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# Universal Routine Offer HIV Antenatal Screening Programme:

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## Quarterly Report to the National Screening Unit, Ministry of Health

Quarter 2 2008

September 2008

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# Introduction

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The AIDS Epidemiology Group (AEG) has been contracted by the National Screening Unit (NSU) to provide monitoring and evaluation of some aspects of the Universal Routine Offer HIV Antenatal Screening Programme (referred to in this report as the Programme), and to issue quarterly reports. The monitoring undertaken is based on AEG's March 2006 Monitoring and Evaluation Plan, as approved by the NSU. The monitoring follows the screening pathway, from the offer of HIV testing to the resulting health outcomes. The initial focus is on process, especially uptake of HIV testing and the occurrence of non-negative results.

This Programme commenced in the Waikato District Health Board (WDHB) on 20/03/2006 with the aim to progressively roll it out in other District Health Boards (DHB) throughout the country. Up until the current quarter, WDHB extracted data from their laboratory system, which included name and NHI. This was sent to the New Zealand Health Information Service (NZHIS) to validate the data and link the NHI to ethnicity and domicile (from which a deprivation score, NZdep01, is derived). Due to difficulties and delays reported by NZHIS in linking the NHI data, a new reporting method has been devised. WDHB have now converted to the new system (outlined below) and as new DHBs come on board they will use this system too.

The new data requirements and reporting structure have been designed to be as straightforward as possible. Antenatal screening data to be collected by the DHBs includes date of birth, date of testing, who requested the test, ethnicity and domicile (see appendix 1 for the new reporting template). It is now up to the individual DHBs and their screening co-ordinators to source the ethnicity and domicile data, the most intensive (but straightforward) method being to manually look up details from the NHI data. This is the first report since the new data collection method was implemented. From the 10<sup>th</sup> of May 2008, Tairāwhiti DHB, also commenced screening and their data is included in this report. In this fourth report we analyse the data from Quarter 2 of 2008.

Part 1 of this report shows data summarized by quarter for screening uptake, and shows the proportion of women having antenatal blood tests who were tested for HIV. This will over-estimate true uptake of HIV testing among all pregnant women due to the omission of women who do not have any antenatal screening tests. For some women the pregnancy will have ended as a termination or miscarriage. Repeat testing of the same women can no longer be assessed as there is no unique identifier (encrypted NHI was used previously, this was supplied by NZHIS).

Part 2 provides information on pregnant women newly diagnosed with HIV in the DHBs engaged in the Programme, and on those who had an initial non-negative test and were subsequently found to be uninfected.

Part 3 is a summary and recommendations.

# Part 1: Screening Uptake

## HIV screening uptake

Tables 1.1 to 1.5 show HIV screening uptake, calculated as a proportion of all women having antenatal blood tests, by DHB, requester type, age group, ethnic group and residential area deprivation score (as measured by NZDep01). Ethnicity and deprivation were not available from WDHB. As the data supplied through the new system did not match that previously provided for quarter one, quarter one data has been removed (see previous report). Tairāwhiti DHB began screening on the 10<sup>th</sup> of May, so their Q2 data is not a full quarter.

Overall uptake of HIV tests among women having antenatal HIV screening is excellent (Table 1.1). Tables 1.2, 1.3, 1.4 and 1.5 show virtually no variation in uptake by type of requester, age group, ethnic group and deprivation score respectively, with uptake consistently above 90%.

**Table 1.1: Screening uptake by DHB for 2008**

DHB	Q1			Q2			Q3			Q4			2008		
	01 Jan - 31 Mar			01 Apr - 30 Jun			01 Jul - 30 Sep			01 Oct - 31 Dec			to date		
	N	n	(%)	N	n	(%)	N	n	(%)	N	n	(%)	N	n	(%)
Tairāwhiti	0	0	-	174	163	(93.7)							174	163	(93.7)
Waikato	2367	2366	(100.0)	2280	2280	(100.0)							4647	4646	(100.0)
Total	2367	2366	(100.0)	2454	2443	(99.6)							4821	4809	(99.8)

**Table 1.2: Screening uptake by requester type for 2008**

Requester	Q1			Q2			Q3			Q4			2008		
	01 Jan - 31 Mar			01 Apr - 30 Jun			01 Jul - 30 Sep			01 Oct - 31 Dec			to date		
	N	n	(%)	N	n	(%)	N	n	(%)	N	n	(%)	N	n	(%)
Midwife	1073	1072	(99.9)	1085	1077	(99.3)							2158	2149	(99.6)
GP	1172	1172	(100.0)	1221	1218	(99.8)							2393	2390	(99.9)
O & G	88	88	(100.0)	94	94	(100.0)							182	182	(100.0)
Other	34	34	(100.0)	54	54	(100.0)							88	88	(100.0)
Total	2367	2366	(100.0)	2454	2443	(99.6)							4821	4809	(99.8)

