Consumer Behaviour Fact Book

MARCH 2015

UNDERSTANDING CONSUMERS' USE AND ATTITUDES TOWARDS OTC MEDICINES, VITAMINS, MINERALS AND SUPPLEMENTS.

An Enterprise Partnership Study by

MACQUARIE University

CENTRE FOR THE HEALTH ECONOMY
This independent research project was conducted by Professor Scott Koslow, a senior academic in the Department of Marketing and Management at Macquarie University. Macquarie University jointly funded the study through a pilot research grant under an “Enterprise Partnerships Scheme”.

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INTRODUCTION

In the current health care debate in Australia, the role of medicines shines as one of the most effective treatment strategies available for a wide range of conditions. Medicines are also one of the most efficient tools to improve Australians’ health. While most assume prescription products are the only medicines used in treating Australians, the majority of Australians also use over-the-counter medicines to self-medicate at the onset of sickness, and vitamins and minerals to maintain or improve their overall health.

While there is considerable research on the compounds, treatment regimens and health outcomes, there is less research informing us of what we think about medicines and how we use them. For example, how often do typical Australians take medicines for a range of conditions from colds to pain to skin rashes? When we do take them, is it easy for most consumers to make choices? If we could not get the medicines we needed over-the-counter, would we visit the doctor to get them prescribed—at a considerable cost to the government and our own pockets?

To provide some basic facts to understand consumer attitudes and use of common medicines, the Australian Self-Medication Industry (ASMI) approached Macquarie University Centre for the Health Economy (MUCHE) for research into these attitudes. The resulting study considers several key research questions:

Research Questions

1. What are consumers’ use of and attitudes toward over-the-counter (OTC) medicines?
2. How do consumers use vitamins, minerals and supplements (VMS)?
3. Prescription to OTC switch – what are the consumer insights?

This study reports on the methodology and findings associated with these three research questions.

Study Methodology

The study, undertaken in December 2013, surveyed in two parts the attitudes of 1146 Australians over the age of 18 regarding OTC, VMS and prescription (Rx) medicines. Respondents were also asked to report on children or other family members they supervised. The questionnaire was designed based on the findings of qualitative focus groups conducted to consider the three research questions identified above. The respondents generally matched the Australian population, but in the few cases where there were statistical differences, these were adjusted so that the numbers reported reflect the current Australian population.

The first section of the questionnaire asked about current OTC medicine usage, followed by questions about what respondents would do if they did not have access to these medicines without a prescription. If the respondent supervised children or other family members, they were also asked about their dependants’ OTC medicine usage and what they would do if they did not have access. In the second section respondents were asked about their use of vitamins, minerals and supplements and their motivation for using these. The third section asked about usage of eleven common prescription medicines and about the doctors’ visits to obtain these prescriptions.

Although the sample population was 1146 Australian consumers, the questions put to these consumers elicited responses about a number of different medicines they took. Accordingly, in some cases the sample size reflects consumers as the unit of analysis and in other cases reflects medicines used by the consumers as the unit of analysis. In addition, of these 1146 consumers, 807 also reported on their children and/or dependants. For both these reasons, sample sizes change in this report based on the specific data being analysed. The sample size for any given analysis is noted on the particular chart.

It should also be noted that for any analysis where the sample size is less than 100, it is difficult to make meaningful extrapolations to the general public. This is noted with an asterisk within the report where relevant.
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GENERAL STATISTICS

Gender
Out of 1146 people surveyed in this study, 51% of people were male and 49% female across Australia.

![Gender distribution of sample](chart1)

What State do you live in?

![Gender distribution across States](chart2)

It should be noted that the sample sizes for Tasmania, Northern Territory, and ACT are too small to allow a representative comparison.
Age

In terms of age, respondents are distributed across different age groups. The highest proportion of respondents is aged 65 years or over at 20.7%. This is followed by respondents aged 45-54 years, at 17.7% as the second major age group.

Number of dependants

Respondents were asked whether they were the principal supervisor of a child or other family member. While 32.5% of people surveyed did not supervise any children, the majority of respondents have one child to supervise at 48.6%, followed by two children and three or more at 13.4% and 5.5% respectively.
Birthplace
Where were you born?

