

# 7 Problems managed

A 'problem managed' is a formal statement of the provider's understanding of a health problem presented by the patient, family or community. It can be described in terms of a disease, symptom or complaint, social problem or ill-defined condition managed at the encounter. As GPs were instructed to record each problem to the most specific level possible from the information available, the problem managed may at times be limited to the level of presenting symptoms.

At each patient encounter up to four problems could be recorded by the GP, a minimum of one problem being compulsory. The status of each problem to the patient – new (first presentation to a medical practitioner) or old (follow-up of previous problem) – was also indicated. The concept of a principal diagnosis, which is often used in hospital statistics, is not adopted in studies of general practice where multiple problem management is the norm rather than the exception. Further, the range of problems managed at the encounter often crosses multiple systems and may include undiagnosed symptoms, psychosocial problems or chronic disease which makes the designation of a principal diagnosis difficult. Thus, the order in which the problems were recorded by the GP is not significant.

Problems were coded using ICPC-2 PLUS, an extension of the internationally recognised International Classification of Primary Care – 2nd Edition (ICPC-2). ICPC-2 has a bi-axial structure with 17 chapters on one axis and seven components on the other. Chapters are based on body systems, with an additional chapter for psychological problems and one for social problems (see Chapter 2 – Methods).

The relative frequency of problems managed can be described in two ways: as a percentage of all problems managed in the study, or as a rate of problems managed per 100 encounters. Where groups of problems are reported (e.g. circulatory problems) it must be remembered that more than one type of problem (e.g. hypertension and oedema) could have been managed at a single encounter. In considering these results the reader must be mindful that while a rate per 100 encounters for a single ungrouped problem (e.g. asthma, 2.8 per 100 encounters) can be regarded as equivalent to 'asthma is managed at 2.8%', such a statement cannot be made for grouped concepts.

## 7.1 Number of problems managed at encounter

A total of 139,092 problems were managed at the 96,973 patient encounters, at an average rate of 143.4 problems per 100 encounters. At the majority of encounters (67.7%) only one problem was managed, while three or more problems were managed at 9.2% of encounters (Table 7.1).

**Table 7.1: Number of problems managed at an encounter**

Number of problems managed at encounter	Number of encounters	Per cent	95% LCL	95% UCL
One problem	65,662	67.7	66.6	68.8
Two problems	22,349	23.1	22.4	23.7
Three problems	7,117	7.3	6.9	7.7
Four problems	1,846	1.9	1.6	2.2
<b>Total</b>	<b>96,973</b>	<b>100.0</b>	..	..

Note: LCL—lower confidence limit, UCL—upper confidence limit.

## 7.2 Nature of morbidity

### Problems managed by ICPC–2 chapter

Table 7.2 presents (in decreasing order of frequency) the frequency and distribution of problems managed by ICPC–2 chapter. Individual problem types most frequently recorded within each chapter are also included where they represent more than 0.5% of all problems managed. Each ICPC–2 chapter and problem managed is expressed as a percentage of all problems managed and as a rate per 100 encounters with 95% confidence intervals.

Overall, half of the problems managed in general practice related to four major body systems – the respiratory, skin, musculoskeletal and circulatory systems. Psychological problems were commonly managed as were problems relating to the digestive, endocrine and metabolic systems. Problems least frequently presented related to the blood and blood-forming organs, the male genital system or were of a social nature. Ten per cent of problems managed were not simply related to a single body system and were classified in the general and unspecified chapter.

At the chapter level, respiratory problems were the most frequently managed at a rate of 21.4 per 100 encounters, accounting for 14.9% of all problems managed. The high occurrence of asthma, URTI and bronchitis contributed to this result. Other common respiratory problems included influenza vaccination, sinusitis, tonsillitis, allergic rhinitis and chronic obstructive pulmonary disease.

The relative rate of problems managed associated with the musculoskeletal system was 17.5 per 100 encounters and back complaints (back pain and symptoms) were the most frequent (2.6 per 100 encounters). Other common musculoskeletal problems included tendonitis, arthritis and osteoarthritis as well as injuries such as sprains/strains and fractures.

