
Reduce inpatient readmissions |
### Initiative description
- Improve quality and uptake of GP management plans (GPMP), written action plans and asthma cycle of care in General Practice
- COPD and asthma

### COPD or asthma
- COPD and asthma

### Priority area
1. Care coordination
2. Patient knowledge and self-management
3. Clinician education

### Key issues
- Poor patient self-management of COPD/asthma
- Incorrect patient use of medications and inhaler devices
- Poor quality and number of care plans and written action plans
- Poor review and follow up of care plans and action plans
- Under utilisation of asthma cycle of care within general practice
- Low rates of referral to pulmonary rehabilitation services
- Level of commitment from patient to care plan
- Health literacy (CALD, education levels)
- Use of patient goals and expectations in action plan
- Health professional knowledge of available respiratory resources and services to help patients self-manage

### Evidence/has this happened elsewhere
- Currently happening in general practices within GMSBML region
- Action plan evidence – COPD action plans (LFA), asthma action plans (NAC, AFQ)
- Asthma buddy smart phone app

### How to make it work in GMSBML
- Survey General Practitioners, practice nurses and allied health to identify what training is needed and how best to provide the training to achieve maximum attendance
- Identify key information and education resources to promote to General Practices (LFA, NAC and AFQ resources)
- Bulk purchase of on-line COPD training for practice nurses, and Pharmacists (through LFA)
- Utilise NAC and AFQ health professional training courses
- On-line training for General Practitioners (RACGP - COPD on-line training)
- General Practice respiratory clinics, recalls and reminder systems.
- Provide education on resources and need for regular medical review
- Provide spirometry training for General Practitioners and practice nurses
- Utilise community pharmacy Medschecks (in pharmacy MUR), particularly post discharge and compliance risk patients
- Establish within General Practice, a follow up phone call to monitor patient’s progress with care plan goals and self-management
- Utilise allied health professionals for patient self-management education and maintenance support
- Increase General Practitioner referrals for Pharmacy Home Medications Review (HMR)
- Consider the use of Medicine Use Reviews in Community Pharmacy to assist with disease state management

### Who needs to be involved
- GMSBML
- General Practitioners, practice nurses, practice managers
- Allied Health Professionals
- AFQ, NAC, LFA

### Timeframe
- 6-12 months (strategic initiative)
### KPIs
- Increase in GPMPs, action plans, asthma cycle of care and HMRs
- Increase in referrals to pulmonary rehabilitation services
- Reduce ED presentations
- Reduce inpatient readmissions

### Initiative description
- Adherence to national COPD and asthma guidelines by general practice

### COPD or asthma
- COPD and asthma

### Priority area
3. Clinician education

### Key issues
- Instances of poor compliance with national COPD and asthma guidelines by health professionals
- Instances of poor awareness of national COPD and asthma guidelines
- Instances of inappropriate prescribing of inhaler medications
- Instances of inaccurate diagnosis/under diagnosis and lack of early diagnosis
- Instances of low levels of spirometry testing
- Knowledge of performing and interpreting spirometry
- Confidence in initiating and managing smoking cessation and following smoking cessation therapy guidelines
- Knowledge of long term oxygen therapy for COPD patients

### Evidence/has this happened elsewhere
- National guidelines i.e. COPDX Guidelines and National Asthma Council (NAC) Asthma Management Handbook

### How to make it work in GMSBML
- Survey General Practitioners, practice nurses, and allied health professionals to identify what guideline training is needed and how best to provide the training to achieve maximum attendance
- Broad approach – saturation – keep respiratory guidelines high profile and ongoing with GMSBML region
- Provision of spirometry training to General Practitioners and practice nurses within GMSBML region
- Provide spirometry training and guidelines education as part of orientation to new General Practitioners and practice nurses
- Education about and promotion of guidelines to general practices by GMSBML
- Education and promotion of lung screening using Piko6/COPD6 to General Practice (e.g. work with Boehringer Ingelheim to deliver LUNGS screening program in general practice)
- Work with pharmacies to deliver COPD screening and smoking cessation advice
- Utilise clinician education resources and training (e.g. asthma management updates, spirometry training) provided by NAC, AFQ, LFA

### Who needs to be involved
- GMSBML
- GPs, practice nurses
- Boehringer Ingelheim
- AFQ, NAC, LFA
- Peak Pharmacy bodies

### Timeframe
- 12-24 months (strategic initiative)

### KPIs
- Increase in lung function testing and screening
- Inhaler medication prescriptions
**Improve Quality of General Practice Referrals to Hospital Respiratory Services/Specialists**

- Increase in early diagnosis and correct diagnosis
- A reduction in ED presentations
- Reduce inpatient readmissions
- Reduce inappropriate referrals to hospital respiratory services

<table>
<thead>
<tr>
<th>Initiative description</th>
<th>Improve quality of general practice referrals to hospital respiratory services/specialists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiative description</td>
<td>Improve quality of General Practice referrals to tertiary respiratory services</td>
</tr>
<tr>
<td>COPD or asthma</td>
<td>COPD and asthma</td>
</tr>
</tbody>
</table>
| Priority area | 1. Care coordination  
| | 3. Clinician education |
| Key issues | Incomplete referrals, i.e. spirometry, chest x-ray, symptoms, current medications, past history and smoking history not sent with referral  
| | Inappropriate referrals, i.e. incorrect diagnosis by not performing spirometry or not interpreting spirometry correctly  
| | Hospital respiratory services unable to appropriately triage urgency of referrals  
| | Long hospital outpatient waiting lists for respiratory referrals, especially category 3 |
| Evidence/has this happened elsewhere | Mater Hospital referral service |
| How to make it work in GMSBML | Respiratory specialist to educate and work together with General Practitioners on the best way to refer patients to hospital respiratory services (e.g. using referral guidelines)  
| | Pilot Logan Hospital Respiratory Specialist visits to 10 general practices to educate on referral guidelines, discuss respiratory issues/concerns from the GP perspective and identify respiratory education needs/gaps for general practice  
| | Develop education and action plan to address general practice education needs/gaps and issues/concerns  
| | Promote to rest of GMSBML region  
| | Improved health literacy of General Practice for COPD and asthma |
| Who needs to be involved | GMSBML  
| | Hospital respiratory specialists  
| | GPs, practice nurses, practice managers |
| Timeframe | 3 months (quick win) |
| KPIs | Reduced respiratory outpatient waiting lists  
<p>| | Improved new: review ratios for outpatient clinics |</p>
<table>
<thead>
<tr>
<th>Initiative description</th>
<th>• Provide alternatives to hospitalisation for mild and moderate COPD and asthma</th>
</tr>
</thead>
<tbody>
<tr>
<td>COPD or asthma</td>
<td>• COPD and asthma</td>
</tr>
</tbody>
</table>
| Priority area | 1. Care coordination  
2. Patient knowledge and self-management  
3. Clinician education |
| Key issues | • Patients waiting to access emergency care too late  
• Patients not recognising early signs and symptoms  
• Patients not self-managing lung disease well, including parents of children with asthma  
• Patients not accessing available respiratory services e.g. Pulmonary Rehabilitation, Lungs in Action exercise maintenance program  
• Paramedics identifying COPD patients and following protocols |
| Evidence/has this happened elsewhere | • New ambulance pathways and monitoring centres, Canterbury, New Zealand  
• Main Street Medical Centre after hours service  
• Logan Street Doctor after hours emergency van (provides spirometry) for homeless and vulnerable |
| How to make it work in GMSBML | • Improve management of mild/moderate COPD and asthma by general practice and patients  
• Increase General Practitioner referrals to Pulmonary Rehabilitation services, Lungs in Action programs  
• Increase self-management skills through increased patient education and GPMP and action plans within general practice  
• Regular follow up phone calls from general practice to monitor patient’s progress in between appointments  
• Expand GMSMBL Positive Impact phone counseling service to incorporate COPD/asthma patient support (General Practitioner referral into service)  
• Referral from General Practitioner to GMSMBL chronic disease self management programs and other community-based programs  
• Promote AFQ and LFA patient phone support service  
• Identify targeted, redirected options for QAS  
• Identify alternatives for moderate COPD and asthma treatment  
• Improve health literacy of general practice for COPD and asthma |
| Who needs to be involved | • GMSBML  
• QAS  
• General practice team  
• Patients  
• LFA – Pulmonary Rehabilitation, Lungs in Action |
| Timeframe | • 12 months (strategic initiative) |
| KPIs | • Reduced ED presentations  
• Reduced inpatients readmissions  
• Number of patient self-management plans in General Practice  
• Increase utilisation of Pulmonary Rehabilitation services & Lungs in Action programs  
• Increase the number of GPMPs & asthma cycle of care  
• Improved compliance with meds / programs to reduce events etc. |
### Initiative description
- Increase general practice referrals to pulmonary rehabilitation services

### COPD or asthma
- COPD

### Priority area
1. Care Coordination
2. Patient knowledge and self-management
3. Clinician education

### Key issues
- Underuse of pulmonary rehabilitation services
- Low General Practitioner referral to pulmonary rehabilitation services
- Poor general practice and patient knowledge of available services and benefits of pulmonary rehabilitation
- Referral to pulmonary rehabilitation not an automatic component of COPD management within general practice
- Patient barriers e.g. lack of transport, not aware of pulmonary rehabilitation and its benefits

