UNIVERSITY of OTAGO

Te Whare Wānanga o Otāgo

Universal Routine Offer HIV Antenatal Screening Programme:

Quarterly Report to the National Screening Unit, Ministry of Health

Quarter 1 2008

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Introduction

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 (refered 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. Following meetings during 2007 with representatives from the NSU, WDHB, New Zealand Health Information Service (NZHIS), laboratories and Hewlett Packard, the AEG has devised a reporting structure. The data requirements and reporting structure have been designed to be as straightforward as possible. In this fourth report we analyse the data from Quarter 1 of 2008. The WDHB is still the only area to be included in the Programme. However, 12 more DHBs are expected to commence screening during 2008.

Laboratory antenatal screening data were collected by WDHB, and include National Health Index Number (NHI), name, date of birth and date of testing. For Q1 2008, 2442 lines of data were sent to NZHIS for matching to an NHI record so that ethnicity and residential area deprivation score could be included in the line-by-line data. After validation, 95% of the data lines could be matched to an NHI record This is an improvement on previous years. The only data validity issue was seven incidences where the date of birth supplied by the laboratory and by the NHI record did not match, in the four cases where both could have been correct the laboratory data were used to calculate age.

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 was also assessed. If this was during the same pregnancy, and there was no clinical indication, this will add cost to the screening programme. We have determined the time between tests to gain some insight into whether these were likely to have been repeat testing during the same pregnancy.

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 data are only available for those 95% of women who could be NHI linked, and where these fields were completed in their NHI record.

Overall uptake of HIV tests among women having antenatal HIV screening is excellent with only one woman not having an HIV screen (Table 1.1). Waikato is the only DHB currently in the programme. As other DHBs start the programme, their results will be included in these tables. 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 close to 100%, with the exception of the one woman not HIV screened.

Table 1.1: Screening uptake by DHB for 2008

	Q1			Q2			Q3			Q4			2008		
	01 Jan - 31 Mar			01 Apr - 30 Jun			01 Jul - 30 Sep			01 Oct - 31 Dec			to date		
DHB	N	n	(%)	N	n	(%)	N	n	(%)	N	n	(%)	N	n	(%)
Waikato	2442	2441	(100.0)										2442	2441	(100.0)
Total	2442	2441	(100.0)										2442	2441	(100.0)

Table 1.2: Screening uptake by requester type for 2008

	Q1			Q2			Q3			Q4			2008		
	01 Jan - 31 Mar			01 Apr - 30 Jun			01 Jul - 30 Sep			01 Oct - 31 Dec			to date		
Requester	N	n	(%)	N	n	(%)	N	n	(%)	N	n	(%)	N	n	(%)
GP	1188	1188	(100.0)										1188	1188	(100.0)
Midwife	1091	1090	(99.9)										1091	1090	(99.9)
O & G	102	102	(100.0)										102	102	(100.0)
Other	8	8	(100.0)										8	8	(100.0)
Missing	53	53	(100.0)										53	53	(100.0)
Total	2442	2441	(100.0)										2442	2441	(100.0)

Table 1.3: Screening uptake by age group for 2008

Age group	Q1 01 Jan - 31 Mar N	n	(%)	Q2 01 Apr - 30 Jun N	n	(%)	Q3 01 Jul - 30 Sep N	n	(%)	Q4 01 Oct - 31 Dec N	n	(%)	2008 to date N	n	(%)
<15yrs	1	1	(100.0)										1	1	(100.0)
15-19	283	283	(100.0)										283	283	(100.0)
20-24	538	538	(100.0)										538	538	(100.0)
25-29	622	622	(100.0)										622	622	(100.0)
30-39	880	879	(99.9)										880	879	(99.9)
40yrs +	117	117	(100.0)										117	117	(100.0)
Missing	1	1	(100.0)										1	1	(100.0)
Total	2442	2440	(99.9)										2441	2440	(100.0)

Table 1.4: Screening uptake by ethnic group for 2008

Ethnic group	Q1 01 Jan - 31 Mar N	n	(%)	Q2 01 Apr - 30 Jun N	n	(%)	Q3 01 Jul - 30 Sep N	n	(%)	Q4 01 Oct - 31 Dec N	n	(%)	2008 to date N	n	(%)
NZ European	1038	1038	(100.0)										1038	1038	(100.0)
Maori	728	728	(100.0)										728	728	(100.0)
Other European	195	194	(99.5)										195	194	(99.5)
Asian	109	109	(100.0)										109	109	(100.0)
Pacific peoples	63	63	(100.0)										63	63	(100.0)
African	23	23	(100.0)										23	23	(100.0)
other/un-specified	165	165	(100.0)										165	165	(100.0)
Missing*	121	121	(100.0)										121	121	(100.0)
Total	2442	2441	(100.0)										2442	2441	(100.0)

