

19 Hepatitis

19.1 Background

General practitioners will usually be the first point of contact for those with hepatitis, an infectious disease for which there are recognised risk factors and reliable diagnostic tests. The incidence of hepatitis A, B, and C are most commonly estimated from notifications to the National Notifiable Diseases Surveillance System.

Hepatitis C is a chronic condition that has been described as 'the new challenge of the 1990s for Australia's general practitioners' (Kidd 1999), which may remain undiagnosed in many cases (Vakil & McCaughan 1998). While the incidence of hepatitis C in 1998 was reported as 2.2 per 100,000, the figure is based on the 323 cases where current illness and serological evidence were both reported. Unspecified notifications (those that do not satisfy these conditions) occurred at a rate of 102.2 per 100,000 population (Thomson et al. 1999).

As blood-borne diseases, the risk factors for hepatitis C and hepatitis B are very similar, with the main route of transmission believed to be intravenous drug use (Thomson et al. 1999). Risk factors for hepatitis A are also identifiable, and are more often related to exposure to contaminated food or individuals (Figure 19.1). While the risk factors for hepatitis A, B and C are well known, the number of people in the community who are at risk is not routinely measured. It would clearly also be in the interests of public health to know what proportions of at-risk groups in the community have actually been tested for these diseases, and the negative and positive rates of such tests.

Notifications data suggest that risk for hepatitis B and C tends to be greater for those in the 15–34 year age group (Thomson et al. 1999).

Using the SAND methodology, it was decided to investigate the 12-month prevalence of risk factors for hepatitis A, B and C, the proportions of those at risk who had been tested and who were positive among GP patients.

19.2 Research questions

1. What proportion of the general practice population is 'at-risk' for:
 - hepatitis A?
 - hepatitis B?
 - hepatitis C?
2. What proportion of the general practice population has been tested for:
 - hepatitis A?
 - hepatitis B?
 - hepatitis C?

3. What proportion of the general practice population tested positive for:

- hepatitis A?
- hepatitis B?
- hepatitis C?

19.3 SAND questions

GPs were provided with a card showing a list of risk criteria for each condition (Figure 19.1). They were asked to give this to each patient or their carer who then answered whether or not they were at risk for each condition. To protect the privacy of patients, patients were not asked to reveal which risk factor(s) applied to them, only whether or not they were in a risk group.

For each condition, GPs were asked the patient status in the past 12 months for being at risk, having been tested, and whether the patient's test was positive. For those whose test was positive, GPs were asked to indicate any referrals made as a result.

Box 19.1: SAND questions for Hepatitis

In the past 12 months, what was the patient's status for the following diseases?

	<i>At risk?</i>	<i>Tested?</i>	<i>Positive?</i>
◆ Hepatitis A	<i>Yes/No/Don't know</i>	<i>Yes/No/Don't know</i>	<i>Yes/No/Don't know</i>
◆ Hepatitis B	<i>Yes/No/Don't know</i>	<i>Yes/No/Don't know</i>	<i>Yes/No/Don't know</i>
◆ Hepatitis C	<i>Yes/No/Don't know</i>	<i>Yes/No/Don't know</i>	<i>Yes/No/Don't know</i>

19.4 Results

Sample size was 4,259 patient encounters from 108 GPs.

The rates described below are reported firstly as a proportion of all respondents to each question regarding risk status. Secondly, patients who responded to the risk question were used as the denominator for the second (e.g. the proportion of those at risk who were tested). The results for each disease are summarised in Table 19.1.

Hepatitis A

Of all respondents, 7.5% (95% CI: 5.9–9.1) identified themselves as at risk for Hepatitis A, and 6.3% (95% CI: 4.7–8.0) had been tested in the past 12 months. Of the 311 respondents who responded to the question 'was the test positive or not' (see question 3 above), 3.9% (95% CI: 0.0–25.3) had a positive test. Hence, of the total population surveyed, 0.3% had serological confirmation hepatitis A (n=4,061).

Of the 7.5% of general practice patients surveyed who were at risk for hepatitis A, young adults had the highest age specific rates of risk, with 10.7% of 15–24 year olds (95% CI: 8.0–13.4) and 12.4% of 25–44 year olds (95% CI: 10.4–14.5). There were no sex-related differences for hepatitis A risk status.

There were 305 patients (7.5%) who identified themselves as at risk for hepatitis A. Of these, 29.3% (95% CI: 20.2–38.3) had been tested for hepatitis A in the past 12 months. Of those tested, 5.5% (95% CI: 0.0–34.0) were positive for hepatitis A.

