PARTNERSHIP SOUGHT: $141 000 FOR ONE YEAR

Haemophilus is an important cause of ear and lung disease. The pathogen infects the ear causing partial deafness which is associated with early childhood learning difficulties. The pathogen also attacks the respiratory system leading to chronic lung disease which causes death in young adults if not adequately treated.

Addressing health disparities and education among Aboriginal children is central to the Closing the Gap Agenda.

THE NEED

Indigenous infants in the NT acquire the pathogen very early – in the first weeks of life – and carry it for most of their childhood.

• One in 68 Indigenous children in the NT suffer irreversible chronic lung disease, and this is associated with premature death in the 3rd-4th decade of life

• 90% of Aboriginal children in remote communities experience ear disease

• The World Health Organisation (WHO) advocates for urgent action in populations where ear disease is present in greater than 4% of the population

• 50% of patients are still infected after receiving treatment currently available for ear disease.

• Hearing loss is a primary predecessor to educational disadvantage which is associated with anti-social problems later in life.

PARTNERSHIP OPPORTUNITY

Haemophilus associated disease represents a major health burden for young children worldwide requiring immediate address. Developing a vaccine has generated global attention.

In Australia, infection is associated with exceedingly high rates of ear disease and chronic lung disease and currently there is no effective vaccine.

Menzies is well placed to undertake a whole genome sequencing project to narrow down the genes associated with these diseases in a global effort to uncover potential vaccine targets.

Effective vaccines of a less aggressive strain of Haemophilus were included in the routine vaccination schedule in 1993. Since the introduction of this vaccine there has been a reduction of its strain by more than 95%. There is a great opportunity to achieve an equally dramatic result in the Haemophilus pathogen being targeted.

This genome sequencing project is a vital foundational step.

PARTNERSHIP IMPACT

This Haemophilus project is a vital tool in addressing health and education gaps among Aboriginal children and Menzies is well placed to drive the project with large stored collections of pathogen infected samples, state of the art equipment and leading researchers in the field.

It is expected that the further identification of genes associated with Haemophilus will support the identification of new potential vaccine targets for the more aggressive strains of the disease.

Findings will be published and disseminated nationally and internationally.

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