Hypertension (9.0 per 100 encounters) constituted over half of all circulatory problems (16.1 per 100 encounters) and was the most frequently managed individual problem overall, accounting for 6.3% of all problems. Cardiac check-ups, ischaemic heart disease and heart failure were other circulatory conditions arising at a relatively high rate.

Skin-related problems were managed at a rate of 16.1 per 100 encounters, contact dermatitis (including non-specific dermatitis and eczema) being most common (1.9 per 100 encounters), followed by solar keratosis, malignant skin neoplasms, injuries to the skin (such as lacerations and cuts) and warts.

**Table 7.2: Distribution of problems managed across ICPC-2 chapter and most frequent individual problems within chapter**

Problem managed	Number	Per cent total problems (n=139,092)	Rate per 100 encounters (n=96,973)	95% LCL	95% UCL
<b>Respiratory</b>	<b>20,714</b>	<b>14.9</b>	<b>21.4</b>	<b>20.7</b>	<b>22.0</b>
Upper respiratory tract infection	6,035	4.3	6.2	5.8	6.6
Asthma	2,756	2.0	2.8	2.6	3.0
Acute bronchitis/bronchiolitis	2,644	1.9	2.7	2.5	3.0
Immunisation/vaccination—respiratory	2,204	1.6	2.3	1.3	3.2
Sinusitis acute/chronic	1,333	1.0	1.4	1.2	1.5
Tonsillitis*	1,082	0.8	1.1	0.9	1.4
Allergic rhinitis	754	0.5	0.8	0.6	0.9
Chronic obstructive pulmonary disease	701	0.5	0.7	0.6	0.9
<b>Musculoskeletal</b>	<b>16,964</b>	<b>12.2</b>	<b>17.5</b>	<b>17.0</b>	<b>18.0</b>
Back complaint*	2,540	1.8	2.6	2.4	2.8
Osteoarthritis*	2,524	1.8	2.6	2.4	2.8
Sprain/strain*	1,750	1.3	1.8	1.6	2.0
Fracture*	980	0.7	1.0	0.9	1.1
Bursitis/tendonitis/synovitis NOS	744	0.5	0.8	0.6	0.9
Injury musculoskeletal NOS	732	0.5	0.8	0.6	0.9
Arthritis*	684	0.5	0.7	0.5	0.9
Osteoporosis	687	0.5	0.7	0.5	0.9
<b>Circulatory</b>	<b>15,654</b>	<b>11.3</b>	<b>16.1</b>	<b>15.5</b>	<b>16.8</b>
Hypertension*	8,735	6.3	9.0	8.6	9.5
Ischaemic heart disease*	1,219	0.9	1.3	1.1	1.4
Cardiac check-up*	1,090	0.8	1.1	0.9	1.4
Heart failure	703	0.5	0.7	0.5	0.9
<b>Skin</b>	<b>15,583</b>	<b>11.2</b>	<b>16.1</b>	<b>15.6</b>	<b>16.6</b>
Contact dermatitis	1,826	1.3	1.9	1.7	2.0
Solar keratosis/sunburn	999	0.7	1.0	0.8	1.3
Malignant neoplasm skin	830	0.6	0.9	0.6	1.1
Injury skin, other	688	0.5	0.7	0.5	1.0
Warts	665	0.5	0.7	0.6	0.8
<b>General &amp; unspecified</b>	<b>14,289</b>	<b>10.3</b>	<b>14.7</b>	<b>14.0</b>	<b>15.5</b>
General immunisation/vaccination	1,965	1.4	2.0	1.8	2.3
General check-up*	1,723	1.2	1.8	1.6	2.0
Viral disease, other/NOS	1,421	1.0	1.5	1.1	1.8
Medication/request/renew/inject NOS	1,212	0.9	1.3	0.8	1.7
Results tests/procedures NOS	712	0.5	0.7	0.3	1.2
Weakness/tiredness general	702	0.5	0.7	0.4	1.0

(continued)

**Table 7.2 (continued): Distribution of problems managed across ICPC-2 chapter and most frequent individual problems within chapter**

