

# The internet as a source of health information in three disparate communities

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## Abstract

A survey questionnaire was designed and implemented across three different communities to determine the current utilisation, importance, trust and future preference for the internet as a source of health information in three different socioeconomic groups. The following were the key results. Fewer respondents in the low socioeconomic group accessed online health information than the mid-high socioeconomic or university samples. The internet was a much more important source of health information for the university sample. The use of online health information and the importance ascribed to the internet as a source of health information was related to home internet access and the frequency of internet use in all three populations. Most respondents do not bring online health information to their doctor (>70% of those who access online health information). Age alone did not relate to the current use of the internet as a source of health information. Most respondents in all populations did not trust the internet. In all populations the internet was a more preferred source of health information than its current use would suggest, especially among those with home internet access and frequent users of the internet.

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PREVIOUS RESEARCH INTO the use of the internet as a source of health information has relied heavily on online survey methodologies and phone polls which often utilise respondents identified as internet users by previous online

## What is known about the topic?

Little Australian research exists on the use of the internet versus other sources of health information according to socioeconomic status and how these population groups differ in their utilisation of the internet as a source of health information.

## What does this paper add?

Through a survey this paper explored the use of the internet for health information by three population groups. The results demonstrated that the internet was a less prominent source of health information for the lower socioeconomic population.

## What are the implications for practitioners?

Given that many people are accessing online health information it is imperative that a means of facilitating mediated access to accurate, verifiable online health information is developed and adapted to the different needs of the user communities.

surveys.<sup>1-4</sup> The generalisability of these results is questionable. Likewise, little Australian research exists on the use of the internet versus other sources of health information according to socioeconomic status and how these population groups differ in their utilisation of the internet as a source of health information. Bessell et al<sup>5</sup> examined the use of the internet as a source of health information in South Australia as part of the South Australian Health Omnibus survey and concluded that poorer and older Australians may be unable to access online health information. Murphy et al<sup>6,7</sup> analysed the use of health information sources, including the internet, among female health information seekers. This research sought to determine how the utilisation of the internet as a source of health information differed across three comparison populations distinguished by varying levels of income, education and internet utilisation. A low as well as a mid-to-high socioeconomic sample were selected on the basis of the Socio-Economic Indexes for Areas

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### I Respondent characteristics according to the studied population

	LSE community		MSE community		University	
	N	%	N	%	N	%
All	262	100	256	100	200	100
Male	74	28.2	76	29.7	58	29.0
Female	188	71.8	180	70.3	142	71.0
Age (years)						
18–25	52	19.8	60	23.4	138	69.0
26–35	38	14.5	44	17.2	36	18.0
36–45	61	23.3	39	15.2	15	7.5
46–55	57	21.8	59	23.0	6	3.0
56–65	37	14.1	40	15.6	5	2.5
66–80	17	6.5	14	5.5	0	0

LSE = low socioeconomic; MSE = mid-high socioeconomic

indices produced by the Australian Bureau of Statistics (ABS),<sup>8</sup> while a university sample was selected to provide a young and educated comparator community (for further detail see the related earlier article<sup>9</sup>). This paper also discusses the role of respondent characteristics such as home internet access and frequency of internet use.

The research questions posed by this survey sought to determine a number of features of the utilisation of the internet as a source of health information:

1. *Who accesses health information over the internet? Who brings the material to their doctor?* (Survey questions: Have you ever accessed health information over the internet? Have you ever brought health information obtained over the internet to your doctor? Definition of health information: Information which increases the awareness and favourably influences attitudes and knowledge relating to the improvement of health on a personal or community basis.)

The research presented in this paper describes how many community members access online health information and how many bring it to their doctors. Since vetting of online health information by doctors is a means of ensuring patients are accessing accurate online health information, its

level of use by the community is important from a population health perspective. Many doctors have lamented the rise of the e-health information consumer, suggesting it has led to patient “cyberchondria”, and anecdotal reports of patients bringing health information to their doctor about.

2. *What is the relative rank of the internet as a current source of health information?* (Survey question: What are the top five sources of health information for you at the moment?)

