Estimates of reports of notifiable
diseases by general practitioners in
regional Western Australia

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Abstract
We surveyed the attitudes of general practitioners to the notification of gazetted diseases in the
south-west of Western Australia. Notification rates were calculated from the number of
notifications recorded by the Southern Public Health Unit or the Communicable Disease Control
Program of the State Health Department, and the estimated population of the region, the
metropolitan area and the State. Of the 80% of general practitioners responding to the survey,
96% advised they intended to notify all gazetted diseases they diagnosed. Notification rates in the
south-west of Western Australia ranged from 380 to 900 per 100,000 population, compared with
approximately 450 per 100,000 population in the metropolitan area.

Introduction
There are a number of diseases
for which there is a statutory
obligation to notify the State and
Territory health departments
upon diagnosis. The notification
process is important to:
• identify cases of disease that
  require immediate public
  health control measures, for
  instance, the occurrence of
  meningococcal disease;
• evaluate the effectiveness of
  control programs for
  preventable diseases, such
  as measles;
• identify and monitor
  emerging diseases, for
  example, hepatitis C;
• identify risk factors for certain
  diseases and to support
  effective prevention
  measures, such as
  immunisation against
  Haemophilus influenzae
  type b;
• monitor changes in disease
  agents through laboratory
  testing, such as the changing
  antibiotic susceptibility
  pattern of multiple drug-
  resistant Staphylococcus
  aureus; and
• evaluate hypotheses about
  diseases, for example the
  person-to-person
  transmission of the human
  immunodeficiency virus
  (HIV).

Although notification of gazetted
diseases is considered
important, compliance by
medical practitioners has not
always been thorough. In most
States and Territories of
Australia, diseases must be
notified directly by laboratories
to the relevant authority within
the State and Territory health
departments. In Western
Australia, such legislation has
been drafted but not yet
enacted. This study reports on
general practitioner attitudes to
disease notification in the south-
west of Western Australia and
compares regional, metropolitan
and State notification rates.

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Methods

In Western Australia, as in other States and Territories, notification of gazetted diseases is a statutory obligation for general practitioners as part of the Health Act. In the south-west of Western Australia, with a population of 235,000, disease notifications are sent to the public health unit at its two regional centres. They are recorded and sent to the Communicable Disease Control Program in Perth for collation. In addition to doctor notifications for all diseases (primary ascertainment source), informal de-identified data on patients are provided by ten private and public laboratories in the region (secondary ascertainment source). The patient’s date of birth and name of the notifying doctor allow cross-checking of notifications from medical practitioners. When a laboratory identifies a notifiable disease, this is recorded on the laboratory report which is sent to the referring medical practitioner. Feedback on all diseases notified and of outbreak investigations in the region is provided by a monthly bulletin published by the public health unit.

In early 1996, a questionnaire was sent to all medical practitioners in the region to determine attitudes to disease notification, and to estimate reported notification rates. Notification rates were calculated as the number of notifiable diseases reported per 100,000 population in the region. These rates were compared with those for metropolitan Western Australia. Population data by region and year were based on the health statistics calculator of the Epidemiology Branch of the Health Department of Western Australia. This program estimates population by interpolation of data supplied by the Australian Bureau of Statistics from the 1991 census.

Results

Notification data were available for cross-checking with laboratories for the 18 months from January 1995 to June 1996 for the Great Southern region (population 70,000) and for the first six months of 1996 for the South West region (population 165,000). Because of a change in policy by one of the major laboratories, only summary data were available after June 1996 and cross-checking of individual records is no longer possible. The number and source of cases notified by region and period are shown in Table 1. Neither laboratories nor doctors alone provide a complete source of notifications. Some diseases require only a clinical diagnosis and cannot be laboratory confirmed, while others are notified only by doctors or laboratories when both are potential notification sources. In our study, between 32% and 58% of all notifications were provided by doctors only. Notification rates for corresponding periods for the South West Region and Great Southern Region, the Metropolitan Region and the State are shown in Table 2. The higher notification rates in the South West region in the first half of 1996 were largely due to an outbreak of Ross River virus. Of the 188 general practitioners surveyed, 150 (80%) responded. Of these, 96% indicated they intended to notify all notifiable diseases which they diagnosed, and 91% thought they notified at least 80% of all diagnosed diseases.