Problem managed	Number	Per cent total problems (n=139,092)	Rate per 100 encounters (n=96,973)	95% LCL	95% UCL
<b>Psychological</b>	<b>10,316</b>	<b>7.4</b>	<b>10.6</b>	<b>10.1</b>	<b>11.2</b>
Depression*	3,329	2.4	3.4	3.2	3.6
Anxiety*	1,587	1.1	1.6	1.5	1.8
Sleep disturbance	1,579	1.1	1.6	1.4	1.8
<b>Endocrine &amp; metabolic</b>	<b>10,121</b>	<b>7.3</b>	<b>10.4</b>	<b>10.0</b>	<b>10.9</b>
Diabetes, non-gestational*	2,975	2.1	3.1	2.9	3.3
Lipid disorder	2,841	2.0	2.9	2.7	3.1
Obesity (BMI >30)	730	0.5	0.8	0.5	1.0
<b>Digestive</b>	<b>9,626</b>	<b>6.9</b>	<b>9.9</b>	<b>9.6</b>	<b>10.2</b>
Oesophageal disease	1,754	1.3	1.8	1.7	2.0
Gastroenteritis, presumed infection	1,034	0.7	1.1	0.9	1.2
<b>Female genital system</b>	<b>5,944</b>	<b>4.3</b>	<b>6.1</b>	<b>5.8</b>	<b>6.5</b>
Female genital check-up/Pap smear*	1,526	1.1	1.6	1.3	1.8
Menopausal complaint	1,339	1.0	1.4	1.2	1.5
Menstrual problems*	696	0.5	0.7	0.6	0.9
<b>Ear</b>	<b>4,072</b>	<b>2.9</b>	<b>4.2</b>	<b>4.0</b>	<b>4.4</b>
Acute otitis media/myringitis	1,273	0.9	1.3	1.2	1.5
Otitis externa	724	0.5	0.8	0.6	0.9
Excessive ear wax	717	0.5	0.7	0.6	0.9
<b>Pregnancy &amp; family planning</b>	<b>3,852</b>	<b>2.8</b>	<b>4.0</b>	<b>3.7</b>	<b>4.3</b>
Pregnancy*	859	0.6	0.9	0.7	1.1
Contraception, other	820	0.6	0.9	0.6	1.0
Oral contraception*	813	0.6	0.8	0.7	1.0
Pre/post natal check-up*	722	0.5	0.7	0.4	1.1
<b>Neurological</b>	<b>3,603</b>	<b>2.6</b>	<b>3.7</b>	<b>3.5</b>	<b>3.9</b>
Migraine	810	0.6	0.8	0.7	1.0
<b>Urology</b>	<b>2,740</b>	<b>2.0</b>	<b>2.8</b>	<b>2.7</b>	<b>3.0</b>
Urinary tract infection*	1,556	1.1	1.6	1.5	1.7
<b>Eye</b>	<b>2,424</b>	<b>1.7</b>	<b>2.5</b>	<b>2.4</b>	<b>2.6</b>
Infectious conjunctivitis	671	0.5	0.7	0.6	0.8
<b>Blood</b>	<b>1,264</b>	<b>0.9</b>	<b>1.3</b>	<b>1.2</b>	<b>1.4</b>
<b>Male genital system</b>	<b>1,226</b>	<b>0.9</b>	<b>1.3</b>	<b>1.1</b>	<b>1.4</b>
<b>Social problems</b>	<b>701</b>	<b>0.5</b>	<b>0.7</b>	<b>0.5</b>	<b>0.9</b>
<b>Total problems</b>	<b>139,092</b>	<b>100.0</b>	<b>143.4</b>	<b>141.7</b>	<b>145.2</b>

(a) Figures do not total 100% as more than one problem can be managed at each encounter.

\* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 3).

Note: LCL—lower confidence limit, UCL—upper confidence limit, NOS—not otherwise specified.

The most common problem managed in the general and unspecified chapter was general immunisation/vaccination, followed by general check-ups, and ill-defined or unspecified viral illnesses. Medication provision for an unspecified diagnosis/problem, test results and general weakness/tiredness were also commonly recorded by GPs.

