Adult health checks for Indigenous Australians: the first year's experience from the Inala Indigenous Health Service

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ABSTRACT

Objective: To evaluate the role of the adult health check for Aboriginal and Torres Strait Islander people aged 15–54 years, in an urban Indigenous primary health care setting.

Design, setting and participants: Cross-sectional study of Indigenous patients recruited opportunistically from the Inala Indigenous Health Service between 1 June 2007 and 31 July 2008.

Main outcome measures: Newly identified cardiovascular risk factors, investigations ordered and performed, interventions and new diagnoses made.

Results: 413 patients out of a possible 509 consented to participate (93% were Aboriginal). High prevalences of cardiovascular risk factors such as smoking (67%), being overweight and obese (61%), harmful levels of alcohol consumption (36%), and depression (23%) were found. The adult health checks resulted in new investigations (in 82% of participants), lifestyle advice (67%), vaccinations (42%), referrals (62%) and new medications (49%). New diagnoses resulting from the health checks included depression (6%), a harmful level of alcohol consumption (4%), chlamydia infection (4%), hypertension (3%) and diabetes (3%). Pap smears were performed in 47% of women as a result of the health check.

Conclusions: The adult health check for Aboriginal and Torres Strait Islanders aged 15–54 years is a viable vehicle for evaluating health status, identifying chronic disease risk factors and for implementing preventive health care.

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The introduction of biennial adult health checks for Aboriginal and Torres Strait Islanders aged 15–54 years by the Australian Government Department of Health and Ageing in May 2004 was welcomed as a way of saving a significant number of lives.[1,2] It has been argued that Aboriginal and Torres Strait Islander people miss preventive health opportunities, have high rates of undetected risk factors and have unequal and inadequate access to Medicare.[3] Previous well-person health checks for Indigenous people have revealed high rates of preventable risk factors for chronic disease.[4] We are unaware of published research involving the newly-introduced adult health check (Medicare item number 710[2]). We sought to evaluate the adult health check for its ability to identify chronic disease risk factors, early chronic disease and new diagnoses, and to provide opportunities for preventive care.

METHODS

The Indigenous population make up 5.4% of the 22 337 people living in the Inala postcode (4077) area.[5] The Inala Indigenous Health Service, a Queensland Government health facility, bulk billed about 1000 consultations per month in 2008, including 508 adult health checks for that calendar year. Staff responsible for conducting the adult health checks include four regular general practitioners (2.3 full-time equivalents [FTEs]), one GP registrar (0.4 FTE) and four adult health nurses (4 FTEs). A predetermined sample size of 384 was calculated to ensure that any proportion's sampling error was no more than 10% using a 95% confidence interval.

Participants were recruited opportunistically as they attended the health service between 1 June 2007 and 31 July 2008. After obtaining informed consent, registered nurses and doctors used an Indigenous adult health check form, based on the Medicare Australia form[2] but customised by us for data entry. Adult health checks covered all the mandatory and optional components recommended by Medicare Australia[2] and by the guide to preventive health assessments of the National Aboriginal Community Controlled Health Organisation (NACCHO).[6] Completed adult health checks were entered into a database (Microsoft Access, 2003; Microsoft, Redmond, Wash, USA). Data also came from the patients' notes (practiX, version 1.34 1.43; iSoft, Sydney, NSW) and investigation results from the day of the health check. All data were analysed with Stata, version 10.0 (StataCorp, College Station, Tex, USA).

The local Inala Elders Incorporated was consulted, and supported the project. The University of Queensland's Behavioural and Social Science Ethics Research Committee approved the study.

RESULTS

Between 1 June 2007 and 31 July 2008, we recruited 413 participants of a total of 509 people who had Indigenous adult health checks at the Inala Indigenous Health Service (response rate 81%). Participants were Aboriginal (93%), Torres Strait Islander (4%) and 3% were both Aboriginal and Torres Strait Islander. The sex (58% female) and age distribution of our study participants were similar to those in 2006 census data for Indigenous people living in the Inala postcode area.[5] Data on health status showed high rates of dental problems, mental illness, substance misuse and cardiovascular risk factors (Box 1). Investigations included Pap smears for 47% of women (Box 2). New diagnoses were defined as conditions unrelated to the presenting complaint that were discovered as a direct result of the health check (Box 2). Interventions consisted of lifestyle advice, referrals, new medication and vaccinations (Box 2).

DISCUSSION

We found that adult health checks for Indigenous people were a viable tool for detecting chronic disease risk factors, uncovering important new diagnoses and prompting preventive health interventions.