### Evidence/has this happened elsewhere
- LFA reports

### How to make it work in GMSBML
- Education and promotion of pulmonary rehabilitation services to general practice and patients with COPD
- List of current pulmonary rehabilitation services & Lungs in Action programs in GMSBML region made available to general practice and how to refer
- Education on LFA website – pulmonary rehabilitation services
- Education for General Practitioners and Practice Nurses on purpose and benefits of pulmonary rehabilitation
- Education for general practice on how to refer to pulmonary rehabilitation services
- Research barriers to patients accessing pulmonary rehabilitation e.g. transport
- Improve health literacy of General Practice for COPD

### Who needs to be involved
- GMSBML
- General Practitioners, practice nurses
- Patients
- LFA

### Timeframe
- 3 months (quick win)

### KPIs
- Increase attendance and referral to pulmonary rehabilitation
- Improved compliance
### Build Community Awareness of COPD and Asthma

<table>
<thead>
<tr>
<th>Initiative description</th>
<th>• Build community awareness of COPD and asthma</th>
</tr>
</thead>
<tbody>
<tr>
<td>COPD or asthma</td>
<td>• COPD and asthma</td>
</tr>
<tr>
<td>Priority area</td>
<td>1. Care coordination</td>
</tr>
<tr>
<td></td>
<td>2. Patient knowledge and self-management</td>
</tr>
<tr>
<td>Key issues</td>
<td>• Health literacy</td>
</tr>
<tr>
<td></td>
<td>• Patients not taking respiratory conditions seriously or not recognising signs and symptoms</td>
</tr>
<tr>
<td></td>
<td>• Patients not self-managing COPD/asthma</td>
</tr>
<tr>
<td></td>
<td>• General community not aware of COPD and asthma</td>
</tr>
<tr>
<td></td>
<td>• Continued smoking by patients with COPD and asthma</td>
</tr>
<tr>
<td></td>
<td>• New uptake of smoking within general community</td>
</tr>
<tr>
<td>Evidence/has this happened elsewhere</td>
<td>• NAC, AFQ, LFA reports and raised by stakeholders</td>
</tr>
<tr>
<td>How to make it work in GMSBML</td>
<td>• Improve health literacy of general community, patients with COPD and asthma, sufferers and health service providers.</td>
</tr>
<tr>
<td></td>
<td>• Campaign to educate and raise awareness of COPD and asthma in general community</td>
</tr>
<tr>
<td></td>
<td>• Community campaign to target general and minority groups e.g. Aboriginal and Torres Strait Islander and CALD communities, teenagers who smoke, parents of children with asthma</td>
</tr>
<tr>
<td></td>
<td>• Community campaign using celebrity or athlete with asthma as role model to promote healthy lifestyles</td>
</tr>
<tr>
<td></td>
<td>• Community campaign to increase patients’ awareness of and access to COPD/asthma services and smoking cessation services</td>
</tr>
<tr>
<td></td>
<td>• Work with pharmacies and key respiratory organisations to promote campaign</td>
</tr>
<tr>
<td></td>
<td>• Community screening for tobacco smoking and early detection of COPD</td>
</tr>
<tr>
<td>Who needs to be involved</td>
<td>• GMSBML</td>
</tr>
<tr>
<td></td>
<td>• Community</td>
</tr>
<tr>
<td></td>
<td>• Pharmacies</td>
</tr>
<tr>
<td></td>
<td>• AFQ, NAC, LFA</td>
</tr>
<tr>
<td></td>
<td>• Peak Pharmacy bodies</td>
</tr>
<tr>
<td></td>
<td>• Celebrity/athlete</td>
</tr>
<tr>
<td>Timeframe</td>
<td>• 12 months and ongoing</td>
</tr>
<tr>
<td>KPIs</td>
<td>• Increased community awareness of COPD and asthma</td>
</tr>
<tr>
<td></td>
<td>• Increased visits to general practice for COPD/asthma reviews</td>
</tr>
<tr>
<td></td>
<td>• Increase in GPMPs, action plans and asthma cycle of care</td>
</tr>
<tr>
<td></td>
<td>• Increase in smoking cessation, less uptake of smoking</td>
</tr>
</tbody>
</table>

### Future Direction

The proposed next steps for this Health and Service Plan are:
- To foster agreement among COPD and asthma health service providers on the proposed actions of this plan and;
- To create partnerships for joint action on proposed initiatives.
Reference List


4. Metro South Hospital and Health Service 2012, *COPD ED presentations by hospital, GMSBML region, 2012*, Brisbane, Queensland Health

5. Metro South Hospital and Health Service 2012, *COPD ED presentations by hospital, GMSBML region, 2012*, Brisbane, Queensland Health


<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABS</td>
<td>Australian Bureau of Statistics</td>
</tr>
<tr>
<td>AFQ</td>
<td>Asthma Foundation Queensland</td>
</tr>
<tr>
<td>AIHW</td>
<td>Australian Institute of Health and Welfare</td>
</tr>
<tr>
<td>CALD</td>
<td>Culturally and Linguistically Diverse</td>
</tr>
<tr>
<td>COPD</td>
<td>Chronic Obstructive Pulmonary Disease</td>
</tr>
<tr>
<td>DALY</td>
<td>Disability Adjusted Life Year</td>
</tr>
<tr>
<td>eHealth</td>
<td>Electronic Health Record</td>
</tr>
<tr>
<td>ED</td>
<td>Emergency Department</td>
</tr>
<tr>
<td>GMSBML</td>
<td>Greater Metro South Brisbane Medicare Local</td>
</tr>
<tr>
<td>GP</td>
<td>General Practitioner</td>
</tr>
<tr>
<td>GPMP</td>
<td>GP Management Plan</td>
</tr>
<tr>
<td>HMR</td>
<td>Home Medicine Review</td>
</tr>
<tr>
<td>KPI</td>
<td>Key Performance Indicator</td>
</tr>
<tr>
<td>LFA</td>
<td>Lung Foundation Australia</td>
</tr>
<tr>
<td>MBS</td>
<td>Medicare Benefits Scheme</td>
</tr>
<tr>
<td>MSHHS</td>
<td>Metro South Hospital and Health Service</td>
</tr>
<tr>
<td>NAC</td>
<td>National Asthma Council</td>
</tr>
<tr>
<td>PAH</td>
<td>Princess Alexandra Hospital (Queensland)</td>
</tr>
<tr>
<td>PBS</td>
<td>Pharmaceutical Benefits Scheme</td>
</tr>
<tr>
<td>PHIDU</td>
<td>Public Health Information Development Unit</td>
</tr>
<tr>
<td>QAS</td>
<td>Queensland Ambulance Service</td>
</tr>
<tr>
<td>QEII</td>
<td>Queen Elizabeth II Jubilee Hospital (Queensland)</td>
</tr>
<tr>
<td>RA</td>
<td>The Australia Geographical Classification Remoteness Structure</td>
</tr>
<tr>
<td>RACGP</td>
<td>Royal Australian College of General Practitioners</td>
</tr>
<tr>
<td>SEIFA</td>
<td>Socio-Economic Indexes for Areas</td>
</tr>
<tr>
<td>SEQ</td>
<td>South East Queensland</td>
</tr>
<tr>
<td>SLA</td>
<td>Statistical Local Area</td>
</tr>
<tr>
<td>UQ</td>
<td>University of Queensland</td>
</tr>
</tbody>
</table>
COPD-Asthma Health and Service Plan

Appendix 1
Appendix 1
Community Profile

Greater South Metro Brisbane Medicare Local

Geographic Profile

The GMSBML region lies within South East Queensland (SEQ), Australia’s fastest growing urban region encompassing 103 Statistical Local Areas (SLAs) and covers a geographical area of 3,780.4 km. The boundaries of the GMSBML region are predominantly aligned with those of Metro South Hospital and Health Service (MSHHS) stretching from Rocklea in the north-west along the Brisbane River to Lytton in the north-east (including Moreton Bay and Stradbroke Islands) to Beenleigh in the south and Barney View in the south-west. The region includes Southern Brisbane and part of the Scenic Rim Council.10

Figure 1: GMSBML region (including key hospitals)
Population Profile

For the GMSBML region, the estimated resident population was 915,859 persons on 30 June 2011 which constitutes 20.5 per cent of the total population of Queensland. As at 30 June 2011, 20.1 per cent of persons in the region were aged 0 to 14 years, 68.7 per cent were aged 15 to 64 years and 11.2 per cent were aged 65 years and over. It is projected that the population of the region will grow to approximately 1,239,998 persons by 30 June 2031.

Figure 2: Age profile of GMSBML residents, 2011

Homeless Person

The 2011 Census estimated that 10,793 people in the GMSBML region (1.2% of the total population) are homeless. The highest numbers of homeless people are in the inner city (West End, Kangaroo Point, East Brisbane, South Brisbane) area with 38.7 per cent of homeless people and the Logan area with 10.4 per cent of homeless people.

Aboriginal and Torres Strait Islander population

In the 2011 census, approximately 17,053 persons in the GMSBML region (1.9% of the total population) identified as being of Aboriginal and Torres Strait Islander origin (compared with 3.6% in Queensland). Of the 17,053 persons usually resident in the region who stated they were of Indigenous origin, 14,737 persons stated they were Aboriginal (86.4%), 1328 persons stated they were Torres Strait Islander (7.8%), and 988 persons stated they were both Aboriginal and Torres Strait Islander (5.8%).

