

Current testing methods and penicillin resistance in *Neisseria gonorrhoeae* in North Queensland

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Prevalence of gonorrhoea has always been high in rural and remote Indigenous communities and until fairly recently there was little sign that any intervention had much impact. Most medical intervention occurs in primary health care centres, and not in specialist clinics, so its efficacy depends on both the health care seeking behaviour of those affected by sexually transmitted infections and the ability of generalist staff to recognise symptoms and signs and to adhere to standard management guidelines. The cultural significance of shame factors together with the reluctance to seek treatment for embarrassing and only minimally symptomatic genital conditions in affected communities militate against good control. Another important consideration is the fact that much early gonococcal infection is asymptomatic, so those affected with asymptomatic disease will go undetected unless specific screening interventions are in place and opportunistic testing of sexually active people is proactively encouraged by primary health care staff.

The recent availability of non-invasive nucleic acid amplification tests has meant that, for the first time, there is an opportunity to effectively screen asymptomatic people for gonococcal infection. With rapid follow-up of positive results, and appropriate treatment, it is possible some impression can be made on the high prevalence rates. It is an easy concept to promote amongst generalist staff – that painful, embarrassing and invasive tests need no longer deter people from being tested. It is a sad irony that just as this dream seemed capable of being achieved - with very high PCR testing rates being recorded in North Queensland - penicillin resistance in the form of beta-lactamase producing strains of *N. gonorrhoeae* suddenly appeared in indigenous communities.

Thus, those responsible for gonococcal control in northern Australia face a difficult dilemma at the present time. On the one hand they want to continue to promote screening and opportunistic testing of asymptomatic sexually active people attending primary care clinics using non-invasive DNA amplification tests - and to keep this message high on the agenda of generalist staff. On the other hand, they want to maintain surveillance of penicillin and other antibiotic resistance in local gonococcal strains by encouraging generalist staff to take appropriate specimens for culture and sensitivity testing. It is always difficult to promote mixed messages!

Practical steps which have been taken to date are:

- Queensland Health has officially changed standard drug protocols for treatment of gonorrhoea so that first-line treatment is now ceftriaxone throughout the State;
- primary health care staff are being encouraged to continue opportunistic screening using PCR tests in asymptomatic people;
- primary health care staff are also being encouraged to take swabs for culture and sensitivity on all those who present with symptoms, and on women who have vaginal speculum examinations for any reason.