**Table 1.3: Screening uptake by age group for 2008**

Age group	Q1			Q2			Q3			Q4			2008 to date		
	01 Jan - 31 Mar			01 Apr - 30 Jun			01 Jul - 30 Sep			01 Oct - 31 Dec					
	N	n	(%)	N	n	(%)	N	n	(%)	N	n	(%)	N	n	(%)
<15yrs	1	1	(100.0)	1	1	(100.0)							2	2	(100.0)
15-19	272	272	(100.0)	279	278	(99.6)							551	550	(99.8)
20-24	516	516	(100.0)	546	543	(99.5)							1062	1059	(99.7)
25-29	606	606	(100.0)	623	619	(99.4)							1229	1225	(99.7)
30-39	863	862	(99.9)	904	902	(99.8)							1767	1764	(99.8)
40yrs +	108	108	(100.0)	101	100	(99.0)							209	208	(99.5)
Missing	1	1	(100.0)	0	0	-							1	1	(100.0)
Total	2367	2366	(100.0)	2454	2443	(99.6)							4821	4809	(99.8)

**Table 1.4: Screening uptake by ethnic group for 2008**

Ethnic group	Q1			Q2			Q3			Q4			2008 to date		
	01 Jan - 31 Mar			01 Apr - 30 Jun			01 Jul - 30 Sep			01 Oct - 31 Dec					
	N	n	(%)	N	n	(%)	N	n	(%)	N	n	(%)	N	n	(%)
NZ European	0	0	-	55	50	(90.9)							55	50	(90.9)
Maori	0	0	-	89	85	(95.5)							89	85	(95.5)
Other European	0	0	-	14	13	(92.9)							14	13	(92.9)
Asian	0	0	-	4	4	(100.0)							4	4	(100.0)
Pacific peoples	0	0	-	5	5	(100.0)							5	5	(100.0)
African	0	0	-	0	0	-							0	0	-
other/un-specified	0	0	-	3	3	(100.0)							3	3	(100.0)
Missing*	2367	2366	(100.0)	2284	2283	(100.0)							4651	4649	(100.0)
Total	2367	2366	(100.0)	2454	2443	(99.6)							4821	4809	(99.8)

**Table 1.5: Screening uptake by NZDep01 score for 2008**

NZdep01	Q1			Q2			Q3			Q4			2008 to date		
	01 Jan - 31 Mar			01 Apr - 30 Jun			01 Jul - 30 Sep			01 Oct - 31 Dec					
	N	n	(%)	N	n	(%)	N	n	(%)	N	n	(%)	N	n	(%)
1-2	221	221	(100.0)	8	6	(75.0)							229	227	(99.1)
3-4	287	287	(100.0)	14	14	(100.0)							301	301	(100.0)
5-6	428	428	(100.0)	19	18	(94.7)							447	446	(99.8)
7-8	486	485	(99.8)	7	6	(85.7)							493	491	(99.6)
9-10	894	894	(100.0)	122	116	(95.1)							1016	1010	(99.4)
Missing*	51	51	(100.0)	2284	2283	(100.0)							2335	2334	(100.0)
Total	2367	2366	(100.0)	2454	2443	(99.6)							4821	4809	(99.8)

For tables 1-5: Where N is the total number of women accepting antenatal screens during the quarter, n and % are the number and percentage of antenatal screens that included an HIV screen.

\* These data were "missing" as no data were provided, WDHB were unable to supply ethnicity or domicile data through the new reporting system, resulting in a large proportion on the data being missing.

## Part 2: Screening results in DHBs engaged in HIV screening programme

### (a) Confirmed newly diagnosed HIV positive pregnant women

Table 2.1 shows the number of screened pregnant women newly diagnosed with HIV in each quarter, by DHB. No new diagnoses were confirmed in this quarter.

**Table 2.1: Confirmed HIV positive results for 2008 (by DHB)**

DHB	Q1			Q2			Q3			Q4			2008		
	01 Jan - 31 Mar			01 Apr - 30 Jun			01 Jul - 30 Sep			01 Oct - 31 Dec			to date		
	N	n	(%)	N	n	(%)	N	n	(%)	N	n	(%)	N	n	(%)
Tairāwhiti	0	0	-	163	0	-							163	0	-
Waikato	2366	0	-	2280	0	-							4646	0	-
Total	0	0	-	163	0	-							163	0	-

Where N is the total number of women screened for HIV during the quarter, n and % are the number and percentage of HIV screens that were confirmed HIV positive.

### (b) Pregnant women with non-negative results who were not infected

In this section we report on the number of women who required to be re-tested because of an initial test that did not definitely rule out HIV infection and who subsequently were found to be uninfected.

The AEG had also initially negotiated to get this non-negative data from the laboratories carrying out confirmatory testing: Institute of Environmental Science and Research Limited (ESR), Porirua and LabPlus, Auckland. In subsequent discussions with them it transpired that it was not always clear to them which of the samples come from women tested as part of the antenatal screening programme. To clarify this it was suggested that a copy of the original laboratory request form, on which “antenatal screen” is stated, needs to be attached to the request that is sent to ESR. However, this process appeared not to be working, and hence we have re-negotiated the way that information about women who require retesting will be obtained.