Culturally and Linguistically Diverse (CALD)

The GMSBML population is Culturally and Linguistically Diverse (CALD) with 245,860 (27.9%) residents having been born overseas and over 130,000 (15.3%) residents coming from countries where English is not the first language. Of the overseas-born persons who stated that they spoke a language other than English at home, 18,480 persons stated that they spoke English not well or not at all (7.5% of the overseas born population in the region). Significantly over 170 different cultural groups, 43 per cent of Queensland’s CALD population and 80 per cent of the state’s refugee population reside in the GMSBML region.

Socio-Economic Disadvantage in GMSBML

The latest Socio-Economic Indexes for Areas (SEIFA) Index of Relative Socio-Economic Disadvantage* highlight the wide range of economic circumstance seen across the region. With an Australian average of 1000, suburbs across the region range from a high of 1149 (Wakerley) to a low of 811 (Woodridge). The top most disadvantaged Statistical Local Areas (SLA) within the GMSBML region are shown in Table 1.

*Index of Relative Socio-economic Disadvantage (IRSD) is a general socio-economic index that summarises a range of information about the economic and social conditions of people and households within an area.
Table 1: GMSBML statistical local areas of highest economic disadvantage

<table>
<thead>
<tr>
<th>Statistical Local Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodridge/Kingston</td>
</tr>
<tr>
<td>Redland Balance (Bay Islands)</td>
</tr>
<tr>
<td>Waterford West</td>
</tr>
<tr>
<td>Marsden</td>
</tr>
<tr>
<td>Loganlea</td>
</tr>
<tr>
<td>Bethania-Waterford/Eagleby</td>
</tr>
<tr>
<td>Scenic Rim (R) - Beaudesert</td>
</tr>
</tbody>
</table>

Source: ABS, Socio-Economic Indexes for Areas (SEIFA) Index of Relative Socio-Economic Disadvantage, 2013.

Based on the 2011 census data, Logan City had the highest number of most disadvantaged SLAs in the GMSBML region with 32 per cent of its population in this category. In comparison, Brisbane City had the highest number of most advantaged SLAs with 43 per cent of its population in this category.\(^\text{11}\)

**Health Status**

**Life Expectancy**

Residents of the GMSBML region have the highest life expectancy when compared with any other region in Queensland. In 2010, it was expected that males would live to 80.0 years, 0.6 years more than the Queensland life expectancy of 79.4 years. Females were expected to live to 84.5 years, 0.6 year more than Queensland women who had a life expectancy of 83.9 years.\(^\text{13}\)

In contrast, for the Aboriginal and Torres Strait Islanders, it was expected that males would live to 68.3 years and females were expected to live to 73.6 years. This shorter life expectancy is due to a wide range of factors including:

- reduced access to health services
- higher rates of disease and health risk factors (such as smoking, risky alcohol consumption, obesity, poor nutrition and physical inactivity)
- exposure to adverse environmental and socioeconomic conditions\(^\text{13}\).

**Mortality**

Figure 3: 2011 causes of death per 100 000 for GMSBML region (modelled on Queensland rates)

![Figure 3: 2011 causes of death per 100 000 for GMSBML region (modelled on Queensland rates)](image)


In 2011, there were a total of 4697 resident deaths in the GMSBML region, with the rates of deaths per disease listed in Figure 3.
Burden of Disease

Disability Adjusted Life Years (DALYs)

According to 2006 Census data, people living in the GMSBML region have the second lowest rate of DALYs lost due to all causes and, it can be assumed, have better health than other districts.\textsuperscript{14}

Figure 4: DALY rate per 1,000 population Metro South Hospital and Health service

In the chronic disease context, men experienced a greater burden of disease for both acute and chronic respiratory conditions in comparison to women. Cancer, mental disorders, cardiovascular disease, and neurological disorders were the leading causes of burden of disease in the GMSBML region in 2006.\textsuperscript{14}

Table 2: Disability Adjusted Life Years, 2006

<table>
<thead>
<tr>
<th>DALYs by cause</th>
<th>Persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer</td>
<td>20,005</td>
</tr>
<tr>
<td>Mental health</td>
<td>16,736</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td>16,699</td>
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<tr>
<td>Neurological</td>
<td>13,609</td>
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<tr>
<td><strong>Chronic respiratory</strong></td>
<td>7,336</td>
</tr>
<tr>
<td>Diabetes</td>
<td>5,642</td>
</tr>
<tr>
<td>Musculoskeletal</td>
<td>4,698</td>
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<tr>
<td>Genitourinary</td>
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<td>Digestive</td>
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<tr>
<td>Infectious</td>
<td>1,876</td>
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<td>Neonatal</td>
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<tr>
<td>Intentional injuries</td>
<td>1,754</td>
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<tr>
<td>Congenital</td>
<td>1,634</td>
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<td>Endocrine</td>
<td>1,155</td>
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<tr>
<td>Oral</td>
<td>1,147</td>
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<tr>
<td><strong>Acute respiratory</strong></td>
<td>1,136</td>
</tr>
<tr>
<td>Skin</td>
<td>917</td>
</tr>
</tbody>
</table>

Source: Metro South Health Demographic and Health Status Profile, 2010-2011.

Tobacco Smoking

The Australian Institute of Health and Welfare has highlighted tobacco smoking as a general risk factor for chronic disease, with the AIHW estimating that 21 per cent of Australian adults smoke tobacco. COPD is most commonly caused by tobacco smoking. People with asthma smoke at least as much as people without asthma, this is despite the known adverse effects on their condition.\textsuperscript{16} Since a high per cent of adult smokers, particularly females, begin smoking in their teenage years (14-19 years), smoking rates in this age group are a good estimate of uptake rates in the future.
Prevalence-Incidence of COPD and asthma

Chronic Obstructive Pulmonary Disease (COPD)

The overall prevalence of COPD in the GMSBML region is close to the national average (total of 18,331 cases in GMSBML area in 2007-08). When compared to the Australian and Queensland averages, the GMSBML region has lower overall rates for the majority of chronic diseases and their risk factors. The exception to this is respiratory system diseases, where the region has higher overall rates than Queensland.

In 2010-11, COPD ranked as the second highest chronic condition (behind diabetes complications) for potentially preventable admitted patient episodes of care for chronic conditions in public hospitals in the GMSBML region.
Asthma

In 2007-08, it was estimated that there was a total of 94,092 cases of asthma in the GMSBML region, which was approximately 4.5 times the number of episodes of COPD. The overall prevalence of asthma (11.01%) in the GMSBML region is higher than the national average of 9.71%, with a higher than local average in the Redlands Balance of 13.19%.

In 2010-11, asthma ranked as the fifth highest chronic condition (behind diabetes complications, COPD, angina and congestive cardiac failure) in the GMSBML region for potentially preventable admitted patient episodes of care for chronic conditions in public hospitals. Of a total 2,694 presentations at Metro South hospital ED in 2012, 1,026 were at Logan Hospital, with the next highest number being 550 at Redlands Hospital.
Co-morbidity COPD and asthma

Australia-wide people with asthma were 5.6 times more likely to also report COPD (prevalence 9.1%) than people without asthma (prevalence 1.6 per cent). Among those aged 35-64 years, the difference was even greater. In this age group, people with asthma were 6.6 times more likely to report COPD than those without asthma. For the 65 years and over group 22.5 per cent of those people that have asthma also reported comorbidity with COPD, whereas for those people without asthma there was only a 4.9 per cent prevalence\(^6\). This co-morbidity has potentially significant implications for targeting COPD prevention strategies in the region and highlights the need to consider the management of these two conditions together.

Health Service Funding of COPD and asthma

Funding for treatment of COPD and asthma in Queensland

Funding for patients with COPD and asthma in Queensland is mainly provided by the Commonwealth Government in the primary care sector and by the Queensland Government in the public hospital sector.
Total funding from the Queensland Government for the treatment of patients who had been admitted for COPD or asthma at least once since 2003-04 equalled approximately $401 million in admitted care settings in 2009-10.

Approximately 52 per cent of this was for episodes where COPD or asthma were recorded, even though these episodes accounted for only 35 per cent of the total number of episodes. The average funding per episode for the treatment of patients who had been admitted amounted to approximately $5,100.17

Table 3: Average and total funding for episodes of care by type of diagnoses for COPD and asthma in all Queensland hospitals, 2009-10

<table>
<thead>
<tr>
<th>Type</th>
<th>COPD or asthma as main diagnosis</th>
<th>COPD or asthma part of overall diagnosis</th>
<th>No COPD or asthma recorded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of episodes</td>
<td>16,342</td>
<td>9,363</td>
<td>47,158</td>
</tr>
<tr>
<td>Average ($)</td>
<td>$5,144.97</td>
<td>$13,422.02</td>
<td>$4,049.71</td>
</tr>
<tr>
<td>Total ($)</td>
<td>$84,079,019.54</td>
<td>$125,670,413.50</td>
<td>$190,976,047.93</td>
</tr>
</tbody>
</table>

Source: Queensland Health, Queensland Hospital Admitted Patient Data Collection, 2010.

Table 1 illustrates that, for certain diagnoses, the presence of COPD or asthma increases the clinical care required and substantially increases the average funding per episode. Overall, 65 per cent of episodes for the cohort did not include a diagnosis of COPD or asthma; however in 2009-10, this was associated with $191 million of funding.

