Appendix A: Justification for no Longer Recommending BCG Vaccination in Newborn Aboriginal and Torres Strait Islander Children in Western Australia

Previous Operational Circulars (OP 1827/04; 12/08/2004) have recommended BCG vaccination in:

“Newborn Aboriginal and Torres Strait Islanders living north of the Tropic of Capricorn. Aboriginal neonates from other areas should also be considered according to local circumstances i.e. TB and HIV incidence amongst adults, movement of subjects to northern areas including NT.”

It is now not recommended that these newborn children are routinely vaccinated with BCG.

The reasons for this change in policy are:

- **BCG vaccination does not improve TB control:** Though BCG vaccination has been demonstrated to protect vaccinated individuals against tuberculosis (TB), it has not been shown to improve population TB control, even in high incidence settings.

- **Probable low benefit:** The protection against TB that BCG vaccination will give Aboriginal neonates in the north of WA is likely to be low, because the number of cases of infectious TB in this area is, and has been for some time, low. Therefore the risk that these children will be exposed to TB is low.

- **Children exposed to TB are protected by contact tracing:** Procedures and resources for contact tracing are well established. If a child is in contact with an infectious TB case, they are likely to be identified, appropriately screened for TB infection and given preventive therapy.

- **Poor BCG coverage:** It is likely that BCG vaccination coverage in this cohort is poor, because many of these people live remotely. There has also been poor coverage of Aboriginal children born in Perth that subsequently return to their homes in the north. Despite this poor coverage there has been no instance of TB in preschool aged Aboriginal children for over 20 years.

- **Maintaining competency:** Maintaining adequately trained staff that are competent in BCG vaccination is difficult amongst a highly mobile workforce and in an area with a widely dispersed and sparse population. There are generally no competent staff outside of the major centres (Broome & Derby), so children born outside these centres or who return to homes outside these centres before vaccination is administered are currently unlikely to receive BCG in spite of the previous recommendations.

- **High cost:** In the face of perceived low benefit as described above, continued BCG vaccination incurs considerable cost. The table below shows the number of vials of BCG used in centres above the Tropic of Capricorn. It is assumed that these are almost exclusively for vaccination of Aboriginal neonates.

Table: BCG vials used in centres north of the Tropic of Capricorn in WA – number of vials used, number as a percentage of total WA use and cost.

<table>
<thead>
<tr>
<th>Year</th>
<th>No BCG vials</th>
<th>% WA usage</th>
<th>Cost ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008/9</td>
<td>188</td>
<td>74.9%</td>
<td>15,980</td>
</tr>
<tr>
<td>2007/8</td>
<td>385</td>
<td>90.0%</td>
<td>32,725</td>
</tr>
<tr>
<td>2006/7</td>
<td>405</td>
<td>82.3%</td>
<td>34,425</td>
</tr>
<tr>
<td>2005/6</td>
<td>218</td>
<td>94.8%</td>
<td>18,530</td>
</tr>
</tbody>
</table>

Each BCG vial (@ $85 each) contains 10 doses. However, each is likely to only be used to vaccinate 1 – 2 children, because there are rarely more than that many children to vaccinate at one time. The remainder of each vial must be discarded and is therefore wasted.
Risks
The potential risks of no longer vaccinating Aboriginal children include:

- **Loss of protection against Hansen’s disease**: Aboriginal children that are not vaccinated will no longer receive the recognised secondary protection of BCG against infection with *M. leprae* (Hansen’s disease). There continues to be an incidence of Hansen’s disease in the north of WA, though it is very low. Most of these are chronic cases in adults, with no evidence of transmission or new cases in resident Australians. Given this and the poor coverage of BCG described above, the benefit of protection is considered very low. Further, BCG vaccination remains indicated in newborn children with a family history of Hansen’s disease.

- **Contradicting Australian Guidelines**: Recommending against BCG vaccination in Aboriginal children in the north of WA will be contrary to the Australian Vaccination Guidelines and the policy of the Northern Territory (NT). However, these guidelines are specific to NT circumstances, where there have been several outbreaks of TB in Aboriginal communities and secondary cases of TB in Aboriginal children, unlike WA.

- **TB occurring in an Aboriginal child**: this would be especially concerning in a pre-school aged child, when TB is potentially more dangerous and BCG more efficacious. However, this is considered very unlikely for the reasons described above.

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