The information provided in this article illustrates the uptake of online health information within three divergent populations, and according to respondent characteristics. Such information will quantify the current level of uptake of online health information resources and determine the effect respondent characteristics have on its uptake.

3. *What influences the importance of the internet as a source of health information? How well does the community trust the internet as a source of health information?* (Survey questions: How important are these sources of health information for you? How trustworthy do you believe these sources of health information are?)

### 2 Percentage of respondents with home internet access

	LSE community	MSE community	University
ABS Census*	22%	65%	n/a
This survey total	59%	79%	89%
Male	58%	80%	88%
Female	60%	79%	92%
Age (years)			
18–25	54%	90%	93%
26–35	70%	79%	78%
36–45	70%	84%	87%
46–55	56%	80%	83%
56–65	54%	67%	80%
66–80	41%	50%	–

ABS = Australian Bureau of Statistics. LSE = low socioeconomic. MSE = mid-high socioeconomic. \* Census statistics from ABS Census 2001<sup>10</sup>

### 3 Proportion of respondents who have accessed online health information, by sex and age group

	LSE community (N=249)	MSE community (N=249)	University (N=191)
All	45.0%	67.5%	79.1%
Male	39.7%	66.2%	70.4%
Female	47.0%	68.0%	82.5%
Age (years)			
18-25	49.0%	72.9%	77.4%
26-35	51.4%	69.0%	82.4%
36-45	50.8%	74.4%	92.9%
46-55	40.7%	68.4%	66.7%
56-65	39.4%	61.5%	75.0%
66-80	23.5%	30.8%	–

The actual use of health information sources does not necessarily reflect community members' attitudes to these sources with respect to the importance they ascribe to them or the trust they have in information received from them. Such information is important in determining what the potential uptake of an online health information strategy might be, who might utilise such a system and who would need to be encouraged to use it.

4. *What is the relative rank of the internet as a preferred future source of health information?* (Survey question: What are the top five sources of health information you would like to receive more health information from?)

Several commentators have suggested that online health information resources will become more important in the future, arguing that the rapid rise of online consumer information-seeking suggests it is a preferred source of health information. However, there is no quantitative Australian data which determine the relative preference of different socioeconomic communities for online health information as opposed to other contemporary sources of health information. This paper provides such data and determines whether the community members would indeed prefer to receive health information from the internet.

## Methods

The survey data and method are described in a previous paper.<sup>9</sup> This paper reports the results of one component of the survey investigating the internet as a source of health information.

Surveys were placed in thirteen community-based organisations throughout the low socioeconomic (LSE) community. The mid-high socioeconomic (MSE) sample was obtained from non-bulk-billing practices in the western suburbs of Brisbane, while the university sample was obtained from a university health clinic which treats students and staff.

## Survey response analysis

Survey responses were analysed using SPSS, version 10.1 (SPSS Inc, Chicago, Ill, USA). In the survey respondents were presented with ten alternative pre-coded sources of health information and asked to rank their top five current sources of health information and, subsequently, preferred future sources of health information. As a result, there were five health information resources for which no rank was proscribed by

### 4 Proportion of respondents who have accessed online health information, by frequency of internet use

Frequency of internet use	LSE community (N=112/249)	MSE community (N=168/249)	University (N=151/191)
Never	6.1%	15%	0
Once per 2 weeks	29.4%	47%	33%
Once per week	47.4%	59%	43%
2-3 times per week	70.6%	63%	79%
4-5 times per week	69.6%	83%	88%
Every day	71.4%	84%	81%
Correlation statistic	$R = 0.489$ $P = 0.001$	$R = 0.419$ $P = 0.001$	$R = 0.184$ $P = 0.011$

Sample subsets represent frequency of internet use. Pearson's correlation statistic and *P* values calculated with SPSS, version 10.1 (SPSS Inc, Chicago, Ill, USA).