Funding for treatment of COPD and asthma in GMSBML region

In the GMSBML region, the number of chronic disease related services being provided by General Practice has increased significantly from 84,529 in 2009-10 to 142,921 in 2011-12. The associated fees charged have also nearly doubled from $8.72 million in 2009-10 to $15 million in 2011-12. The benefit paid has risen from $8.71 million in 2009-10 to $14.98 million in 2011-12.18

Table 4: Primary care attendances and fees in GMSBML region, 2009-12

<table>
<thead>
<tr>
<th>Service type</th>
<th>2009-10</th>
<th>2010-11</th>
<th>2011-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of GP attendances</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of services</td>
<td>4,357,698</td>
<td>4,372,322</td>
<td>4,490,597</td>
</tr>
<tr>
<td>Benefit paid ($'000)</td>
<td>165,164</td>
<td>160,073</td>
<td>175,903</td>
</tr>
<tr>
<td>Fee charged ($'000)</td>
<td>188,713</td>
<td>182,155</td>
<td>201,621</td>
</tr>
<tr>
<td>Number of after hour services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of services</td>
<td>325,587</td>
<td>308,803</td>
<td>336,461</td>
</tr>
<tr>
<td>Benefit paid ($'000)</td>
<td>18,999</td>
<td>17,586</td>
<td>20,424</td>
</tr>
<tr>
<td>Fee charged ($'000)</td>
<td>20,796</td>
<td>19,232</td>
<td>22,176</td>
</tr>
<tr>
<td>Number of chronic disease related services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of services</td>
<td>111,767</td>
<td>84,529</td>
<td>142,921</td>
</tr>
<tr>
<td>Benefit paid ($'000)</td>
<td>11,695</td>
<td>8,710</td>
<td>14,983</td>
</tr>
<tr>
<td>Fee charged ($'000)</td>
<td>11,713</td>
<td>8,724</td>
<td>14,996</td>
</tr>
</tbody>
</table>


This means that developing care plans for chronic disease is the third most expensive overall service provided in the GMSBML area behind standard GP attendances and after hour services.

Please note an extract from PHIDU regarding 2007-08 data referenced in this section: The latest prevalence data from the National Health survey but the indication is that the incidence of COPD and asthma has increased. 2007-08 modelled data can still be used as an indicator of prevalence.
For further information:

Email: info@gmsbml.org.au

t 07 3864 7555 or 1300 467 265
f 07 3864 7599
COPD and Asthma Health and Service Plan – Appendix 2
This appendix provides a high-level scan of interventions (strategies, programs and services) that have been found to be effective in assisting people ‘at risk’ of and those ‘living with’ COPD or asthma, and interventions for other conditions that could be applicable to managing people with COPD or asthma.

The research identifies five stages in the disease continuum and we have used these settings as a basis to display the research findings:

- prevention
- early diagnosis
- management of a stable condition
- treatment and support during acute exacerbations
- care and support at the end of life.

There appears to be a solid evidence base of strategies and standards to support COPD and asthma interventions and for this reason we have created an additional overarching section: system-wide strategies.
## Literature review summary

### (1) System wide strategies

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Description</th>
<th>Condition</th>
<th>Source</th>
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</thead>
</table>
| (1.1) A basic pathway created by (NHS UK) National Institute for Health and Clinical Excellence (NICE) | NICE produces guidance (advice) for the NHS about preventing, diagnosing and treating medical conditions. The pathway brings together guidance, quality standards and materials to support implementation on a specific topic area. This COPD pathway is based on the following quality standard:  
• diagnosis  
• management planning  
• inhaled and oral therapies  
• annual comprehensive assessment  
• smoking cessation support  
• pulmonary rehabilitation  
• management of exacerbations  
• initial assessment for long-term oxygen therapy  
• review of long-term oxygen therapy  
• care in hospital  
• non-invasive ventilation in hospital  
• review within 2 weeks of discharge  
• palliative care. | • COPD | NICE Pathways 2013, <http://pathways.nice.org.uk> |
| (1.2) An outcomes strategy for COPD and asthma in England | There is an estimated three million people in England who live with COPD, often unknowingly. Separate attention is given to asthma within this strategy because of the magnitude of the burden of that condition. The challenge for community and social care services in supporting people with COPD and asthma in an integrated approach with the NHS. Six shared objectives are set out in the strategy:  
Objective 1: To improve the respiratory health and well-being of all communities and minimise inequalities between communities.  
Objective 2: To reduce the number of people who develop COPD by ensuring they are aware of the importance of good lung health and well-being, with risk factors understood, avoided or minimised, and proactively address health inequalities.  
Objective 3: To reduce the number of people with COPD who die prematurely through a proactive approach to early identification, diagnosis and intervention, and proactive care and management at all stages of the disease, with a particular focus on the disadvantaged groups and areas with high prevalence.  
Objective 4: To enhance quality of life for people with COPD, across all social groups, with a positive, enabling, experience of care and support right through to the end of life.  
Objective 5: To ensure that people with COPD, across all social groups, receive safe and effective care, which minimises progression, enhances recovery and promotes independence.  
Objective 6: To ensure that people with asthma, across all social groups, are free of symptoms because of prompt and accurate diagnosis, shared decision making regarding treatment, and on-going support as they self manage their own condition and to reduce need for unscheduled health care and risk of death. | • COPD  
• Asthma | Department of Health (UK) 2011, An Outcomes Strategy for Chronic Obstructive Pulmonary Disease (COPD) and Asthma in England, <https://www.gov.uk> |
| (1.3) The COPD care path/model for Chatham-Kent, Ontario | This COPD pathway describes the ideal healthcare path for COPD patients across the spectrum of disease severity, towards which we are working in Erie St. Claire region. Any clinician in acute or primary care can refer patients to the continuum of care that the model describes. It is anticipated that initially, suitable patients will be primarily identified during hospital inpatient episodes for exacerbations or at specialist clinic appoints. Over time, referrals will be encouraged and accepted from all points in the continuum, most importantly from primary care. The COPD Care Pathway/Integration Model contains two Tiers:  
• Tier I – the ‘Assessment, Triage and Stabilization Phase’  
• Tier II – focusing on a ‘Maintenance and Primary Care Phase’ with an emphasis on best practice adherence. | • COPD | Erie St. Claire Local Health Network 2012, Chronic Obstructive Pulmonary Disease Integration Care Path/Model for Chatham-Kent, <http://www.eriestclairhin.on.ca> |
### (1) System wide strategies

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| **(1.4)** The COPD Model of Care by Government of Western Australia Department of Health | The COPD Model of Care included best practice care for those at risk of or with diagnosed COPD across the continuum of care. The focus on optimal pathways of care and the management of long-term conditions through self-management, disease and case management. The Chronic Respiratory Disease Service Improvement Framework (CSIF) sets out the five standards, relating to a stage in the disease continuum. Strategies to facilitate the implementation of the five COPD standards are focused on:  
- primary prevention particularly to target high risk populations  
- identification of all smokers and referral to smoking cessation services  
- optimised access to and use of spirometry  
- establishment of integrated, community based COPD services including Pulmonary rehabilitation.  

Key recommendations:  
- prevention– develop a coordinated plan to address smoking, particularly amongst target populations including Aboriginal communities, people with mental health issues, pregnant women, low socio-economic populations prisoners. This can be achieved by improving access to community-based smoking cessation programs population based health awareness campaigns recommend people seek early medical advice if they have respiratory symptoms, especially smokers.  
- early diagnosis - increase access to spirometry for the early diagnosis of respiratory conditions including COPD through identification and training for spirometry providers.  
- management of stable COPD: through access to appropriate services integrated across the continuum of care by primary, secondary and tertiary providers, with a focus on self-management, exercise training and COPD action plans. To achieve this there is a need to expand the range of community-based ambulatory services for COPD and develop integrated referral pathways and protocols.  
- management of acute exacerbations of COPD - through timely access to clinical assessment for all people with COPD who have acute symptoms, particularly in community settings.  
- care and support during the end stages of life - that a model of service delivery for end of life and palliation for people with COPD be developed in collaboration with relevant stakeholders. This will ensure care is delivered, where possible, at home or in the community and that the use of advance healthcare directives and appointment of enduring guardians are encouraged.  
- workforce development through the expansion of multi-disciplinary teams with clearly defined roles and responsibilities and adequate training in brief intervention for tobacco smoking, chronic disease self-management training, palliative care and its application to chronic conditions, pulmonary rehabilitation and Spirometry. |
### (1.5) The Chronic Care Model (CCM)

The CCM, developed by Wagner in the 1990’s can be applied to a range of chronic conditions, target populations and health care settings. The key features of the model are:

- self-management
- decision support using evidence based guidelines
- delivery system design to ensure that patients get the correct care delivered in a coordinated fashion by well informed professional health team members
- clinical information system which efficiently support all aspects of care of people with chronic illnesses – quality records, follow-up, recall etc
- organisation of health care – a quality improvement culture of chronic disease service delivery
- community – to develop strategic partnerships and alliances with the wider community whence those with chronic conditions come.