Strengths of this study included its adequate sample size and an even distribution in terms of age and sex, comparable with census data. Its weaknesses are possible selection bias and questions about the generalisability of our findings, as our sample was non-random, and drawn from a clinic-based population. Outcomes dependent on patient self-report, such as alcohol consumption, may be underreported. Interpreting outcomes that can be attributed solely to the health check is also difficult in the absence of a control group. Health check outcomes may differ in Indi-

1 Health status variables from adult health checks in 413 Aboriginal and Torres Strait Islander participants

Health status variable	Participants
Senses	
Best vision at health check less than 6/6 (n = 399; 14 missing)	136 (34%)
Whisper test not heard (n = 409; 4 missing)	38 (9%)
Teeth	
Problem with teeth identified	197 (48%)
Mental health problems	
Depression	96 (23%)
Family conflict	87 (21%)
Anxiety	46 (11%)
Relationship problem	43 (10%)
Cardiovascular risk factors	
Current smoking	275 (67%)
Overweight or obese (body mass index > 25 kg/m^2)	251 (61%)
Waist circumference > 100 cm for men or > 90 cm for women	218 (53%)
Proteinuria	123 (30%)
Total cholesterol to high-density lipoprotein cholesterol ratio > 4*	57 (14%)
Blood pressure > 140/90 mmHg	49 (12%)
Diabetes	35 (8%)
Exercise	
None	122 (30%)
< 30 minutes per day	95 (23%)
> 30 minutes per day	173 (42%)
Substance use	
Harmful alcohol use (NHMRC definition)	149 (36%)
Marijuana use	118 (29%)
Amphetamine use	23 (6%)
Opiate use	18 (4%)
Inhalant use	6 (1%)

NHMRC = National Health and Medical Research Council.
* 106 (26% of total) had a test result available. ◆

2 Outcomes of adult health checks among 413 Aboriginal and Torres Strait Islander participants

Outcome	Participants
Investigations	
Investigations ordered	337 (82%)
Sexual health screening	119 (29%)
Pap smear (women: due and undertaken)	112 (47%)*
New diagnosis resulting from health check	
Depression	24 (6%)
Harmful level of alcohol consumption	18 (4%)
Chlamydia infection	18 (4%)
Hypertension	13 (3%)
Pap smear abnormality	12 (3%)
Diabetes	11 (3%)
Substance misuse (excluding tobacco and alcohol)	9 (2%)
Anaemia	9 (2%)
Hepatitis C	7 (2%)
Hyperlipidaemia	3 (< 1%)
Suicidal ideation	3 (< 1%)
Breast cancer	2 (< 1%)
Interventions	
Lifestyle advice	275 (67%)
Brief smoking cessation advice (within "current smoking" group)	262 (95%)†
Referral (includes allied health and specialist)	258 (62%)
Dentist	178 (43%)
Dietitian	86 (21%)
Optometrist	51 (12%)
Audiologist	27 (7%)
Mental health referral	20 (5%)
Specialist (excluding psychiatry)	16 (4%)
Alcohol and drug referral	15 (4%)
New medication	204 (49%)
Vaccination	175 (42%)
Contraception arranged	85 (21%)

* Percentage of the 240 women. † 95% of the 275 people who reported current smoking. ◆

genous primary care contexts with varying human and material resources.

Our health status data (Box 1) are similar to national data for Aboriginal and Torres Strait Islander people.[7] Cardiovascular risk factors reported from an urban community-based sample found fewer current smokers but higher rates of overweight/obesity and hypertension.[8]

Tangible beneficial outcomes resulting from the health check that are associated with level I evidence (according to National Health and Medical Research Council [NHMRC] guidelines[9]) included providing brief smoking cessation advice, identification of depression and suicidal ideation, identification of diabetes, and vaccination.[10]

The AusDiab study identified one new case of diabetes for every 32 people screened in a national sample of Australians aged 25 years or older.[11] Among our relatively high-risk Indigenous participants aged 15–54 years, we detected one case of diabetes for every 26 adult health checks. Outcomes associated with level II–III evidence included increased Pap smear coverage and identification and treatment of infection with chlamydia (Box 2).[10]

A *Chlamydia trachomatis* and Pap smear screening program at an urban Indigenous clinic in North Queensland found one case of chlamydia for every 21 Indigenous women screened, and one Pap smear abnormality for every 12 Pap smears in Indigenous women aged 20–69 years.[12] By comparison, our study detected one case of chlamydia for every 20 adult health checks and one Pap smear abnormality for every nine Pap smears undertaken.

Although the only randomised controlled trial of well-person health checks in an Aboriginal context showed no difference in mortality after a single health check; biennial checks, which will allow reinforcement of health messages, are more likely to show a reduction in mortality.[13]

Our study provides evidence to justify previous optimism about the benefits of the new federally funded adult health check for Indigenous people.[3] To make the most of the health checks, policymakers and funding bodies must ensure adequate access to allied health and specialist care for Indigenous health services. It would make little sense to identify almost half of patients with dental problems, for example, if there is no dental service available. Further research on the adult health check would be useful in non-urban Indigenous settings, as would collecting biennial adult health check data in a longitudinal study.

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COMPETING INTERESTS

None identified.

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