### 5 Proportion of respondents bringing internet health information to their doctor

	LSE community	MSE community	University
All	14.9%	17.3%	17.3%
Male	17.6%	18.9%	16.7%
Female	13.8%	16.6%	17.5%
Age (years)			
18–25	12.2%	8.5%	12.8%
26–35	8.6%	9.5%	23.5%
36–45	26.2%	17.9%	28.6%
46–55	14.8%	29.8%	33.3%
56–65	9.1%	23.1%	50.0%
66–80	5.9%	7.7%	–

the respondents. The non-exhaustive ranking system thus ruled out medians and means as accurate measures of population-wide use of information sources, as they may misrepresent the utilisation of health information sources.

An alternative statistic which represented the population-wide use of the health information source was developed — the proportional weighted average ranking (PWAR).<sup>9</sup> The responses to semantic scaled questions were summarised using medians, means and standard deviations. Ethical clearance was granted by the Human Research Ethics Committee of the University of Queensland via the standard protocol of the Office of Research and Postgraduate Studies Ethics Office.

## Results

There were few elderly respondents, but otherwise respondent age was evenly distributed across the LSE and MSE samples. The university sample had a large proportion of young respondents. The majority of respondents in all three samples were female (Box 1).

### Internet use

As anticipated in the sample selection process, there were significant differences in internet usage between the sample populations.

There were significantly fewer respondents with home internet access in the LSE sample (59%) than the MSE sample (79%) and university sample (89%) (Box 2). These statistics parallel census statistics for these populations. Lower socioeconomic areas frequently have lower home internet access than higher socioeconomic areas and population groups which have a higher average educational attainment, such as the university population. Older respondents in the 56–80 years group had lower levels of access than their younger counterparts in the MSE and LSE samples. There was no observable difference according to gender.

The proportion of respondents using the internet every day was highest in the university sample (65%), and higher in the MSE sample (42%) than in the LSE sample (28%). Those using the internet in the LSE sample were more likely to use it infrequently (27.5% use it once every 2 weeks).

### Accessing health information over the internet

Markedly fewer respondents in the LSE population (45%) had accessed health information over the internet than in the MSE (67.5%) or univer-

### 6 Rank of the internet out of ten alternative current sources of health information

	LSE community		MSE community		University	
	Rank	PWAR	Rank	PWAR	Rank	PWAR
All	9th	0.76	6th	1.21	2nd	2.06
Male	9th	0.84	5th	1.18	4th	1.78
Female	9th	0.73	6th	1.23	3rd	2.17
Age (years)						
18–25	8th	0.95	5th	1.29	3rd	1.91
26–35	7th	0.86	8th	0.90	3rd	2.25
36–45	8th	0.83	5th	1.26	3rd	2.85
46–55	9th	0.70	5th	1.55	3rd	1.83
56–65	8th	0.72	6th	1.16	3rd	3.00
66–80	9th	0.13	9th	0.25	–	–

Rank according to the proportional weighted average ranking (PWAR) statistic. Sample subsets represent age and sex within each population sample.

sity (79%) samples (Box 3). These results tended to mirror the figures for home internet access

## 7 Rank of the internet as a current source of health information

	LSE community		MSE community		University	
	Rank	PWAR	Rank	PWAR	Rank	PWAR
Home internet	5th	1.19	4th	1.46	3rd	2.18
No home internet	10th	0.13	10th	0.35	6th	1.15
Frequency of internet use						
Never	10th	0.00	10th	0.00	10th	0.00
Once per 2 weeks	10th	0.25	3rd	1.89	10th	0.00
Once per week	10th	0.53	8th	0.77	9th	0.43
2–3 times per week	8th	1.03	4th	1.58	5th	1.38
4–5 times per week	6th	1.22	4th	1.50	3rd	2.07
Every day	2nd	1.92	4th	1.67	3rd	2.32

Rank according to the proportional weighted average ranking (PWAR) statistic. Sample subsets represent home internet access and frequency of internet use within each population sample.

within these populations (LSE = 59%; MSE = 79%; university = 89%) (Box 2), however there appears to be some independent population effect, as the proportion of those with home internet access who accessed health information over the internet was considerably lower for the LSE sample (75%) than for the MSE (85%) and university (88%) samples. Younger respondents, especially those younger than 45 years tended to be more likely to have accessed health information over the internet than older respondents, those over 66 years, in the LSE and MSE community samples. While these groups also tended to have greater access to the internet, there appeared to be an independent effect of age for the LSE and MSE samples.

