Appendix 1: Characteristics, by clinical indicator, 2012 - 2013

			No. of Sites					
Indicator ID	**Indicator Description [Sources]**	**Age Inclusion Criteria**	**GP**	**ED**	**INPT**	**Strength of recommendation#**	**Phase of Care**	**Quality Type***
BRON01	Infants (aged < 12 months) presenting with acute bronchiolitis had the duration and progression of their symptoms recorded. [1-8]	29 days - 11 months	54	34	29	Grade B	Diagnosis	Underuse
BRON02	Infants (aged < 12 months) presenting with acute bronchiolitis had the presence of apnoea recorded. [1-8]	29 days - 11 months	54	34	29	Grade B	Diagnosis	Underuse
BRON03	Infants (aged < 12 months) presenting with acute bronchiolitis had their feeding history recorded. [1-8]	29 days - 11 months	54	34	29	Grade B	Diagnosis	Underuse
BRON04	Infants (aged < 12 months) presenting with acute bronchiolitis had the presence of previous episodes of bronchiolitis recorded. [1-8]	29 days - 11 months	54	34	29	Grade B	Diagnosis	Underuse
BRON05	Infants (aged < 12 months) presenting with acute bronchiolitis had their family history of atopy or asthma recorded. [1-8]	29 days - 11 months	54	34	29	Grade B	Diagnosis	Underuse
BRON06	Infants (aged < 12 months) presenting with acute bronchiolitis had the presence of pre-existing conditions recorded. [1-8]	29 days - 11 months	54	34	29	Grade B	Diagnosis	Underuse
BRON07	Infants (aged < 12 months) presenting with acute bronchiolitis had their general appearance and basic observations (Temp, RR, HR, SpO_2) examined. [1-8]	29 days - 11 months	54	34	29	Grade D	Diagnosis	Underuse
BRON08	Infants (aged < 12 months) presenting with acute bronchiolitis had their hydration status reviewed. [1-8]	29 days - 11 months	54	34	29	Grade D	Diagnosis	Underuse
BRON09	Infants (aged < 12 months) presenting with acute bronchiolitis received a respiratory examination (work of breathing, recession, auscultation). [1-8]	29 days - 11 months	54	34	29	Grade D	Diagnosis	Underuse
BRON10	Infants (aged < 12 months) presenting with acute bronchiolitis had their feeding (duration and volume, oxygen saturations whilst feeding) examined. [1-8]	29 days - 11 months	53	34	29	Grade D	Diagnosis	Underuse

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BRON11	Infants (aged < 12 months) who had any of the following signs/symptoms: * appear well * mild tachypnoea (RR < 60/min) * normal or mildly increased work of breathing (WOB) i.e. no nasal flaring/grunting * wheeze at end expiratory or crackles * no cyanosis * SaO_2 > 93% on air * no tachycardia * normal/slightly decreased feeding or may take longer to feed, intermittently stops feeding were diagnosed with mild acute bronchiolitis. [2.5,9]	29 days - 11 months	51	34	24	Consensus-based recommendation	Diagnosis	Underuse
BRON12	Infants (aged < 12 months) who had two or more of the following signs/symptoms: * appear mildly unwell * moderate tachypnoea (RR > 60/min) * mild to moderate WOB * no cyanosis * SaO_2 90-95% on air * mild tachycardia * difficult feeding but able to take > 50% of normal feed, frequent stops were diagnosed with moderate acute bronchiolitis. [2.5,9]	29 days - 11 months	18	31	25	Consensus-based recommendation	Diagnosis	Underuse
BRON13	Infants (aged < 12 months) who had two or more of the following signs: * appear unwell (lethargic, restless) * severe tachypnoea > 70 * bradypnoea < 30 * moderate to severe WOB * may be cyanosed or pale * SaO_2 < 90% on air, < 92% on oxygen * tachycardia > 180 * difficult feeding taking < 50% of normal feed, not interested * poor capillary refill > 3 seconds were diagnosed with severe/life threatening acute bronchiolitis. [2.5,9]	29 days - 11 months	2	9	12	Consensus-based recommendation	Diagnosis	Underuse
BRON14	Children diagnosed with acute mild/moderate bronchiolitis did not have a chest x-ray. [2-3.5-6,8-10]	29 days - 1 year	35	34	27	Grade C	Treatment	Overuse
BRON15	Children diagnosed with acute mild/moderate bronchiolitis did not have routine blood tests. [2-3.5-6,8-10]	29 days - 1 year	35	34	27	Grade C	Treatment	Overuse
BRON16	Children diagnosed with acute mild/moderate bronchiolitis did not have an ABG. [2-3.5-6,8-10]	29 days - 1 year	35	34	27	Grade C	Treatment	Overuse
BRON17	Children diagnosed with acute mild/moderate bronchiolitis did not have chest physiotherapy. [2-3.5-6,8-10]	29 days - 1 year	35	34	27	Grade A	Treatment	Overuse
BRON18	Infants (aged less than 12 months) with mild bronchiolitis did not receive prescribed oxygen. [2-4,8,10]	29 days - 11 months	54	34	25	Grade B	Treatment	Overuse