## Problems managed by ICPC–2 component

Examination of problems managed across ICPC–2 components provides an alternative way of viewing the types of matters dealt with at general practice consultations (Table 7.3).

GPs were instructed to record problems managed in the most specific terms possible at the time of the encounter. In an ideal world we could therefore predict that problems managed should fall into three components of ICPC–2, namely the diagnosis/disease, symptoms and complaints, and diagnostic and preventive procedures (e.g. check-up) components.

Although these components were the most frequently recorded, there were a small number of problems described in terms of a prescription, referral, test result or administrative procedure. In these circumstances the lack of clinical description of the underlying problem required the label to be coded in terms of the process described (e.g. problem was recorded as referral to dermatologist).

The majority of problems (65.3%) were described in terms of a diagnosis or disease (e.g. hypertension, depression, asthma) at an average rate of 93.7 per 100 encounters. Problems described in terms of a symptom or complaint (e.g. feeling tired) represented a fifth of all problems managed and were recorded at a rate of 31.4 per 100 encounters. Diagnostic screening and preventive procedures occurred at a rate of 12.4 per 100 encounters and were most commonly check-ups and vaccinations/immunisations. Problems related to the provision of medication and other treatments where no other diagnostic information was given were recorded at a rate of 2.9 per 100 encounters, while problems described in terms of a referral, test result, or administrative procedure were relatively few (less than 2% of all problems).

**Table 7.3: Distribution of problems managed, by ICPC–2 component**

ICPC–2 component	Number	Per cent of total problems (n=139,092)	Rate per 100 encounters (n=96,973)	95% LCL	95% UCL
Diagnosis, diseases	90,853	65.3	93.7	92.1	95.2
Symptoms & complaints	30,485	21.9	31.4	30.7	32.2
Diagnostic & preventive procedures	12,036	8.7	12.4	11.8	13.0
Medications, treatments & therapeutics	3,173	2.3	3.3	2.9	3.6
Referral & other reason for encounter	1,090	0.8	1.1	0.9	1.4
Results	1,023	0.7	1.1	0.7	1.4
Administrative	433	0.3	0.5	0.2	0.7
<b>Total problems</b>	<b>139,092</b>	<b>100.0</b>	<b>143.4</b>	<b>141.7</b>	<b>145.2</b>

(a) Figures do not total 100% as more than one problem can be managed at each encounter.

Note: LCL—lower confidence limit, UCL—upper confidence limit.

**Table 7.4: Most frequently managed problems**

Problem managed	Number	Per cent of total problems	Rate per 100 encounters (n=96,973)	95% LCL	95% UCL
Hypertension*	8,735	6.3	9.0	8.6	9.5
Upper respiratory tract infection	6,035	4.3	6.2	5.8	6.6
Immunisation/vaccination all*	4,516	3.3	4.7	4.2	5.1
Depression*	3,329	2.4	3.4	3.2	3.6
Diabetes*	2,993	2.2	3.1	2.9	3.3
Lipid disorder	2,841	2.0	2.9	2.7	3.1
Asthma	2,756	2.0	2.8	2.6	3.0
Acute bronchitis/bronchiolitis	2,644	1.9	2.7	2.5	3.0
Back complaint*	2,540	1.8	2.6	2.4	2.8
Osteoarthritis*	2,524	1.8	2.6	2.4	2.8
Contact dermatitis	1,826	1.3	1.9	1.7	2.0
Prescription all*	1,805	1.3	1.9	1.4	2.3
Oesophageal disease	1,754	1.3	1.8	1.7	2.0
Sprain/strain*	1,750	1.3	1.8	1.6	2.0
General check-up*	1,723	1.2	1.8	1.6	2.0
Anxiety*	1,587	1.1	1.6	1.5	1.8
Sleep disturbance	1,579	1.1	1.6	1.4	1.8
Urinary tract infection*	1,556	1.1	1.6	1.5	1.7
Female genital check-up/Pap smear*	1,526	1.1	1.6	1.3	1.8
Viral disease, other/NOS	1,421	1.0	1.5	1.1	1.8
Menopausal symptom/complaint	1,339	1.0	1.4	1.2	1.5
Sinusitis acute/chronic	1,333	1.0	1.4	1.2	1.5
Acute otitis media/myringitis	1,273	0.9	1.3	1.2	1.5
Ischaemic heart disease*	1,219	0.9	1.3	1.1	1.4
Cardiac check-up*	1,090	0.8	1.1	0.9	1.4
Tonsillitis*	1,082	0.8	1.1	0.9	1.4
Gastroenteritis, presumed infection	1,034	0.7	1.1	0.9	1.2
Test results*	1,023	0.7	1.1	0.7	1.4
Solar keratosis/sunburn	999	0.7	1.0	0.8	1.3
Fracture*	980	0.7	1.0	0.9	1.1
<i>Subtotal</i>	<i>66,811</i>	<i>48.0</i>	<i>..</i>	<i>..</i>	<i>..</i>
<b>Total problems</b>	<b>139,092</b>	<b>100.0</b>	<b>143.4</b>	<b>141.7</b>	<b>145.2</b>