The pattern of internet use also influenced the uptake of online health information. Frequent internet users (Box 4) and those with home internet access versus those without ( $P = 0.001$ ) were much more likely to have accessed health information over the internet.

## Is health information obtained over the internet brought to doctors?

Interestingly, many more people accessed health information over the internet than brought this information to their doctors, with only 14.9% of

## 8 Community attitudes according to source of survey

**How important are these sources of health information for you? (Internet only represented)**

**Response options: 1 = not at all important; 2 = not important; 3 = unsure; 4 = important; 5 = very important**

	Source of survey								
	LSE community			MSE community			University		
	Mean	SD	Valid N	Mean	SD	Valid N	Mean	SD	Valid N
All	3.10	1.32	228	3.26	1.34	223	3.61	1.16	191
Male	3.11	1.35	63	3.19	1.23	64	3.20	1.34	55
Female	3.10	1.31	165	3.28	1.39	159	3.77	1.03	136
Age (years)									
18–25	3.30	1.05	50	3.36	1.31	58	3.61	1.17	134
26–35	3.14	1.29	36	3.12	1.23	42	3.56	1.08	34
36–45	3.11	1.45	57	3.44	1.27	36	3.79	0.89	14
46–55	2.96	1.40	50	3.33	1.49	49	2.75	2.06	4
56–65	2.93	1.33	27	3.03	1.36	32	4.00	1.22	5
66–80	3.13	1.55	8	2.67	1.63	6	–	–	–

**9 Community attitudes according to source of survey*****How important are these sources of health information for you? (Internet only represented)******Response options: 1 = not at all important; 2 = not important; 3 = unsure; 4 = important;******5 = very important***

	Source of survey								
	LSE community			MSE community			University		
	Mean	SD	Valid N	Mean	SD	Valid N	Mean	SD	Valid N
Do you have access to the internet at home?									
Yes	3.34	1.27	146	3.47	1.24	182	3.65	1.14	173
No	2.68	1.30	82	2.26	1.39	39	3.18	1.29	17
How often would you use the internet?									
Never	2.06	1.34	31	1.71	1.20	14	3.00	–	1
Once per 2 weeks	2.85	1.27	62	2.54	1.37	28	2.50	2.12	2
Once per week	3.26	1.10	19	3.39	1.33	18	2.57	0.79	7
2–3 times per week	3.51	1.09	35	3.56	1.30	36	3.36	1.08	25
4–5 times per week	3.45	1.18	22	3.34	1.33	35	3.70	1.09	30
Every day	3.47	1.28	59	3.53	1.16	92	3.71	1.17	126

Sample subsets represent home internet access and frequency of internet use within each population sample.

the LSE, 17.3% of the MSE and 17.3% of the university sample having brought such health information to their doctors (Box 5). Of the sample subset who accessed online health information only 29.5% of the LSE, 24.4% of the MSE and 21.9% of the university respondents brought

online health information to their doctor. The data suggested that the older respondents, particularly in the 36–55 years age bracket, were more likely to bring health information obtained over the internet to the doctor than those younger than 36 years.

**10 Community attitudes according to source of survey, by sex and age*****How trustworthy do you believe these sources of health information are?******(Internet only represented)******Response options: 1 = not at all trustworthy; 2 = not trustworthy; 3 = unsure;******4 = trustworthy; 5 = very trustworthy***

	Source of survey								
	LSE community			MSE community			University		
	Mean	SD	Valid N	Mean	SD	Valid N	Mean	SD	Valid N
All	3.16	1.16	223	3.11	1.03	223	3.02	1.04	189
Male	2.93	1.24	59	3.02	1.08	64	2.91	1.10	56
Female	3.24	1.11	164	3.14	1.01	159	3.07	1.01	133
Age (years)									
18–25	3.18	0.93	49	2.88	1.14	58	2.96	1.05	133
26–35	3.26	1.22	35	3.05	0.81	40	3.15	0.93	34
36–45	3.25	1.07	57	3.46	0.89	35	3.08	1.19	13
46–55	3.25	1.16	48	3.24	1.07	51	2.75	1.26	4
56–65	2.84	1.52	25	3.13	0.99	31	3.80	0.45	5
66–80	2.56	1.33	9	2.63	1.19	8	–	–	–