Table 1.5: Screening uptake by NZDep01 score for 2008

NZdep01	Q1 01 Jan - 31 Mar N	n	(%)	Q2 01 Apr - 30 Jun N	n	(%)	Q3 01 Jul - 30 Sep N	n	(%)	Q4 01 Oct - 31 Dec N	n	(%)	2008 to date N	n	(%)
1-2	221	221	(100.0)										221	221	(100.0)
3-4	287	287	(100.0)										287	287	(100.0)
5-6	428	428	(100.0)										428	428	(100.0)
7-8	486	485	(99.8)										486	485	(99.8)
9-10	894	894	(100.0)										894	894	(100.0)
Missing*	126	126	(100.0)										126	126	(100.0)
Total	2442	2441	(100.0)										2442	2441	(100.0)

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 NHI number were provided or the NHI record was not completed*

Repeat testing

For women with a valid NHI, it is possible to know the number who had repeat antenatal screening tests and the interval between these. The interval for women with more than one test during Q1 2008 is shown in Figure 1.1, and that for the whole period we have data on (20/03/2006 – 31/03/2008) in Figure 1.2. These are only repeat tests where all tests included an HIV screen, and were negative. It is not possible to know whether these screens are in the same pregnancy, although it is extremely likely to be the case where the interval was less than three months and not possible where greater than nine months.

During Q1 2008, of the 70 women with repeat HIV screens, 69 had one repeat, and one had two repeat screens. All 70 are very likely to have had repeat testing during the same pregnancy (less than three months between screens). As there is only three months of data available for 2008, there cannot be any women with repeat screens separated by more than three months. (Figure 1.1).

Over the period 20/03/2006 – 31/12/2007 repeat testing was likely to have been undertaken for 7.8% of pregnant women (Figure 1.2). This was calculated with a numerator of the 1285 women with repeat testing within a six month period and a denominator of 16571 individual women with an NHI having been tested during the period. There might, for a small number of women, have been a clinical indication for retesting.

Figure 1.1: Frequency of repeat HIV screens on the same women in 2008 by amount of time elapsed between screens (n=70)

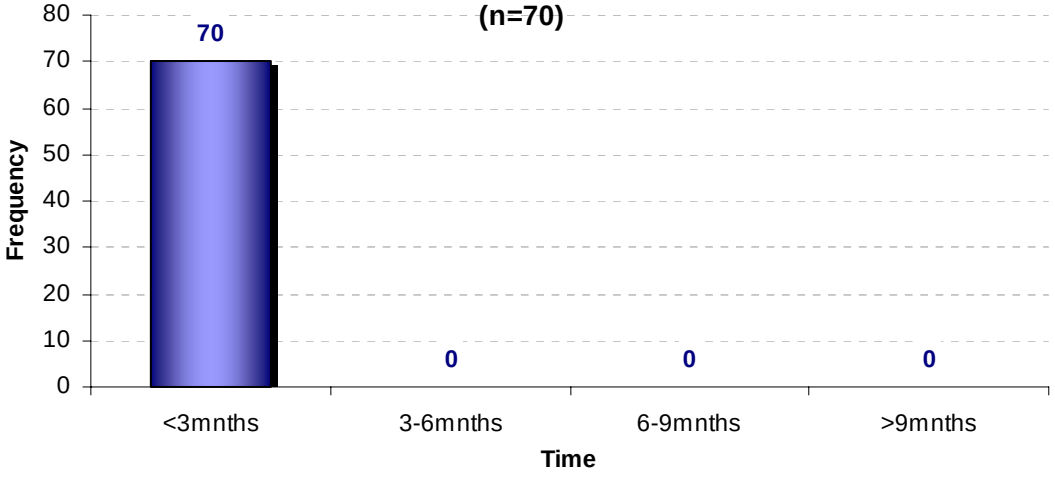
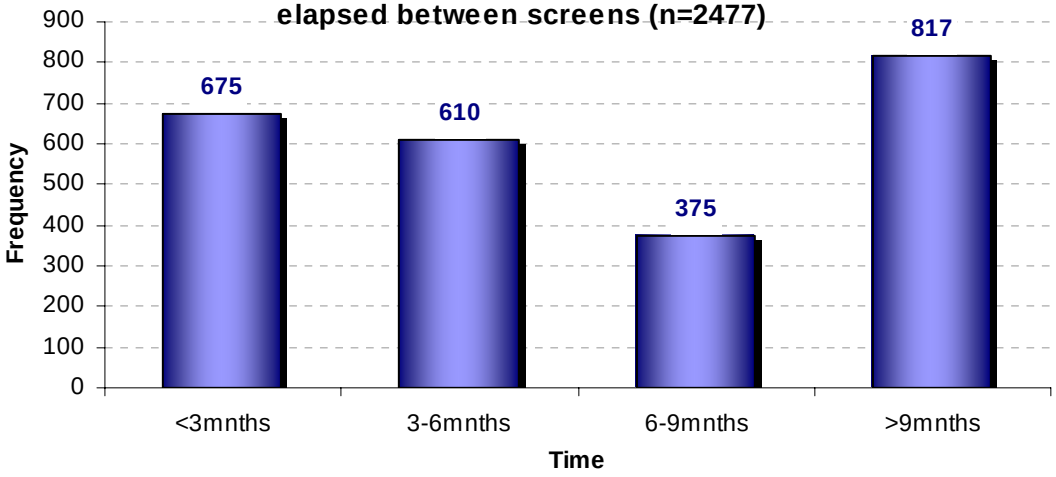