Discussion

Notification rates in the south-western regions of Western Australia are similar to those in the metropolitan area, which has a similar demographic profile. Notification rates for the State are included for completeness but not for comparison, since notification rates of some diseases, particularly sexually transmissible diseases and enteric diseases, are substantially higher in some parts of the State. More than 90% of general practitioners in the south-west of Western Australia indicated they notified at least 80% of all notifiable diseases of which they were aware.

A conservative estimate of notification rates can be calculated by assuming that non-respondents to the questionnaire are also unlikely to notify gazetted diseases. Despite the best intentions of doctors to notify gazetted diseases, an estimated 90% of all diagnosed gazetted diseases are notified. A conservative rate can then be estimated as 80% of the responders to the survey, notifying 90% of gazetted diseases. This is equivalent to a notification rate of 72%, which is higher than the estimated 50% for New South Wales.

Processes used in the South West region of Western Australia which improve the notification rate include:

- Laboratory cooperation: all laboratory reports confirm that a

Table 1. Number of cases notified in the South West and Great Southern regions of Western Australia, January 1995 to June 1996

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>By doctor and laboratory (A)</td>
<td>ns</td>
<td>97</td>
<td>706</td>
<td>83</td>
</tr>
<tr>
<td>By doctor only (B)</td>
<td>ns</td>
<td>165</td>
<td>362</td>
<td>65</td>
</tr>
<tr>
<td>By laboratory only (C)</td>
<td>ns</td>
<td>21</td>
<td>79</td>
<td>16</td>
</tr>
<tr>
<td>Notifications on data base (A+B)</td>
<td>749</td>
<td>262</td>
<td>1068</td>
<td>148</td>
</tr>
</tbody>
</table>

ns. Not specified
A patient has a notifiable disease when such a disease has been identified:

- Regular feedback: each month general practitioners, laboratories and community health nurses receive a list of notifiable diseases in the region for the previous month, with clinical comments as appropriate;
- Investigation and reporting of outbreaks: evidence is provided that action is taken when an outbreak occurs.

Despite the availability of informal laboratory notifications in this study, between one-third and one-half of all notifications were reported by doctors only. This proportion may be improved when laboratory notification is formalised by legislation, but these results suggest that reliance on any single notification source is likely to continue to under-estimate disease prevalence. To improve the quality of notifiable disease surveillance, an active liaison needs to be maintained between primary care providers, specifically general practitioners and community health nurses, and the State and Territory departments of health that are responsible for notifiable disease legislation.

**Acknowledgements**

We would like to thank Dr Aileen Plant, Department of Public Health of the University of Western Australia, for her comments on an earlier draft of this report. Jag Atrie of the Communicable Disease Control Program in Perth kindly provided notification and population data for Western Australia, and commented on the report.

**References**


Table 2. Comparison of notification rates for the South West and Great Southern regions of Western Australia with other regions in the State

<table>
<thead>
<tr>
<th>Period</th>
<th>Region</th>
<th>Cases notified</th>
<th>Source of data</th>
<th>Estimated population</th>
<th>Notification rates per 100,000 population</th>
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</thead>
<tbody>
<tr>
<td>1995</td>
<td>South West</td>
<td>749</td>
<td>SPHU</td>
<td>163,271</td>
<td>459</td>
</tr>
<tr>
<td></td>
<td>Great Southern</td>
<td>262</td>
<td>SPHU</td>
<td>69,543</td>
<td>377</td>
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<tr>
<td></td>
<td>Metropolitan</td>
<td>5379</td>
<td>CDC</td>
<td>1,254,786</td>
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<tr>
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<td>9410</td>
<td>CDC</td>
<td>1,722,702</td>
<td>546</td>
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<tr>
<td>1996</td>
<td>South West</td>
<td>1513</td>
<td>SPHU</td>
<td>167,968</td>
<td>901</td>
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<tr>
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<td>Great Southern</td>
<td>288</td>
<td>SPHU</td>
<td>69,721</td>
<td>413</td>
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<tr>
<td></td>
<td>Metropolitan</td>
<td>6093</td>
<td>CDC</td>
<td>1,271,321</td>
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<td>Western Australia</td>
<td>11054</td>
<td>CDC</td>
<td>1,744,401</td>
<td>633</td>
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</table>

SPHU Southern Public Health Unit
CDC Communicable Disease Control, Perth