## II Community attitudes according to source of survey, by frequency of internet use

**How trustworthy do you believe these sources of health information are?**

**(Internet only represented)**

**Response options: 1 = not at all trustworthy; 2 = not trustworthy; 3 = unsure;**

**4 = trustworthy; 5 = very trustworthy**

	Source of survey								
	LSE community			MSE community			University		
	Mean	SD	Valid N	Mean	SD	Valid N	Mean	SD	Valid N
Do you have access to the internet at home?									
Yes	3.27	1.07	143	3.17	1.04	184	3.05	1.03	170
No	2.98	1.27	80	2.78	0.95	37	2.78	1.06	18
How often would you use the internet?									
Never	2.47	1.36	30	2.82	0.98	11	2.00	–	1
Once per 2 weeks	3.25	1.15	63	2.82	0.86	28	2.50	0.71	2
Once per week	3.26	1.05	19	3.32	0.95	19	2.29	0.95	7
2–3 times per week	3.52	1.00	33	3.22	1.06	37	3.00	1.02	24
4–5 times per week	3.14	0.89	22	3.18	1.09	34	2.90	0.94	31
Every day	3.20	1.15	56	3.12	1.06	94	3.11	1.06	124

Sample subsets represent home internet access and frequency of internet use within each population sample.

Those with home internet access were much more likely to have accessed health information over the internet and brought health information obtained over the internet to their doctor. Frequent internet users were also more likely to have brought such health information to their doctor. Interestingly, a small proportion of those without home internet access in the LSE and MSE populations also brought health information obtained over the internet to their doctors. Presumably this information was obtained from community access internet facilities, from the internet facilities of their family or friends, or they were provided with it by someone else who had retrieved the online health information.

### **The internet as a source of health information**

The utilisation of the internet as a current source of health information varied significantly among the three populations, with 29.9% of the LSE, 41.2% of the MSE and 66% of the university sample placing the internet in their top five sources of

current health information. The relative rank of the internet compared with other sources of health information was also lower in the LSE sample (9th) and MSE sample (6th) compared with the university sample (2nd) (Box 6).

Age had little effect on use of the internet as a current source of health information when data were analysed within sample populations. For example, not all young people use the internet as a source of health information, with fewer 18–25 year olds in the LSE rating the internet in their top five sources of health information than 18–25 year olds in the other populations. Likewise, the relative position of the internet as a current source of health information was similar for both sexes in all populations.

As expected, the utilisation of the internet as a source of health information was very low in the LSE community. These differences are significantly attributable to the divergent internet uptake within these regions. However, population exerted its own effect in ascribed rank mean for those with home internet access

## 12 Rank of the internet as a preferred future source of health information compared with ten alternative sources of health information

	LSE community		MSE community		University	
	Rank	PWAR	Rank	PWAR	Rank	PWAR
Total	5th	1.29	2nd	2.14	2nd	2.50
Male	4th	1.17	2nd	2.26	2nd	2.83
Female	5th	1.34	2nd	2.08	2nd	2.37
Age (years)						
18–25	3rd	1.67	2nd	2.23	2nd	2.52
26–35	6th	1.11	2nd	1.89	2nd	2.41
36–45	5th	1.48	2nd	2.76	2nd	2.69
46–55	5th	1.21	2nd	2.33	3rd	2.33
56–65	6th	1.13	4th	1.57	3rd	2.25
66–80	8th	0.57	7th	0.86	–	–

Rank according to the proportional weighted average ranking (PWAR) statistic. Sample subsets represent age and sex within each population sample.