Following discussion with the managers and staff involved in coordinating the antenatal HIV screening programme in WDHB, a system has been established whereby the DHB based HIV screening coordinator will notify the AEG, on a monthly basis, about all women who have had a non-negative result.

WDHB have been providing this information on a regular basis since the beginning of 2008. This system appears to be working well.

Hence, information for this section will be based on data from the DHB laboratory data set and from the DHB coordinator monthly report.

Results received directly from WDHB as part of their laboratory dataset showed that between 01/01/2007 and 31/12/2007 there were a total of 27 non-negative results from 9062 HIV screens. One of these women was confirmed positive. Therefore there were

26 non-negative initial tests in women who were subsequently determined as uninfected by further testing, a proportion of 3.5 per 1000 (0.35%). This is higher than the expected rate of 0.1% as would be expected from a test specificity of 99.9%<sup>1</sup>. The higher rate appears to be because of the use of a third generation Enzyme Immunoassay (EIA) as a screening test by one of the laboratories that has a lower specificity than the more recently introduced fourth generation test now generally used. On investigating this with the WDHB HIV screening coordinator it appears that the confirmatory test was performed on the original sample, and hence none of these 26 women were re-bled. This was deduced from information provided to us by her that only two women were re-bled who subsequently proved to be HIV negative since the start of the Programme were tested in 2006.

No women were reported to have a non-negative initial test and no women were reported to require re-bleeding in the first and second quarters of 2008.

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<sup>1</sup> From the AEG's Monitoring and Evaluation Plan, March 2006.

## Part 3: Summary and Recommendations

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### Summary

- Much valuable information for assessing the screening programme is available through data reported by testing laboratories via the DHBs and through routine surveillance to the AEG.
- Overall there was near universal uptake of HIV testing among those having an antenatal screen in the Waikato area, continuing the very high uptake of testing seen in 2006 and 2007. Uptake in Tairāwhiti was also high at this initial point in their programme roll out.
- Only with time, and relating these results to data on births (via the NMDS and MIS datasets) and terminations, will it be possible to get a complete idea of HIV screening coverage among pregnant women.
- A major issue in the analysis of the data on testing was in timing of its availability. It took longer for the DHBs to provide a dataset to AEG than anticipated.
- With the lack of a unique identifier (inherent in the new system of reporting data to the AEG), the much valued repeat testing analysis could not be conducted.
- Waikato were unable to provide ethnicity and domicile data due to a high volume of women and the labour intensive method of looking up these data. As Tairāwhiti data were of low numbers, partially due to the screening commencing part-way through the quarter (on the 20<sup>th</sup> of May), trends by ethnicity and deprivation are not readily decipherable.

### Recommendations *[and NSU Responses]*

- With new DHBs planning to commence screening in 2008 it is important for the District coordinators to be familiar with the monitoring and evaluation process put in place by the NSU and AEG.

*[Part of the orientation of new coordinators and project managers for the programme includes information regarding the setting up and ongoing management of the monitoring and evaluation for each region. They are given the Template and its use is explained. They are also given Antoinette's contact details at AEG so that they and their IT people can discuss management of the data directly. They are all told that they need to develop a method of gathering the data in a safe and appropriate way and to store it safely in their local system. They have a copy of the Monitoring and Evaluation Plan though it would be useful to have this document simplified and updated.]*

- Access to and usefulness of ethnicity and domicile (deprivation) data should be revisited, if large DHBs are likely to have difficulty providing it.

*[The NSU is working with DHBs on an interim solution for collecting ethnicity and domicile data. The NSU is also considering options for a long-term national solution.]*

# Acknowledgements

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We would like to thank the following people and their staff/organisations for their input in compiling this report:

- The Waikato and Tairāwhiti DHBs' antenatal HIV screening group, especially Clare Coles, Lorraine Clarke and Kim Quartermain
- The DHBs' associated laboratories

## Appendix 1: Final date set that is sent to, stored and analysed by the AEG on a quarterly basis

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The variable names below provide the column heading and advise on the data to be provided under that heading. A new row should be supplied for every individual woman (line by line data). The excel template for this data set can be requested from the NSU or the AEG,

<b>Variable Name</b>	<b>Description</b>	<b>Format</b>
dob_lab	Women's date of birth as recorded by the laboratory	date (##/##/##)
requester_type	Who ordered the test	number ("1" for a midwife, "2" for a GP, "3" for an obstetrician, and "4" for other)
dhb_code	DHB code in which the laboratory is located	text
screen_type	Whether or not HIV was included in the antenatal screen	number ("1" for with HIV, code "2" for without HIV)
screen_result	Whether or not the HIV screen was negative	number ("1" for negative, code "2" for non-negative)
service_date	Date the antenatal blood sample was received by the laboratory	date (##/##/###)
ethnicity_code	Two digit ethnicity code, (available from NHI record)	Two digit number
domicile	Four digit domicile code, (available from NHI record)	Four digit number