Hepatitis A	Hepatitis B	Hepatitis C
<ul style="list-style-type: none"> • Traveller to endemic areas • Male homosexual • Health care worker • Child care worker • Worker or close contact with intellectually disabled people • Sewerage worker 	<ul style="list-style-type: none"> • Traveller to endemic areas • Baby of hepatitis B positive mother • Sexual partner of hepatitis B carrier • Household contact with hepatitis B carrier • Injecting drug user • Transfusion before Feb 1990 • Recipient of blood products • Any tattoos, skin piercing or acupuncture • Imprisonment • Renal dialysis • Liver disease • Male homosexual • Sex industry worker • Health care worker • Resident or staff of facilities for intellectually disabled • Garbage collector 	<ul style="list-style-type: none"> • Injecting drug use • Transfusion prior Feb 1990 • Tattoos, skin piercing, acupuncture • Imprisonment • Renal dialysis • Liver disease • Sex industry worker • Sexual partner of hepatitis C carrier • Male homosexual

Figure 19.1: At risk criteria for hepatitis A, B & C given to patients—self-assessment of risk

Hepatitis B

Of all respondents (n=4,091), 13.4% (95% CI: 11.2–15.4) identified themselves as at risk for hepatitis B. Testing for hepatitis B had been carried out for more patients than said they were at risk, with 15.0% (95% CI: 12.5–17.4) of respondents having been tested for hepatitis B in the past 12 months. Of 616 respondents to the question on the results of the test, 5.2% said they were positive (95% CI: 0.0–11.5), and these represented only 0.8% of the total sample.

Of those who were at risk for hepatitis B, younger adults again had the highest age specific rates of risk, with 23% of 15–24 year olds (95% CI: 17.9–28.1) and 20.9% of 25–44 year olds (95% CI: 17.6–24.2) at risk for hepatitis B. There were no sex-related differences for hepatitis B risk status.

Of the 13.4% of patients identified as at risk, almost half (46.9%, 95% CI: 41.0–52.9) had been tested in the past 12 months. Of those who had been tested, 5.9% (95% CI: 0.0–12.8) had a positive test result.

Hepatitis C

The proportion of all respondents who identified themselves as at risk for hepatitis C was 8.8% (95% CI: 7.1–10.5). Testing was carried out for 8.6% (95% CI: 6.6–10.7) of all respondents. A positive hepatitis C test result was reported by 6.7% (95% CI: 0.04–13.3) of the 390 respondents tested. Therefore 0.6% of all respondents had objectively verified Hepatitis C.

Young adult patients were most at risk for hepatitis C, with 16.7% of 15–24 year olds (95% CI: 12.7–20.8) and 13.7% of 25–44 year olds (95% CI: 11.5–15.9). The majority of all respondents who tested positive for hepatitis C (80.7%) were in the 25–44 year old age group. There were no differences in rates (i.e. risk, tested and positive) between males and females for hepatitis C.

Of those who identified themselves as being at risk for hepatitis C, 39.8% (95% CI: 31.2–47.7) had been tested. Of those tested, 8.2% (95% CI: 0.04–16.4) were positive for hepatitis C. It is interesting that while 319 patients were tested for hepatitis C, only about 140 of these patients identified themselves as at risk.

Table 19.1: Hepatitis A, B and C—percentage of patients at risk, tested and positive

	%	n	No. encs	95% LCI	95% UCI
Hepatitis A					
At risk	7.5	305	4061	5.9	9.1
Tested	6.3	231	3655	4.7	8.0
Positive	3.9	12	311	0.0	25.3
Of those at risk, proportion tested	29.3	84	287	20.2	38.3
Of those tested, proportion positive	5.5	12	217	0.0	34.0
Hepatitis B					
At risk	13.4	546	4091	11.3	15.4
Tested	15.0	561	3752	12.5	17.4
Positive	5.2	32	616	0.0	11.5
Of those at risk, proportion tested	46.9	252	537	41.0	52.9
Of those tested, proportion positive	5.9	31	530	0.0	12.8
Hepatitis C					
At risk	8.8	358	4071	7.1	10.5
Tested	8.6	319	3695	6.6	10.7
Positive	6.7	26	390	0.04	13.3
Of those at risk, proportion tested	39.8	140	352	31.9	47.7
Of those tested, proportion positive	8.2	25	304	0.04	16.4

Notes: Abbreviations: encs = encounters, LCI = lower confidence interval, UCI = upper confidence interval

19.5 Discussion

The results showed that a notable proportion of respondents identified themselves as being at risk for hepatitis B (13%), hepatitis C (9%), or hepatitis A (7.5%). Young to middle aged adults (15–44) were most at risk for all types of hepatitis, but particularly for hepatitis B and C, as has been found with notifications data (Thomson et al. 1999). However, while some studies have reported greater risk for males, there were no gender differences in this study.

Thirty to 50% of patients who reported they were at risk also stated they been tested for the disease. Of those tested for one or more types of hepatitis, positive results were reported for 5–8%. Overall, less than 1% of the total sample reported positive results for each of the three types of hepatitis.

There may be a role for increased screening of at risk patients in general practice, particularly for young adults. However the cost-effectiveness of such screening would need to be investigated.