(LSE < MSE < university;  $P < 0.05$ ). Even within the group who had accessed health information over the internet there remained population differences in ascribed rank mean (LSE < MSE < university;  $P < 0.05$ ). Thus there appeared to be a limitation to the use of online health information in LSE communities which was independent of current internet access.

More frequent users of the internet were more likely to place the internet in their top five sources of health information. There was a correlation between the frequency of internet use and the ascribed rank mean in all populations, although weaker in the MSE and university populations (LSE  $R = 0.356$ ,  $P = 0.007$ ; MSE  $R = 0.164$ ,  $P = 0.102$ ; university  $R = 0.157$ ,  $P = 0.080$ ) with the critical point in relation to relative rank being a frequency of 2–3 times per week (Box 7).

The internet was a more important source of health information for the university sample in terms of mean importance and relative rank by importance than for the MSE or LSE samples. (Box 8) The majority (57.9%) of the respondents in the LSE sample considered the

internet to be unimportant or were unsure, whereas the majority of the MSE (51.5%) and university (62.3%) samples found it to be “important” or “very important”.

Age had little independent effect on the importance of the internet as a source of health information when data were analysed within sample populations. Only female respondents in the university sample reported the internet to be a more important source of health information than did males ( $P = 0.002$ ).

The internet was less important for the LSE population largely because fewer people accessed online health information within this community and they tended to use it less frequently. The importance of the internet correlated with the frequency of internet use in all three populations (LSE:  $R = 0.321$ ,  $P = 0.001$ ; MSE:  $R = 0.317$ ,  $P = 0.001$ ; university:  $R = 0.201$ ,  $P = 0.005$ ) with the critical frequency at which internet importance asymptotes being 2–3 times per week (Box 9).

## 13 Rank of the internet as a preferred future source of health information

	LSE		MSE		University	
	Rank	PWAR	Rank	PWAR	Rank	PWAR
Home internet	3rd	1.72	2nd	2.44	2nd	2.63
No home internet	10th	0.61	8th	0.84	5th	1.41
Frequency of internet use						
Never	10th	0.00	9th	0.33	10th	0.00
Once per 2 weeks	8th	0.87	7th	1.03	10th	0.00
Once per week	4th	1.67	2nd	2.21	6th	0.86
2–3 times per week	4th	1.50	2nd	2.26	3rd	1.65
4–5 times per week	2nd	2.26	2nd	2.09	2nd	2.61
Every day	2nd	2.16	2nd	2.79	2nd	2.76

Rank according to the proportional weighted average ranking (PWAR) statistic. Sample subsets represent home internet access and frequency of internet use within each population sample.



However, those that accessed health information within the LSE community considered it an important source of health information suggesting that, once familiar with online health information, respondents appreciated it. Of those who had accessed health information over the internet, 62.0% of the LSE sample, 63.2% of the MSE sample and 73.7% of the university sample considered it to be “important” or “very important”.

### ***How well does the community trust the internet as a source of health information?***

Most respondents (LSE, 58.4%; MSE, 63.7%; university, 64.5%) were unsure of the trustworthiness or distrusted the internet. Many respondents even annotated their answers (circle only requested) with phrases outlining their difficulty in deciding, with the most common comment being that trustworthiness “depends on the website”.

There was a tendency towards a significant difference in apportioned trust of the internet between males and females in the LSE sample ( $P=0.075$ ), with females considering it more trustworthy. Yet, female respondents tended to trust all sources of health information more than males. There were no age-related effects identified (Box 10).

Respondents with home internet access tended to trust the internet more in the LSE community ( $P \leq 0.08$ ) and the MSE community ( $P \leq 0.05$ ). The frequency of internet use did not correlate with the apportioned trust except in the university sample ( $R=0.154$ ,  $P<0.05$ ) (Box 11). However, the internet was still not trusted even by the more experienced users (mean 3.11 for everyday users). Those who had previously accessed online health information trusted it more than those who hadn't (LSE, MSE, university  $P<0.001$ ), however even these respondents did not trust the internet (mean, SD: LSE 3.40, 0.99; MSE 3.29, 1.02; university 3.15, 1.05). These results substantiate the results of key informant data which suggested community members and health professionals alike were unsure of the trustworthiness of health information available over the internet and suggest that a mechanism to guide