### (1.6) Asthma and COPD prevention and management referral pathways

GP Partners Adelaide (a registered Not for Profit company) has come up with various pathways to manage the chronic conditions of patients. They have developed a comprehensive COPD/asthma pathway across the full care continuum for both ‘at risk’ and those ‘diagnosed’ with COPD/asthma. The publication lists the services and resources available including those for self management. General practitioners are usually the first point of contact in the health system. They play a key role in the primary intervention, prevention, diagnosis and management of chronic disease in the community.

### (1.7) Community Based Coordination

Findley et al. (2011) researched the effectiveness of an alternate model of care coordination which was facilitated external to the healthcare system. The Merck Childhood Asthma Network used community health workers to provide care coordination across multiple sites. The program added weight to the evidence that community-based care coordination programs can improve management behaviors and decrease morbidity across sites. The program achieved improved caregiver confidence, improved caregivers likelihood of taking steps to reduce triggers, formulating an Asthma Action Plan and appropriate use of controller medication.

### (1.8) Care Coordination in Primary Care

Patel et al. (2004) studied the effectiveness of a care coordination model in primary health care. The model consisted of the following components:

1. Development of a patient registry
2. Systematic approach to assessment of asthma
3. Case management
4. Physician education

The outcome of the study was that this program was associated with a marked reduction in rates of hospitalization and ED usage for asthma, as well as significant improvement in several essential processes of care.

<table>
<thead>
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<td>(1.5) The Chronic Care Model (CCM)</td>
<td>The CCM, developed by Wagner in the 1990’s can be applied to a range of chronic conditions, target populations and health care settings. The key features of the model are:</td>
<td>Chronic disease</td>
<td>ASHM 2009, Models of care for chronic disease, <a href="http://www.ashm.org.au">http://www.ashm.org.au</a></td>
</tr>
<tr>
<td>(1.6) Asthma and COPD prevention and management</td>
<td>GP Partners Adelaide (a registered Not for Profit company) has come up with various pathways to manage the chronic conditions of patients. They have developed a comprehensive COPD/asthma pathway across the full care continuum for both ‘at risk’ and those ‘diagnosed’ with COPD/asthma. The publication lists the services and resources available including those for self management. General practitioners are usually the first point of contact in the health system. They play a key role in the primary intervention, prevention, diagnosis and management of chronic disease in the community. A very comprehensive schematic is available which shows resources available across the care continuum for both at risk and those diagnosed with COPD or asthma.</td>
<td>COPD</td>
<td>GP partners Adelaide 2012, Chronic Disease Prevention and Management Referral Pathways, <a href="http://www.gppadelaide.org.au">http://www.gppadelaide.org.au</a></td>
</tr>
<tr>
<td>(1.7) Community Based Coordination</td>
<td>Findley et al. (2011) researched the effectiveness of an alternate model of care coordination which was facilitated external to the healthcare system. The Merck Childhood Asthma Network used community health workers to provide care coordination across multiple sites. The program added weight to the evidence that community-based care coordination programs can improve management behaviors and decrease morbidity across sites. The program achieved improved caregiver confidence, improved caregivers likelihood of taking steps to reduce triggers, formulating an Asthma Action Plan and appropriate use of controller medication.</td>
<td>Asthma</td>
<td>Findley, SE, Thomas, G, Madera-Reese, R, McLeod, N, Kintala, S, Andres, MR, Ortiz, B, Herman, E 2011, ‘A community-based strategy for improving asthma management and outcomes for preschoolers’, Journal Of Urban Health, vol. 88, Suppl 1, pp. 85-99.</td>
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<td>Asthma</td>
<td>Patel, PH, Welsh, C, Foggs, MB 2004, ‘Improved asthma outcomes using a coordinated care approach in a large medical group’, Disease Management, vol. 7, no. 2, pp. 102-11.</td>
</tr>
</tbody>
</table>
(2) Early diagnosis

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Description</th>
<th>Condition</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2.1) Clinical impact of COPD and asthma and potential for early intervention</td>
<td>The major systemic consequences/co-morbidities now recognized are: deconditioning, exercise intolerance, skeletal muscle dysfunction, osteoporosis, metabolic impact, anxiety and depression, cardiovascular disease, and mortality. The mechanisms by which these develop are unclear. Probably many factors are involved. Two appear of paramount importance: systemic inflammation, which presents in some patients with stable disease and virtually all patients during exacerbations, and inactivity, which may be a key link to most COPD-related co-morbidities. Further studies are required to determine the role of inflammatory cells/mediators involved in systemic inflammatory processes in causing co-morbidities; the link between activity and co-morbidities; and how COPD therapy may affect activity. Both key mechanisms appear to be influenced significantly by COPD exacerbations. Importantly, although the prevalence of systemic consequences increases with increasing severity of airflow obstruction, both systemic consequences and co-morbidities are already present in the Global Initiative for Chronic Obstructive Lung Disease Stage II. This supports the concept of early intervention in chronic obstructive pulmonary disease. Although at present early intervention studies in COPD are lacking, circumstantial evidence suggests that current treatments may influence events leading to the systemic consequences and co-morbidities, and thus may affect the clinical manifestations of the disease.</td>
<td>COPD, Asthma</td>
<td>Katholieke Universiteit (Belgium) 2008, COPD as a lung disease with systemic consequences--clinical impact, mechanisms, and potential for early intervention, <a href="http://www.ncbi.nlm.nih.gov">http://www.ncbi.nlm.nih.gov</a></td>
</tr>
</tbody>
</table>
| (2.2) Department of Public Health, Connecticut                             | • Pediatric Easy Breathing – a professional asthma education program based on national guidelines that trains paediatric providers to determine asthma severity, utilise treatment guidelines for determining proper therapy and to develop individual treatment plans  
  • Easy Breathing for Adults – a professional education program that trains internal medicine residents in evidence- and systems-based medicine, promoting documented adherence to national diagnosis and treatment guidelines  
  • The CT Coalition for Environmental Justice – asthma awareness campaigns to educate the public regarding the signs and symptoms of asthma, and environmental factors that may trigger asthma symptoms. | COPD, Asthma | Department of Public Health, (Connecticut) 2013, <http://www.ct.gov/dph>  
| (2.3) Patient education: self referral / management in South Australia      | 1. Quiltline – phone support/1:1. Calls answered 24 hours a day, providing information, support and advice for quitting smoking. A free 12 week program of proactive call backs and an SMS support program through text messages are available  
  2. Live Well Information Sessions – group information sessions held at Asthma Foundation of SA including Live Well with Asthma, Live Well with Allergy & Anaphylaxis, Live Well with Eczema, Live Well with Chronic Lung Conditions  
  3. Breathe Better Health Line – Asthma Foundation of SA, FREE telephone information service staffed by trained respiratory health educators  
  4. Australian Lung Foundation – patient information and support  
  5. LungNet – Australian Lung Foundation’s LungNet is an a network of patient support groups in Australia.  
  6. Kids with Asthma website – interactive kid-friendly website providing asthma information  
  7. Lungaroos – online support for respiratory patients  
  8. Moving Towards Wellness – Chronic Disease Self-Management Course (Stanford Model). Group program, held at various locations  
  • Lungaroos 2013, <http://health.groups.yahoo.com/group/lungaroos> |
## Early Diagnosis

| Intervention                                      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Condition | Source                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------
| (2.4) Widespread Education of low-risk COPD Patients | Siddique et al. (2012) studied the concept of educating low-risk COPD patients, those patients with no known COPD hospitalizations or ED visits, in preparation of their disease state intensifying. It was found that an educational intervention targeted at this specific group reduced self-report hospitalizations. An educational intervention that is practical for large volumes of low-risk patients may be appropriate for reducing COPD related hospital and ED visits. Further research and piloting of similar initiatives need to be evaluated to examine the correlation between education and hospital utilization rates. | COPD      | Siddique, HH, Olson, RH, Parentl, CM, Rector, TS, Caldwell, M, Dewan, NA, Rice, KL 2012, ‘Randomized trial of pragmatic education for low-risk COPD patients: impact on hospitalizations and emergency department visits’, *International Journal Of Chronic Obstructive Pulmonary Disease*, vol. 7, pp. 719-28.                                                                                                                                                                                                 |
| (2.5) Health Professional Education               | Drakeford et al. (2007) studied the effectiveness of both group education sessions and self-paced learning in medical students and hospital junior staff. The education package focused on formulating Asthma Action Plans and the proper use of inhalation devices. Both forms of education were effective in teach participants how to write an accurate Asthma Action Plan and improve practitioner confidence in demonstrating proper inhaler use. | Asthma    | Drakeford PA, Davis, AM, Van Asperen PP 2007, ‘Evaluation of a paediatric asthma education package for health professionals’, *Journal of Paediatrics & Child Health*, vol. 43 no. 5, pp. 342-52.                                                                                                                                                                                                 |
| (2.6) Online Education for Health Professionals   | Sly et al. (2006) studied the effectiveness of online education for Physicians working in Primary Care. The learning management systems was used to deliver asthma education materials which included content pages, self-tests, a quiz and a survey. It was found that simple web-based systems are suitable for delivering educational materials to Primary Care Physicians. | Asthma    | Sly, JL, Lombardi, E, Kusel, M, Sly PD 2006, ‘Piloting a web-based continuing professional development program for asthma education’, *International Journal Of Medical Informatics*, vol. 75, no. 10, pp. 708-13.                                                                                                                                                                                        |
| (2.7) Community Health Centre/Public Health Centre Education | The up skilling and education of community health centre staff is also a valid avenue for improving asthma education of health professionals in the community. Evans and Mellins (1997) explored the effect of educating health centre staff on an education tool based on National Asthma Education and Prevention Program guidelines. Included in the education program was screening to identify new cases and health education to improve family management. The educational intervention substantially increased staff ability to identify children with asthma, involve them in continuing care and provide them with state-of-the-art care for asthma. | Asthma    | Evans, D and Mellins, R 1997, ‘Improving care for minority children with asthma: Professional education in public health clinics’, *Pediatrics*, vol. 99, no. 2, pp. 157.                                                                                                                                                                                                 |

