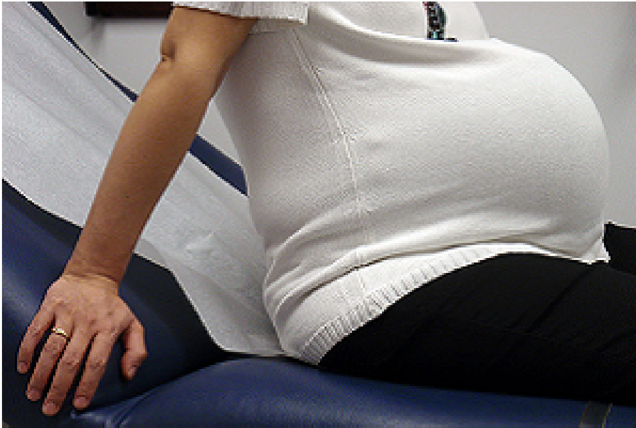
Pregnancy model shows obstacles to remote care

January 17 2013, by Mary-Anne Romano



"The most important outcome in pregnancy to be avoided is preterm birth when the health consequences for the child may be lifelong, and where the costs of these treatments are considerable for the health care system"—Prof Doherty. Credit: Daniel Lobo

Estimates of the cost of pregnancy in Western Australia have revealed those with inadequate access to antenatal care, mostly those in remote areas, are paying $2,581 more than those with access.

Statistical modelling estimates that a pregnancy where the woman has adequate access to antenatal care costs $7,635 while the cost for someone with inadequate access to care is $10,216.

Similarly neonatal care was estimated at costing $1,021 for adequate

compared with $3,205 for inadequate care.

Research aimed to provide baseline measures for policy to improve access to health care in rural and remote Aboriginal communities.

UWA School of Women's and Infant's Health's Dorota Doherty and her co-authors' research recognises that many Aboriginal women in remote locations attend antenatal care less frequently and have poorer health outcomes.

"Our pregnancy model generates a longitudinal cohort of pregnancies and overcomes the problem of loss to follow-ups, that are very common in this obstetric population," Professor Doherty says.

The research model simulates hypothetical women with pregnancy events and outcomes observed in the WA Aboriginal population.

Pregnancy events include both developing complications in pregnancy that may require clinical care, and management of pregnancy including antenatal visits and tests which may be routine or triggered by diagnosed complications.

"The model generates each hypothetical pregnancy and simulates weekly outcomes for each pregnancy week," Prof Doherty says.

"Once labour starts, all labour and birth outcomes are also generated in the model."

The study recommends additional expenditure to improve women's access to antenatal care due to expected health benefits, and a counterbalance in money spent for treatment required when poor pregnancy outcomes occur.

"The most important outcome in pregnancy to be avoided is preterm birth when the health consequences for the child may be lifelong, and where the costs of these treatments are considerable for the health care system," says Prof Doherty.

"We are currently using this model to evaluate other interventions in pregnancy in the population of Aboriginal women in WA, partly because it is population based and it realistically describes events in pregnancy."

For Professor Doherty, the model will help to evaluate other health interventions for all obstetric populations.

"We will use the model to evaluate the effectiveness of health promotion intervention during our current study that introduces Aboriginal Health Workers into King Edward Memorial Hospital."

The State Health Research Advisory Council funded research.

The study, co-authored by researchers from Edith Cowan University and three other health and research organisations, will be published in the *European Journal of Operational Research*.

More information: www.sciencedirect.com/science/ … ii/S0377221712008065

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