### **14 The internet as a current and preferred future source of health information**

	LSE		MSE		University	
	Rank	PWAR	Rank	PWAR	Rank	PWAR
All						
Current	9th	0.76	7th	1.21	3rd	2.06
Future	5th	1.28	2nd	2.14	2nd	2.50
Home internet access						
Current	5th	1.19	4th	1.46	3rd	2.18
Future	3rd	1.71	2nd	2.44	2nd	2.63
No home internet access						
Current	10th	0.13	10th	0.35	6th	1.15
Future	10th	0.61	8th	0.84	5th	1.41

Rank according to the proportional weighted average ranking (PWAR) statistic. Sample subsets represent the entire population and home internet access within population samples.

the community to appropriate sources of health information would be well received.

### ***Does the community view the internet as a future source of health information?***

The results demonstrated that the internet was a less prominent future source of health information for the LSE population than the MSE or university communities, even for those with home internet access (Box 12 and Box 13). This may be due to the infrequent use of the internet in general and for health information seeking in the LSE population, and thus limited awareness of what constitutes e-health information strategies.

The survey results showed that those with home internet access would prefer to use the internet as a source of health information more than they currently are and rate it a more preferred source of health information than those without home internet access (Box 14). Similarly, more frequent users of the internet favour it more

as a future source of health information than infrequent users, with those using it weekly or more often rating the internet a more preferred source of future health information (Box 13).

The very youngest respondents in the LSE sample placed the internet higher as a preferred future source of health information than the older age categories. However, proportionally fewer 18–25-year-old respondents from the LSE sample (19/52; 36.5%) placed the internet in the top five preferred future sources of health information than the other two comparison populations (MSE = 36/60; 60%; university = 25/36; 69.4%). The oldest age category (66–80) in both the LSE and MSE populations seldom placed the internet in their top five sources of health information. There was no obvious relationship between sex and the future preference for the internet as a source of health information (Box 12).

## Discussion

The heightened use of online health information by younger respondents suggests that online information is likely to be a more important future source. These results suggest that many people now access online health information of unknown accuracy, in which they themselves report a low level of trust, without bringing this information to their doctor for vetting. The young in particular are less likely to bring this information to a doctor. Given that many people are accessing information online it is imperative that a means of facilitating mediated access to accurate, verifiable online health information be developed as well as a mechanism for including doctors or other health professionals in this process. A potential mechanism for linking patients with appropriate health information following a consultation is a patient information prescription scheme and the use of community and hospital-based health counsellors.

Familiarity with the internet may be an important determinant of online health information use, due to the sophisticated search strategies and information vetting required by online

health information seekers.<sup>11</sup> The results of this survey mirror those regarding the higher uptake of e-health information resources among veteran users previously reported.<sup>4</sup> This has particular implications for LSE communities since LSE respondents had markedly lower access to the internet and, when they had access, tended to use it less frequently than the other populations.

Thus, currently the internet is a much less used source of health information for the LSE area than the comparison populations. This is despite the LSE population tending to consider it more important to have greater access to health information; a disproportionate representation of preventable or modifiable diseases within LSE communities; and health professionals in the population reporting requests for greater access to health information.<sup>8</sup> Paradoxically, it seems that where the need for health information is greatest the uptake of the internet, which represents a new approach to accessing health information, has been the lowest, even when internet access is available.

Key informant data suggest that this is largely due to a poor awareness of available online health information resources, complicated by the fragmented nature of these resources.<sup>12</sup> The majority of health professionals in the LSE area had a poor understanding of available online health information resources and expressed a frustration at the difficulty in finding appropriate health information resources. In addition, many of the community informants in the LSE community had limited internet experience, appropriate health knowledge, basic information-seeking skills and in some cases limited literacy. These results suggest that a concerted effort is required to raise the utilisation of the internet as a source of health information in low socioeconomic communities and improve ease of access to trustworthy online health information.

## Competing interests

The author declares that he has no competing interests.

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