Figure 1.2: Frequency of repeat HIV screens on the same women between 20/03/06 and 31/03/08 by amount of time elapsed between screens (n=2477)



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. This will be reported by DHB when more are engaged in the programme. No new diagnoses were confirmed in this quarter.

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

	Q1			Q2			Q3			Q4			2008		
	01 Jan - 31 Mar			01 Apr - 30 Jun			01 Jul - 30 Sep			01 Oct - 31 Dec			to date		
DHB	N	n	(%)	N	n	(%)	N	n	(%)	N	n	(%)	N	n	(%)
Waikato	2441	0	-										2441	0	-
Total	2441	0	-										2441	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%[1]. 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.

As of January 2008 the 3rd generation HIV assay is no longer being used in the WBHB, therefore the rate of non-negatives have declined considerably when compared with 2006 and 2007. No women were reported to have a non-negative initial test and no women required re-bleeding in the first quarter of 2008.

[1] From the AEG's Monitoring and Evaluation Plan, March 2006.

Part 3: Interviews with clinicians and women related to women who had (a) positive results and (b) required to be retested but were not infected

The AEG approaches for interview clinicians and women who (a) had positive results and (b) were required to be retested but were not infected, to determine if there are any aspects of the process that could be improved on.

Below we report on interviews that have been undertaken. Our main activities to date have been to establish processes to undertake this work and to pilot these with the WBHB. These processes need to be transferable to other DHBs as they join the Programme.

While, as mentioned in the previous section of this report, we had anticipated being able to obtain the information on women who required retesting through laboratories, it became clear that it would be more appropriate for this to be done through the local HIV screening coordinator. In this quarterly report we summarise the process we have developed that will allow us to undertake the interviews. We also discuss our proposed future reporting of these interviews.

Interviews

(a) Confirmed newly diagnosed HIV positive pregnant women

No women giving birth have been reported to be HIV positive in the WDHB region in Q1 2008. Table 3.1 shows the dates of diagnosis, delivery and interview of the women and their health care provider for the two women who have been diagnosed since the Programme began

Table 3.1 Interviews related to confirmed newly diagnosed HIV positive pregnant women

	Woman A (Inf/WDHB/06a*)	**Woman B (Inf/WDHB/07a*)**
Diagnosed	09/06	01/07
Delivery	01/07	05/07
Patient interview	No response despite repeated follow up	10/07
Health care provider interview	09/07	Refused

** Code of woman is according to date of diagnosis*

Pregnant women retested following initial non-negative test who were not infected

The proportion of women who will require re-bleeding will depend on the algorithm used to follow non-negative laboratory results.

According to data from the HIV screening coordinator of the WDHB, no women were re-bled for further testing for a non-negative result in this quarter

Proposed Reporting process

The number of interviews undertaken will be reported in this quarterly report.

As we are concerned that detailed reporting of the interviews could jeopardize confidentiality, we propose not to provide full reports of these in the quarterly reports. However, if during an interview an issue is identified that needs to be acted on then this will be reported directly to the NSU. An Annual Report of the findings of the interviews with recommendations will be made to the NSU.

Part 3: Summary and Recommendations

Summary

- Much valuable information for assessing the screening programme is available through data reported by testing laboratories via the DHBs and NZHIS and through routine surveillance to the AEG.

- Overall there was near universal uptake of HIV testing among those having an antenatal screen in the WDHB area, continuing the very high uptake of testing seen in 2006 and 2007.

- 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 valid NHI was available for 95% of the women being tested in the period, an improvement on the NHI matching of 90% in 2007

- For women whose NHI was supplied, NZHIS was able to derive their age, ethnicity and as an indication of their socioeconomic status the NZDep01 score of their area of residence. For the WDHB women the very high rate of HIV testing applied to all age, ethnic groups and socioeconomic levels.

- A method for including requester types on the DHB data set has been developed, and high HIV testing was achieved by all requester types.

- A proportion of HIV tests, 7.8% for those with a valid NHI, were probably repeat antenatal screening during the same pregnancy. The reason for repeat tests is yet to be determined.

- 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 NZHIS than anticipated, and also longer for these to be processed by NZHIS.

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

Recommendations *[and NSU Responses]*

- The NSU, AEG and WDHB should continue to refine the method for including provider types on the DHB data set, and the AEG and NSU should consider further analyses linking requester type to patterns of repeat testing.
  [The NSU will continue to refine the DHB data set with AEG and DHBs.]

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

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