



## Bronchiolitis

Murrumbidgee Local Health District

This case study explores the Paediatric Bronchiolitis initiative in Murrumbidgee Local Health District (MLHD).

It identifies the intended outcomes of the initiative, how it was implemented and the results and impact of the initiative so far.

### Overview

In November 2019, Wagga Wagga Base Hospital in MLHD was selected as a pilot site for the [Leading Better Value Care \(LBVC\) Bronchiolitis initiative](#). Bronchiolitis is one of 13 clinical initiatives in the LBVC program.

Despite having clear evidence against the unnecessary use of bronchodilators, steroids and tests (CXR+ Nasopharyngeal aspirate) for the treatment of routine infant bronchiolitis, these interventions were shown to be commonly utilised in clinical practice. The potential for harm and wasted resources was clear.

MLHD's aims were simple. They wanted to promote standardised treatment and escalation processes based on the NSW Paediatric Guidelines to ensure best practice and offer clinical support across facilities to promote care closer to home. They also wanted to avoid unnecessary and potentially harmful interventions, promote and assist with parent and carer education and improve satisfaction with clinical services.

### About Bronchiolitis

Paediatric Bronchiolitis is an acute viral infection of the lower respiratory tract, predominantly affecting infants less than one year of age. It is characterised by respiratory distress, wheezing, and crackles.

Bronchiolitis often occurs in epidemics and mostly in children, with a peak incidence between 2 months and 6 months of age. Seasonality is a predictor of increasing presentations to Emergency Departments, which occur mainly in autumn and winter.

There are several treatments that are recognised to have no benefit to patients presenting with bronchiolitis and are not recommended in the clinical practice guidelines. These treatments include the use of bronchodilators, steroids, adrenaline, antibiotics, antivirals and chest physiotherapy.

## Taking a collaborative approach

The MLHD LBVC Program Management Office approached the development, implementation and tailoring of evidence based practice guidelines to ensure equity of access to quality services was available anywhere within the District.

The team collaboratively developed a clinical algorithm, based on NSW Health Guidelines, to:

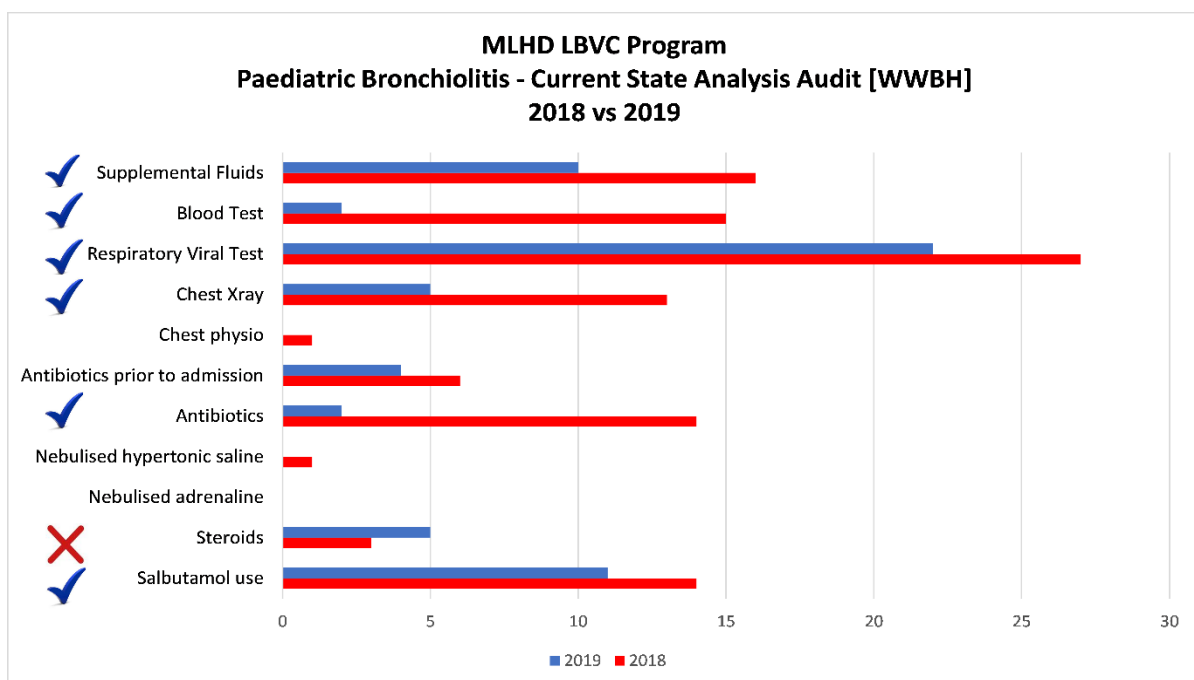
- support clinical decision making
- reduce the number of non-value added clinical treatments and processes
- improve the experience of care for patients, carers and clinicians.

## Achieving outcomes that matter

A pre and post implementation clinical audit compared the baseline measures for clinical interventions prior to implementation of the algorithm within MLHD, with the same number of patients presenting at three months post implementation of this project.

The post implementation audit demonstrated significant change in clinical treatment and diagnostic interventions, and this is demonstrated by the comparative results in figure 1 below.

**Figure 1:** MLHD LBVC Paediatric Bronchiolitis Current State Analysis of Clinical Interventions for Paediatric Bronchiolitis Patients < 12 months of age [n = 40 patients, pre and post implementation].



Results at Wagga Wagga Base Hospital have been extremely positive so far, and include:

- a significant reduction in the number of unnecessary interventions for patients presenting with paediatric bronchiolitis. In particular, there has been a significant reduction in blood tests, Chest X-Rays and administration of antibiotics;
- a small reduction in the number of Respiratory Viral Tests – (it has been noted by clinicians that these may have been further reduced if not for the influenza outbreak during the winter of 2019);
- increased education and resources to support and enable families to care for their child with bronchiolitis at home; and

- widespread uptake of a localised MLHD Paediatric Bronchiolitis clinical algorithm to support clinical decision making. MLHD have been pleased to be able to share this with our colleagues, which has allowed the algorithm to be utilised by other LHDs within NSW.

MLHD have also noted an improvement in patient and family experience as a result of reducing unnecessary tests and procedures; reducing length of hospital stay (where possible) and supporting families to care for their child with bronchiolitis and keep them well at home.

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## More information

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To learn more about [Leading Better Value Care](#) and [value based healthcare](#), visit the [NSW Health website](#).

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The NSW Ministry of Health would like to thank the MLHD team for sharing their insights and experiences.