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BRON19	Infants (aged less than 12 months) with mild bronchiolitis did not receive further investigations (i.e. blood tests, chest x-ray). [2-4,8,10]	29 days - 11 months	54	34	23	Grade C (chest x-ray) Grade D (blood tests)	Treatment	Overuse
BRON20	Infants (aged < 12 months) with moderate bronchiolitis were prescribed oxygen to maintain saturation levels of greater than or equal to 93%. [2-3,10]	29 days - 11 months	NA	30	24	Grade D	Treatment	Underuse
BRON21	Infants (aged < 12 months) with moderate bronchiolitis were provided with frequent feeds or NG feeds were considered. [2-3,10]	29 days - 11 months	NA	30	25	Consensus-based recommendation	Treatment	Underuse
BRON22	Infants (aged < 12 months) with moderate bronchiolitis and prescribed oxygen had continuous saturation monitoring and hourly observations. [2-3,10]	29 days - 11 months	NA	26	22	Consensus-based recommendation	Treatment	Underuse
BRON23	Infants (aged <12 months) with moderate bronchiolitis did not have further investigations performed (i.e. blood tests, chest x-ray). [2-3,10]	29 days - 11 months	NA	31	23	Grade C (chest x-ray) Grade D (blood tests)	Treatment	Overuse
BRON24	Infants (aged < 12 months) with moderate bronchiolitis had two-hourly observations performed. [2-3,10]	29 days - 11 months	NA	31	26	Consensus-based recommendation	Treatment	Underuse
BRON25	Infants (aged < 12 months) with mild to moderate bronchiolitis caused by a viral infection were not prescribed antibiotics. [2-3,6-9]	29 days - 11 months	54	33	27	Grade B	Treatment	Overuse
BRON26	Infants (aged < 12 months) with severe bronchiolitis were prescribed oxygen to maintain saturation levels of greater than or equal to 93%.[2-3,10]	29 days - 11 months	NA	12	13	Grade D	Treatment	Underuse
BRON27	Infants (aged < 12 months) with severe bronchiolitis were prescribed IV fluids and nil by mouth. [2-3,10]	29 days - 11 months	NA	11	12	Consensus-based recommendation	Treatment	Underuse

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BRON28	Infants (aged < 12 months) with severe bronchiolitis had their blood glucose assessed at least once during this presentation/admission. [2-3,10]	29 days - 11 months	NA	11	12	Consensus-based recommendation	Treatment	Underuse
BRON29	Infants (aged < 12 months) with severe bronchiolitis had continuous cardio-respiratory and saturation monitoring and hourly observations. [2-3,10]	29 days - 11 months	NA	11	12	Consensus-based recommendation	Treatment	Underuse
BRON30	Infants (aged < 12 months) who presented to the ED with acute bronchiolitis and any of the following: * lethargy * presence of nasal flaring and/or grunting * oxygen saturation < 95% on air * uncertainty regarding diagnosis were reviewed within 30 minutes. [8]	29 days - 11 months	NA	27	NA	Consensus-based recommendation	Treatment	Underuse
BRON31	Infants (aged < 12 months) who presented to the ED with acute bronchiolitis and any of the following: * respiratory rate > 60/min or < 30/min * presence of nasal flaring and/or grunting * SpO_2 < 92% on air * severe chest wall recession * cyanosis were reviewed immediately. [8]	29 days - 11 months	NA	18	NA	Consensus-based recommendation	Treatment	Underuse
BRON32	Infants (aged < 12 months) with acute bronchiolitis were not prescribed any of the following medications: * nebulised adrenaline * bronchodilators (if aged < 6 months) * corticosteroid medication (unless asthma or chronic neonatal lung disease) * ipratropium bromide (possible asthma or chronic neonatal lung disease) * ribavirin (antiviral) unless there is significant immunosuppression. [2-3,5-9]	29 days - 11 months	54	34	29	Consensus-based recommendation	Treatment	Overuse
BRON33	Parents of infants (aged < 12 months) with mild bronchiolitis received advice to provide small frequent feeds. [2-4,8,10]	29 days - 11 months	54	33	24	Consensus-based recommendation	Ongoing management	Underuse
BRON34	Parents of infants (aged < 12 months) with mild bronchiolitis were provided written information prior to discharge. [2-4,8,10]	29 days - 11 months	NA	33	24	Consensus-based recommendation	Ongoing management	Underuse
BRON35	Parents of infants (aged < 12 months) with mild bronchiolitis were advised to follow-up with a health professional within 24 hours. [2-4,8,10]	29 days - 11 months	NA	33	24	Consensus-based recommendation	Ongoing management	Underuse