### References

### Early diagnosis

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continued Postgraduate Education for Primary Care Physicians</td>
<td>An international study (Turkey) by Başyigit et al. (2006) studied the effect of continued postgraduate education on COPD knowledge of primary care physicians. Pre and Post testing of the seminar showed that there was a need for continued post graduate seminars in COPD identification and management as an increase in physician scores was seen as a direct result, however these increases were not maintained at follow up.</td>
</tr>
</tbody>
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<th>Condition</th>
<th>Source</th>
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</table>
(3) Management of a stable condition

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<tr>
<th>Intervention</th>
<th>Description</th>
<th>Condition</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>(3.1) Support for Older People with COPD in Community Settings: Systematic Review</td>
<td>The objective of this qualitative systematic review was to explore the common and shared experiences of people with COPD receiving care and support in the community in order to determine what aspects of support are considered beneficial for people with COPD. The systematic review analysed 41 published papers and identified three main support themes: • consistency of service provision – quality of life outcomes can be improved for patients with COPD when they receive more consistent support in relation to information, rehabilitation, end of life care and other service provision • home based care – patient and carer anxiety and distress related to COPD can be reduced when there is better planned and more integrated support for home based care and self management • individualisation of care – individualisation of care based on assessed need – not just the patient’s disease state is a necessary part of care for those with COPD. The paper made four practice recommendations: 1. older patients with COPD should have a patient held Management Plan 2. community staff need to be up skilled to deal with COPD based on local need 3. nurse education that includes skills training as well as training around attitudes, expectations and perceived therapeutic usefulness for those with COPD is required in order to build community based support 4. increase community availability to pulmonary rehab programs to optimise quality of life</td>
<td>COPD</td>
<td>Kirkpatrick P &amp; Wilson E 2010, Support for Older People with COPD in Community Settings: A Systematic Review of the Literature, JBI Database of Systematic Reviews and Implementation Reports v. 10, n. 57, p. 3649 - 3763</td>
</tr>
<tr>
<td>(3.2) Community Pharmacy Interventions</td>
<td>Optimal care for people with COPD requires a partnership approach between the person with COPD and their carer. The healthcare professional should ensure this by taking a care planning approach, with regular reviews, adherence and compliance with treatment and good communication and exchange of information to support effective self-management. Locally commissioned services in many community pharmacies have: • introduction of a New Medicine Service (NMS) to help improve medicines adherence for people with long-term conditions newly prescribed a medicine • introduction of national target patient groups for Medicines Use Reviews (MURs) to ensure they are provided to those who will benefit the most. One of the national target groups will be patients with respiratory disease.</td>
<td>COPD</td>
<td>Department of Health (UK) 2011, An Outcomes Strategy for Chronic Obstructive Pulmonary Disease (COPD) and Asthma in England, <a href="https://www.gov.uk">https://www.gov.uk</a></td>
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### (3) Management of a stable condition

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<th>Condition</th>
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</tr>
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<tbody>
<tr>
<td>(3.3) COPD Evidentiary Framework (Ontario)</td>
<td>Ontario’s Medical Advisory Secretariat has developed an evidence based review of the literature about treatment strategies for patients with COPD. The treatment strategies reviewed: flu and pneumonia vaccinations, smoking cessation, community based multidisciplinary care, pulmonary rehab, long-term oxygen therapy, non-invasive positive pressure ventilation, hospital at home programs, home tele-health. The analysis consisted of systematic review of clinical literature, economic analysis and systematic review of the qualitative literature. Based on the clinical and economic evidence the presented in the paper the following recommendations were made: 1. Secondary prevention • maximise the use of flu and pneumonia vaccine • endorse evidence-based strategies aimed at encouraging smoking cessation in patient with COPD 2. Stable COPD • continue developing community-based multidisciplinary care and pulmonary rehab for management of moderate to severe/stable COPD 3. Acute Exacerbations COPD • use of pulmonary rehab in patients following an acute exacerbation (within 1 month of hospital discharge) 4. Palliative Care • the fluctuating physical, psychosocial, spiritual and information needs of the patient should be considered when making palliative care services available.</td>
<td>COPD</td>
<td>OHTAC COPD Collaborative 2012, <em>Chronic Obstructive Pulmonary Disease (COPD) Evidentiary Framework</em>, Ont Health Technology Assess Ser [Internet]. 2012 March;12(2):1-97 <a href="http://www.hqontario.ca">http://www.hqontario.ca</a></td>
</tr>
<tr>
<td>(3.4) Blue Card, Canterbury, New Zealand</td>
<td>COPD patients are given a Blue Card which documents their baseline condition and supports them during an acute exacerbation of their illness with clear steps of what to do.</td>
<td>COPD</td>
<td>General Practice NZ 2013, <a href="http://gpnz.org.nz">http://gpnz.org.nz</a></td>
</tr>
<tr>
<td>(3.5) CSIRO Care assessment platform</td>
<td>Home-based rehabilitation for cardiac patients - through the Australian e-Health Research Centre, CSIRO has designed a home-based rehabilitation program for cardiac patients using mobile phone and web technology. It is currently being trialled in Queensland with Metro North Primary and Community Health Services and The Prince Charles Hospital. Preliminary results show significant improvement in the uptake and completion of cardiac rehabilitation. With its personalised nature and integration with daily life means patients are more likely to complete the program and make their new healthy lifestyle permanent.</td>
<td>Cardiovascular disease</td>
<td>CSIRO 2013, <a href="http://www.csiro.au">http://www.csiro.au</a></td>
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### (3) Management of a stable condition

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<td><strong>(3.6)</strong> Inala Chronic Disease Management Service</td>
<td>The Inala Chronic Disease Management Service (ICDMS) is a new model of care for patients with type 2 diabetes (T2DM), informed by the Chronic Care Model (CCM). Patients with type 2 diabetes (T2DM) who have been referred by their GP to a tertiary hospital specialist outpatient clinic are able to attend the ICDMS. The ICDMS operates from within a general practice that is co-located within the Inala Community Health Centre. Care is provided by a multidisciplinary team: endocrinologist, GP Clinical Fellows (GPs who have undertaken focussed post-graduate training in complex diabetes care), diabetes nurse educators, dietician, podiatrist and psychologist. The ICDMS clinical model has three discrete components: the assessment and complications screening, the weekly multidisciplinary diabetes clinic and the review and discharge phase. The ICDMS clinical model strengths include the comprehensive assessment and complications screening process, the GP Clinical Fellows value-adding to the clinical efficiency of the specialist thereby increasing patient throughput, and its location within the patients' community. It combines the best of two health care domains - the patient focus and holistic care valued by the primary care sector with the specialised knowledge and skills of hospital diabetes care. Preliminary data suggests that the ICDMS project is achieving significant clinical outcomes that are equivalent to or even better than that achieved in a tertiary referral hospital which should translate into a reduction in complications and deaths from diabetes, and thus, reduced admissions to hospital. The service is efficient with a high new:review ratio of patients been seen and the majority of patients prefer to be managed locally in the community rather than at hospital.</td>
<td>• Diabetes</td>
<td>• Askew et al 2010, Protocol and baseline data from The Inala Chronic Disease Management Service evaluation study: a health services intervention study for diabetes care, BMC Health Services Research 2010, 10:134 <a href="http://www.biomedcentral.com">http://www.biomedcentral.com</a> • Queensland Department of Health 2005, Inala Chronic Disease Management Service: a new model of care for the management of diabetes <a href="http://www.health.qld.gov.au">http://www.health.qld.gov.au</a></td>
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<td><strong>(3.7)</strong> Home Medicine Reviews (HMR)</td>
<td>The HMR program aims to increase quality use of medicines and reduce adverse medicine events. As part of this program, an accredited pharmacist must conduct a comprehensive review of a patient’s medicine in the patient’s home and improve the patient’s knowledge and understanding of their medicine.</td>
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<td>Medicare 2013, <a href="http://www.medicareaustralia.gov.au">http://www.medicareaustralia.gov.au</a></td>
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<td><strong>(3.8)</strong> Smartphone Application Facilitating Care Coordination</td>
<td>Haze and Lynaugh (2013) explored the feasibility of improving care coordination between teenagers and their Registered Nurse Care Coordinator through the development of a smartphone application. They found that the nurse-patient relationship was improved and teenagers perceived they could ask more questions and have access to quicker responses. Smartphone technology and text messaging can further improve the nurse-patient relationship and improve the coordination of care.</td>
<td>• Asthma</td>
<td>Haze, KA, and Lynaugh, J 2013, ‘Building Patient Relationships: A Smartphone Application Supporting Communication Between Teenagers With Asthma and the RN Care Coordinator’, Computers, Informatics, Nursing: CIN, vol. 31 , no. 6, pp 272 - 273.</td>
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### (3) Management of a stable condition