(a) Figures do not total 100% as more than one problem can be managed at each encounter.

\* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 3).

Note: UCL—upper confidence limit, LCL—lower confidence limit.

## Most frequently managed problems

The 30 most commonly recorded problems are listed in descending order of frequency in Table 7.4. In this analysis the specific chapter to which 'across chapter concepts' (immunisation/vaccination, and prescriptions) apply is ignored and the concept grouped to all other similar concepts. For example, immunisation/vaccination includes influenza vaccinations (from chapter R) as well as those for childhood immunisation (chapter A), hepatitis immunisation (chapter D) and neurological immunisations such as hibtiter (chapter N).

The 30 most frequently managed problems accounted for almost half of all problems managed. Hypertension was the most common, accounting for 6.3% of all problems, managed at a rate of 9.0 per 100 encounters. This was followed by acute upper respiratory tract infection, which was recorded at a rate of 6.2 per 100 encounters and immunisation/vaccination (4.7 per 100 encounters). Together these top three problems accounted for 13.9% of all problems managed.

Depression was the fourth most commonly managed problem (3.4 per 100 encounters). Non-gestational diabetes (3.1 per 100 encounters) moved to the fifth most common problem managed, up from seventh position in the previous year. Lipid disorder, asthma, acute bronchitis, back complaint and osteoarthritis were all managed at a similar rate (2.9, 2.8, 2.7, 2.6 and 2.6 per 100 encounters respectively).

The remaining problems in the top 30 included some problems from body systems that were relatively low in frequency. Although all problems related to the ear accounted for only 2.9% of problems overall (Table 7.2), otitis media was among the top 30 problems managed. Similarly, while urological problems were relatively infrequent overall (only 2.0% of total problems – Table 7.2), urinary tract infections were among the most frequent individual problems.

It is also notable that a number of non-diagnostic problem labels fell into the top 30 problems most frequently managed by general practitioners. These included preventive care (immunisations/vaccinations), general and body system specific check-ups (female genital, and circulatory chapters), reviewing test results and medication provision or review.

## Most common new problems

The 30 most common new problems managed are listed in Table 7.5. The order of new problems was different from the order of most common problems overall (Table 7.4).

Acute respiratory conditions (upper respiratory tract infection and acute bronchitis) were two of the most common new problems managed, together representing 12.0% of all new problems managed. New presentations of URTI were managed at a rate of 4.8 per 100 encounters, and new acute bronchitis at a rate of 1.9 problems per 100 encounters. Immunisation was the second most common new problem (2.7 per 100 encounters). Sprain/strain and unspecified viral disease were also frequent new presentations.

While depression was the fourth most common problem managed overall, it was only the thirteenth most common new problem (0.7 per 100 encounters). New cases of hypertension were even less common, managed at a rate of 0.5 per 100 encounters.