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BRON36	Infants (aged < 12 months) who presented to the GP with acute bronchiolitis and two of the following: * poor feeding (< 50% of usual fluid intake in preceding 24 hours * lethargy * history of apnoea * respiratory rate > 60/min OR < 30/min * presence of nasal flaring and/or grunting * severe chest wall recession or tracheal tug * cyanosis * oxygen saturation < 95% on air * uncertainty regarding diagnosis were referred to hospital. [8]	29 days - 11 months	10	NA	NA	Consensus-based recommendation	Ongoing management	Underuse
BRON37	Infants (aged < 12 months) with bronchiolitis who were discharged had minimal respiratory distress. [2,4,8]	29 days - 11 months	NA	32	29	Consensus-based recommendation	Ongoing management	Underuse
BRON38	Infants (aged < 12 months) with bronchiolitis who were discharged maintained an adequate daily oral intake (> 75% of usual intake). [2,4,8]	29 days - 11 months	NA	31	29	Consensus-based recommendation	Ongoing management	Underuse
BRON39	Infants (aged < 12 months) with bronchiolitis who were discharged had oxygen saturations which were greater than or equal to 92% on room air (including during sleep periods). [2,4,8]	29 days - 11 months	NA	30	29	Consensus-based recommendation	Ongoing management	Underuse
BRON40	Parents/carers of infants (aged < 12 months) with bronchiolitis who were discharged were provided: * education and written information * support and follow-up arrangements. [2,4,8]	29 days - 11 months	NA	31	29	Consensus-based recommendation	Ongoing management	Underuse

Legend: ID=Identifier; GP=General Practice; ED=Emergency Department; INPT=Inpatient; Temp=Temperature; RR=Respiratory Rate; HR=Heart Rate; WOB=Work of Breathing; SaO_2=Arterial oxygen saturation; SpO_2=Peripheral oxygen saturation; ABG=Arterial Blood Gas; NG=Naso-gastric; IV=Intravenous.

Sources:

1. SA Child Health Clinical Network. Clinical Guideline: Management of Bronchiolitis in children 2013.
2. NSW Kids and Families. Infant and Children - Acute Management of Bronchiolitis 2012.
3. The Royal Children's Hospital Melbourne. Bronchiolitis Guideline. Secondary Bronchiolitis Guideline 2012.
4. The Royal Children's Hospital Melbourne. Bronchiolitis - Ongoing management. Secondary Bronchiolitis - Ongoing management 2013.
5. Sydney Children's Hospital. Viral Bronchiolitis Inpatient Clinical Guidelines Sydney 2011.
6. Zentz, SE. Care of Infants and Children with Bronchiolitis: A Systematic Review. Journal of Pediatric Nursing. 2011;26(6):519-29.
7. American Academy of Pediatrics (AAP): Subcommittee on diagnosis and management of bronchiolitis. Diagnosis and management of bronchiolitis. Pediatrics. 2006;118 (4):1774-93.
8. Scottish Intercollegiate Guidelines Network (SIGN). Bronchiolitis in children - a national clinical guideline. No.91 Edinburgh 2006.
9. Princess Margaret Hospital for Children. Child and adolescent health service. Clinical Practice Guideline: Bronchiolitis 2008.
10. Royal Childrens' Hospital Melbourne. Paediatric Handbook - Eighth edition. Melbourne, Australia: Wiley-Blackwell; 2009.

[#] Strength of recommendation as reported in individual CPGs. CPGs used a variety of classification schemes for allocating Strength of Recommendation in Grades (with Grade A indicating the strongest recommendation in all classification schemes). If strength of recommendation, or Level of Evidence, were not specified in the CPG, the term "Consensus-based recommendation" was assigned.

***** The type of quality of care assessed was classified as underuse or overuse: underuse refers to actions which are recommended, but not undertaken; overuse refers to actions which are not indicated, or are contraindicated, in the context of the indicator's inclusion criteria.