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| **(3.9)** Community Based Care Coordination Program | Noonill et al. (2007) explored the effectiveness of a community based COPD coordination program internationally (Thailand). The study tested a 12 week community care program focused around:  
1. Community-based group education (family support inclusive)  
2. Individualised home-based skill training  
3. Enhanced psychosocial support (inclusive of home nurse visits, health volunteer and family supervision).  
The intervention group achieved statistically significant improvement in exercise tolerance, quality of life and satisfaction with care. Hospital utilization however didn’t improve. | • COPD | Noonill, N., Sindhu, S., Hanucharumkul, S., Suwonwaroop, N 2007, ‘An integrated approach to coordination of community resources improves health outcomes and satisfaction in care of Thai patients with COPD’. *Thai Journal of Nursing Research*, vol. 11, no. 2, pp. 118-31 |
| **(3.10)** School Based Education | Open Airways for Schools (OAS) Asthma education program had limited success in the United States. The intervention group demonstrated significant improvements in asthma knowledge however no significant difference in clinical outcomes or better management of symptoms. School based education would be most effective as a component of a more holistic package (Bowen, 2013) | • Asthma | Bowen, F 2013, ‘Asthma Education and Health Outcomes of Children Aged 8 to 12 Years’. *Clinical Nursing Research*, vol. 22, no. 2, pp. 172-85 |
### (3.11) Physician – Lead or Physician Assistant – Lead Individualized Education

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<td>Physician – Lead or Physician Assistant – Lead Individualized Education</td>
<td>Educational intervention (shaped from GINA guidelines) by a respiratory physician is ideally inclusive of asthma pathogenesis, diagnosis, severity, medications, differences between reliever and controller agents, importance of asthma treatment, inhaler device instructions, exacerbation management, peak expiratory flow monitoring and self-management plans (Saito et al. 2013). Respiratory physician guided education interventions saw persistent and maintained adherence to asthma management over a 12 month period and encouraging changes in clinical measurements (Saito, et al. 2013). Although general resources and marketing material may be used by physician (or assistant) to transfer information to a patient, an Individualized approach (instruction, encouragement and support) to patient asthma education is critical to the effectiveness of adherence to management of the condition (Donaldson, 2013). Donaldson, (2013 ) reported significant benefits of effective individualized patient education including: Improved lung function Feelings of self control Fewer days missed of work or school Fewer days with restricted activity Fewer ED visits Less disturbed sleep Patient-centered nurse education has also had success in improvement sin dust and cleaning methods, decline in signs/symptoms of asthma and better lung function. A patient-centred nurse-led asthma education program has the potential to minimize adverse health outcomes and is worth further exploring (Tzeng et al. 2010).</td>
<td>Asthma</td>
<td>Saito, J, Sato, S, Fukuhara, A, Sato, Y, Takefumi, N, Inokoshi, Y, Fukuhara, N, Saito, K, Ishii, T, Tanino, Y, Ishida, T, Munukata, M 2013, ‘Association of Asthma Education with Asthma Control Evaluated by Asthma Control Test, FEV1, and Fractional Exhaled Nitric Oxide’, <em>Journal of Asthma</em>, Vol. 50, no. 1, pp. 97 – 102. Donaldson, B 2013, ‘Rethinking asthma education: A practical approach to improve treatment outcomes’, <em>Journal of American Academy of Physician Assistants</em>, vol. 26, no. 6, p. 15. Tzeng, L, Chiang, L, Hsueh, K, Ma, W, Fu, L 2010, ‘A preliminary study to evaluate a patient-centred asthma education programme on parental control of home environment and asthma signs and symptoms in children with moderate-to-severe asthma’, <em>Journal of Clinical Nursing</em>, vol. 19, no. 9, pp. 1424-33.</td>
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<td><strong>(3.13)</strong> Nurse-Lead Education In Primary Care</td>
<td>Content of nurse-lead education in primary care may include managing medications and managing breathlessness, knowing and managing symptoms, recognizing and managing acute exacerbations as well as individualized exercise programs. Nurses working in primary care have an important role in structured education of patients and have potential to work in empowering ways with COPD clients (Murphy et al. 2011). Eva et al. (2009) studied the interaction between nurses and their patients in terms of educating about the self-management of COPD. It was concluded that to increase the effectiveness of the nurse-patient interaction the areas of self-management education, smoking cessation and patient communication need to be perfected. It was also found by Efraimsson et al. (2008) that nurse-lead COPD education increases quality of life, smoking cessation rates and general knowledge about COPD. Evidence suggests that a structured program with self-care education is needed to motivate patients for lifestyle changes.</td>
<td>COPD</td>
<td>Murphy, K, Casey, D, Devane D, Cooney, A, McCarthy, B, Mee, L, Nichulain, M, Murphy, AW, Newell, J, O’Shea, E 2011, ‘The PRINCE Study protocol’, BioMed Central Pulmonary Medicine 2011, vol. 11, no. 4, pp. 1-10. Eva, OE, Birgitta, K, Kjell, L, Anna, E, Bjöörn, F 2009, ‘Communication and self-management education at nurse-led COPD clinics in primary health care’, Patient Education &amp; Counseling, vol. 77, no. 2, pp. 209-17. Efraimsson, EÖ, Hillervik, C, Ehrenberg, A 2008, ‘Effects of COPD self-care management education at a nurse-led primary health care clinic’, Scandinavian Journal of Caring Sciences, vol. 22, no. 2, pp. 178-85.</td>
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<td>(3.15)</td>
<td>Sedeno et al. (2009) investigated the effect of a comprehensive COPD management program including a written action plan, prescribed medicine and case manager who used monthly follow up telephone calls under the program ‘Living Well with COPD.’ It was found that the intervention improved the management of medication and reduced the amount of exacerbations resulting in hospitalization. Self-management with the successful use of an action plan for exacerbation of COPD holds promise for reducing health care use.</td>
<td>COPD</td>
<td>Sedeno, MF, Nault, D, Hamid, DH, Bourbeau, J 2009, ‘A self-management education program including an action plan for acute COPD exacerbations’, COPD, vol. 6, no. 5, pp. 352-8.</td>
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<td>(3.16)</td>
<td>Drexel et al. (2011) studied the impact of a live, case-based, multi-format and interactive continuing medical education program on improving clinician knowledge around the management of COPD. It was found that physicians who engaged in the half day of training were more likely to effectively deliver evidence-based COPD care including recognizing COPD correctly and identifying the mechanisms of action of emerging therapies. This was attributed to the multi-format and interactive methodology of the education.</td>
<td>COPD</td>
<td>Drexel, C, Jacobson, A, Hanania, NA, Whitfield, B, Katz, J, Sullivan, T 2011, ‘Measuring the impact of a live, case-based, multifORMAT, interactive continuing medical education program on improving clinician knowledge and competency in evidence-based COPD care’, International Journal Of Chronic Obstructive Pulmonary Disease, vol. 6, pp. 297-307.</td>
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## (4) Treatment and support during acute exacerbations

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| (4.1) Care delivery pathways for COPD in England and the Netherlands: a comparative study | England and the Netherlands have broad similarities in their care delivery pathways for COPD patients but a major difference is the presence of hospital-at-home for COPD exacerbations in England and its absence in the Netherlands. The paper looks at reasons for this variation in care and lessons that can be applied to the Netherlands’ care mode. Potential reasons for the hospital in the home care variation are:  
  - England has a single-source funder and the Netherlands has a multiple-payer system with two separate insurance schemes. The single source funding has facilitated the development of integrated care with staff working across institutional boundaries.  
  - prevalence of COPD and the number of hospitalisations in England is higher than in the Netherlands whereas England has fewer hospital beds – greater bed pressure in England  
  - in hospital in the home care models, nurses supervise the treatment at home – a form of substitution from physician to nurse. This delegation from doctor to nurse started early than in the Netherlands and on a much larger scale.  
  - hospital at home has been shown to reduce length of hospital stay  
  - a hospital at home service requires the development of specialised community based nurses  
  - the funding model needs to support integrated care models  
| (4.2) Hospital at home for acute exacerbations of COPD (Cochrane Review) | The objective of this Cochrane Review was to evaluate the efficacy of hospital at home compared to hospital inpatient care in acute exacerbations of COPD through a review of eight randomised control trials. The analysis found:  
  - significant reduction in readmission rates for hospital at home compared to hospital inpatient care of acute exacerbations of COPD (risk ratio: 0.76, 95% confidence interval: 0.59 to 0.99, P = 0.04)  
  - trend towards lower mortality in the hospital at home group, but the pooled effect estimate for the eight trials did not reach statistical significance (risk ration: 0.65, 95% confidence interval: 0.40 to 1.04, P=0.07)  
| (4.3) Telehealth Care (Management Coordinated Care) | A tiered approach for people with COPD:  
  - web-based support for self management – widely available to all in the most appropriate media for the learning needs  
  - digital prompts for people with mild to moderate COPD and little additional limiting illness. Advice and prompts may be delivered by centralised call handling  
  - home-based physiological monitoring – targeted at people with moderate to severe/unstable disease and delivered with close supervision of the clinical team  
### (4) Treatment and support during acute exacerbations