**Table 7.5: Most frequently managed new problems**

New problem managed	Number	Per cent of total problems (n=139,092)	Rate per 100 encounters (n=96,973)	95% LCL	95% UCL
Upper respiratory tract infection	4,605	8.6	4.8	4.4	5.1
Immunisation all*	2,617	4.9	2.7	2.3	3.1
Acute bronchitis/bronchiolitis	1,805	3.4	1.9	1.7	2.1
Sprain/strain*	1,012	1.9	1.0	0.9	1.2
Viral disease, other/NOS	1,004	1.9	1.0	0.8	1.3
Urinary tract infection*	974	1.8	1.0	0.9	1.1
Acute otitis media/myringitis	926	1.7	1.0	0.8	1.1
Sinusitis acute/chronic	862	1.6	0.9	0.7	1.0
Dermatitis, contact/allergic	852	1.6	0.9	0.7	1.0
Tonsillitis*	806	1.5	0.8	0.6	1.1
General check-up*	778	1.5	0.8	0.6	1.0
Gastroenteritis, presumed infection	773	1.4	0.8	0.6	1.0
Depression*	688	1.3	0.7	0.6	0.9
Back complaint*	548	1.0	0.6	0.4	0.7
Female genital check-up*	538	1.0	0.6	0.3	0.8
Asthma	521	1.0	0.5	0.3	0.8
Conjunctivitis, infectious	516	1.0	0.5	0.4	0.7
Malignant neoplasm skin	491	0.9	0.5	0.2	0.8
Hypertension*	489	0.9	0.5	0.3	0.7
Otitis externa	470	0.9	0.5	0.3	0.7
Injury skin, other	453	0.9	0.5	0.2	0.7
Solar keratosis/sunburn	450	0.8	0.5	0.2	0.7
Excessive ear wax	442	0.8	0.5	0.3	0.6
Fracture*	441	0.8	0.5	0.3	0.6
Bursitis/tendonitis/synovitis NOS	432	0.8	0.5	0.3	0.6
Gastrointestinal infection	430	0.8	0.4	0.1	0.7
Pregnancy*	404	0.8	0.4	0.2	0.6
Osteoarthritis*	395	0.7	0.4	0.2	0.6
Oesophagus disease	382	0.7	0.4	0.3	0.5
Respiratory infection, other	336	0.7	0.4	0.0	1.0
<i>Subtotal</i>	<i>25,440</i>	<i>47.6</i>	<i>..</i>	<i>..</i>	<i>..</i>
<b>Total new problems</b>	<b>53,468</b>	<b>100.0</b>	<b>55.1</b>	<b>53.8</b>	<b>56.5</b>

(a) Figures do not total 100% as more than one problem can be managed at each encounter.

\* Includes multiple ICPC-2 or ICPC-2 PLUS codes (see Appendix 3).

Note: LCL—lower confidence limit, UCL—upper confidence limit, NOS—not otherwise specified.

## 7.3 Significant changes from 1998–99 to 2001–02

There has been no change significant change in the number of problems managed per 100 encounters between 1998–99 and 2001–02, although a gradual but steady decrease is noted (from 145.3 to 143.4 problems per 100 encounters) and will be further investigated next year. The relative rate of management of work-related problems significantly decreased from 4.0 (95% CI: 3.7–4.3) to 3.0 (95% CI: 2.7–4.3) per 100 encounters (Appendix 4, Table A4.2).

There have been a number of significant changes in the relative rates of management of some broad condition groups. These include significant decrease in the relative rate of management of:

- respiratory problems (Table A4.5), in particular asthma and acute bronchitis (Table A4.6)
- problems associated with the ear (Table A4.5)
- problems related to the eye (Table A4.5).

Increased management rates were found for:

- problems related to the endocrine and metabolic system (Table A4.5), particularly lipid disorder (Table A4.6)
- problems of a general or unspecified nature (Table A4.5).

Other significant changes included:

- an increase in the management rate of osteoarthritis (Table A4.6)
- an increase in the management rate of diabetes (Table A4.6)
- a decrease in the relative management rate of both asthma and acute bronchitis (Table A4.6).

Many of these changes are investigated with more precise statistical methods in Chapter 14 and some are investigated in relationship to GP management behaviour in Chapter 15.