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| **(4.4)** Management COPD       | An effective COPD management plan includes four components: 1. assess and monitor disease 2. reduce risk factors 3. manage stable COPD 4. manage exacerbations. Management of Mild to Moderate COPD (Stages I and II) involves the avoidance of risk factors to prevent disease progression and pharmacotherapy as needed to control symptoms. Severe (Stage III) and Very Severe (Stage IV) COPD often require the integration of several different disciplines, a variety of treatment approaches, and a commitment of the clinician to the continued support of the patient as the illness progresses. In addition to patient education, health advice, and pharmacotherapy, COPD patients may require specific counselling about smoking cessation, instruction in physical exercise, nutritional advice, and continued nursing support. | Level of evidence  
Evidence on care impact  
Evidence on cost impact | COPD       | Global initiative for Chronic Obstructive Lung Diseases 2013, [http://www.goldcopd.org](http://www.goldcopd.org) |
| **(4.5)** Community access      | Access in the community (often 24 hours a day, 7 days a week) combined with extensive clinical knowledge makes pharmacists uniquely capable of helping those with chronic disease, especially patients with COPD who require monitoring and encouragement throughout their lifelong treatment. | Level of evidence  
Evidence on care impact  
| **(4.6)** New ambulance pathways, Canterbury, New Zealand | Ambulance COPD risk stratification – St. John Ambulance to use a Risk Stratification Pathway that encourages patient to self manage exacerbations in conjunction with GPs which will enable patients with a milder level of disease to be supported at home and more moderate cases to be taken to the 24 Hour Surgery, where significant changes are taking place to develop the intermediate care function. | Level of evidence  
Evidence on care impact  
Evidence on cost impact | COPD       | General Practice NZ 2013, [http://gpnz.org.nz](http://gpnz.org.nz) |
### (4.7) Asthma
#### Telephone-based Care Coordination ‘Link Line’

Coughey et al. (2010) explored the effectiveness of a telephone based care coordination program called ‘Link Line’ to address health system fragmentation and impact asthma outcomes. It was found that Link Line children were significantly less likely to have follow-up hospitalizations, more likely to attend outpatient office visits and significantly less likely to have multiple emergency department visits. The program had significant impact on childhood asthma morbidity and health service usage and may be viable for wider implementation.

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### (4.8) COPD Care Coordination in Primary Care

Fromer (2011) described evidence-based components of an effective COPD care coordination initiative, these include:

- Smoking Cessation
- Influenza and Pneumonia Vaccinations
- Pulmonary Rehabilitation
- Symptomatic and Maintenance Pharmacotherapy

COPD care programs implementing two or more chronic care model component effectively reduce emergency room and inpatient utilization. Each primary care practice can devise a COPD care workflow addressing risk awareness, spirometric diagnosis, guideline-based treatment and rehabilitation, and self management support, to improve patient outcomes in COPD (Fromer, 2011).

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### (4.9) COPD Care Coordination in Hospital and Community Settings

The Respiratory Coordinated Care Program (RCCP) based in the hospital setting was evaluated by Spiliopoulos et al. (2008). The aim of the program was to reduce hospitalizations, readmissions and length of stay. Components of the program included pulmonary rehabilitation and an early discharge service. It was found that when compared to non-intervention sites, length of stay and readmission rates were significantly less in comparison. Since inception RCCP has demonstrated a cost effective reduction in hospital admission rates, length of stay and readmission.

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### (4.10) Child-Lead Participatory Education

**Description:** Trollvik et al. (2013) utilized child participation in the development of an Asthma Education Program (AEP) and found that the involvement of children in this process had the following benefits:

- Children learn better from each other and were able to express emotional themes not communicated before.
- Children are learning through interaction with learning material (discussed stories and pictures and would recognize and build on common issues of the other children).
- Children are learning from healthcare provider and vice versa (healthcare provider adapting language for children).
- Children can understand and express understanding of asthma.

**Condition:** Asthma

**Source:** Trollvik, A, Ringsberg, KC, Silen, C 2013, 'Children's experiences of a participation approach to asthma education', *Journal of Clinical Nursing*, vol. 22, no. 7, pp. 996-1004.

### (4.11) Parent (Carer) Education

**Description:** Cleveland et al. (2013) supported the sentiments of previous studies in that parent oriented education improved the asthma-related health outcomes in children. An evidence based asthma management brochure was constructed and implemented alongside in person advice by clinic staff. The sample size was small and no statistically significant results were attained however positive trends in asthma practice (patients seeking follow up information, reduced sick visits) were identified.

It was found by Zuniga et al. (2012) that centre based parental education based on the Asthma and Healthy Homes Curriculum increased asthma and healthy home knowledge in parents. A 6 month follow up of participants saw that 98.4% of participants made changes in their household environment as a result of their training. Zuniga et al. (2012) concluded that parental education can improve knowledge and change the behavior of household residents.

**Condition:** Asthma

**Source:** Cleveland, KK 2013, ‘Evidence-based asthma education for parents’, *Journal for Specialists in Pediatric Nursing*, vol. 18, no. 1, pp. 25-32.


### (4.12) Inpatient Asthma Education Program

**Description:** McCarty and Rogers (2012) describe an inpatient asthma education program whereby hospital staff provide education to those hospitalized due to Asthma and aid completion of asthma action plans. The comprehensive education program stressed that asthma management be taught across the continuum of health and at every opportunity. Data collected through this program so far is very promising showing great potential with education compliance being achieved and individual Asthma Action Plans completed before discharge. McCarty and Rogers, (2012 ) recognize that recurrent hospitalizations can be avoided through educating patients who come into contact with the health system. Nurses and/or health practitioners should attempt to deliver Asthma education at every opportunity, especially to culturally diverse groups (Bowen, 2013)

**Condition:** Asthma

**Source:** McCarty, K and Rogers, J 2012, 'Inpatient Asthma Education Program', *Pediatric Nursing*, vol. 38, no. 5, pp. 257-63.

### (4) Treatment and support during acute exacerbations

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<td>(4.13) Pulmonary Rehabilitation Programs</td>
<td>A key strategy in improving care for people with COPD is the provision of pulmonary rehabilitation programs. Pulmonary rehabilitation programs have been successful in improving the patient’s sense of dyspnea and quality of life. Murphy et al. (2011) examined the effectiveness of general practice based Structured Education Pulmonary Rehabilitation Program (SEPRP). The SEPRP was delivered jointly by GP, physiotherapist and practice nurse.</td>
<td>COPD</td>
<td>Murphy, K, Casey, D, Devane, D, Cooney, A, McCarthy, B, Mee, L, Nichulain, M, Murphy, AW, Newell, J, O’Shea, E 2011, ‘A cluster randomised controlled trial evaluating the effectiveness of a structured pulmonary rehabilitation education programme for improving the health status of people with chronic obstructive pulmonary disease (COPD): The PRINCE Study protocol BMC Pulmonary Medicine, vol. 11, pp. 4.</td>
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<td>(4.14) Educating Carers and Teachers</td>
<td>Young children increasingly spend time away from their primary carers. Education of staff in settings such as day care is becoming more important and there is seemingly limited staff education programs available to upskill this workforce particularly in relation to pharmacological therapy of acute asthma (Soo et al. 2013). Soo (et al. 2013) found that confidence in managing an acute asthma attack increased with education. There is however a lack of evidence around effective engagement of staff caring for children outside parental care (Soo et al. 2013)</td>
<td>Asthma</td>
<td>Soo, Y. Y, Bandanam S, Moles, R. J. 2013. ‘Can Asthma education improve the treatment of acute asthma exacerbation in young children?’ Journal of Paediatrics &amp; Child Health. 49(5), 353 – 60.</td>
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### (4.15) Health Professional Education

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### (5) Care and support at the end of life

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<td><strong>(5.1)</strong> Individualisation of care</td>
<td>The experience of having COPD in older people can be limiting, frightening and poorly understood by health professionals and others. The provision of guidance for COPD can be seen to emphasise treatment at the expense of the personal perspective of those who may be “suffering”. Individualisation of care, in the context of this review, also includes spouses and other family members as the experience of caring for those with COPD can be tiring, isolating and overwhelming, because they lack support.</td>
<td>COPD</td>
<td>Global initiative for Chronic Obstructive Lung Diseases 2013, <a href="http://www.goldcopd.org">http://www.goldcopd.org</a></td>
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<td><strong>(5.2)</strong> Treatment</td>
<td>Pharmacologic therapy is used to prevent and control symptoms, reduce the frequency and severity of exacerbations, improve health status, and improve exercise tolerance. None of the existing medications for COPD have been shown to modify the long-term decline in lung function that is the hallmark of this disease. However, this should not preclude efforts to use medications to control symptoms. Since COPD is usually progressive, recommendations for the pharmacological treatment of COPD reflect the following general principles: Treatment tends to be cumulative with more medications being required as the disease state worsens. Regular treatment needs to be maintained at the same level for long periods of time unless significant side effects occur or the disease worsens. Individuals differ in their response to treatment and in the side effects they report during therapy. Careful monitoring is needed over an appropriate period to ensure that the specific aim of introducing a therapy has been met without an unacceptable cost to the patient. The effect of therapy in COPD may occur sooner after treatment with bronchodilators and inhaled glucocorticosteroids than previously thought, although at present, there is no effective way to predict whether or not treatment will reduce exacerbations.</td>
<td>COPD</td>
<td>Global initiative for Chronic Obstructive Lung Diseases 2013, <a href="http://www.goldcopd.org">http://www.goldcopd.org</a></td>
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