The majority of respondents were born in Australia at 77%. This is followed by the United Kingdom at 8%. Around 7% of people surveyed were born in countries such as New Zealand, Italy, China, etc. The remaining 9% of respondents were born in other countries not listed here.

Years living in Australia
How many years have you lived in Australia?

The majority of people surveyed has been living in Australia for the last 20 years (61.8%). The second major proportion of respondents has lived in Australia for five years or less at 15.9%.
**Ethnicity**

*If asked your ethnicity, what would you say it is?*

Australian, British-Australian, and European-Australian represent more than 85% of the people surveyed. Other ethnicities account for around 15% of the respondents.

**Figure 0.7: Ethnicity by proportion of population | N:1146**

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>% of Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian</td>
<td>65.7</td>
</tr>
<tr>
<td>British-Australian</td>
<td>11.0</td>
</tr>
<tr>
<td>European-Australian</td>
<td>9.3</td>
</tr>
<tr>
<td>Asian-Australian</td>
<td>4.0</td>
</tr>
<tr>
<td>Chinese-Australian</td>
<td>3.0</td>
</tr>
<tr>
<td>Indian-Australian</td>
<td>2.2</td>
</tr>
<tr>
<td>Indigenous Australian</td>
<td>1.0</td>
</tr>
<tr>
<td>Other</td>
<td>3.8</td>
</tr>
</tbody>
</table>

**Highest level of education reached**

*What is your highest level of education?*

- Around 20% of people surveyed have a certificate or diploma from TAFE, RTO or other VET. While 18% of respondents have a bachelor degree, approximately 23% have finished school in Years 9, 10 or 11.

**Figure 0.8: Population by level of education | N:1146**

<table>
<thead>
<tr>
<th>Education</th>
<th>Population %</th>
<th>Sample %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 8 or Below</td>
<td>4.3%</td>
<td>5.6%</td>
</tr>
<tr>
<td>Year 9, 10, or 11</td>
<td>27.5%</td>
<td>22.5%</td>
</tr>
<tr>
<td>Year 12</td>
<td>35.1%</td>
<td>33.9%</td>
</tr>
<tr>
<td>Certificate or Diploma from TAFE, RTO or other VET</td>
<td>20.5%</td>
<td>20.1%</td>
</tr>
<tr>
<td>Bachelor Degree</td>
<td>9.9%</td>
<td></td>
</tr>
<tr>
<td>Postgraduate Degree</td>
<td>2.7%</td>
<td>2.3%</td>
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</table>
**Doctor waiting times**

**How many days do you normally have to wait to see your usual doctor?**
The majority of respondents reported that they do not need to wait more than a day to see their doctor. 32.7% of respondents see their doctor the next day and 30.3% on the same day. A minority (6.5%) wait for three days to see their usual doctor.

![Figure 0.9: Waiting time to get doctor's appointment in days | N:1146](image)

**On average, how long do you normally have to wait in the waiting room before seeing your doctor?**
Around 80% of respondents wait for no longer than 40 minutes to see their doctor. Just less than 2% of people need to wait for more than two hours to see their doctor. The remaining 18% of respondents need to wait between 40 minutes to two hours.

![Figure 0.10: Doctor waiting room time | N:1146](image)
Doctor out of pocket expense per visit

How much do you, personally, normally pay (out of pocket) to visit your usual doctor?

On average, respondents pay $20.12 out of their pocket to visit their usual doctor.

Do you have private health insurance?

Within the sample, West Australians have the highest level of private health insurance coverage in Australia with 66% of people living in that state covered by private health insurance. The sample from Tasmania has the lowest proportion of respondents with private health insurance at 35%. Victoria has the second highest rate of private health insurance at 55%, followed by Queensland and South Australia at 50%.
SECTION 1: What are consumers’ use of and attitudes toward OTC medicines?

1.1 Usage of OTC medicines by adults

Usage of OTC medicines in the last month

![Pie chart showing OTC usage in the last month](image)

This graph shows the percentage of respondents who have used a number of OTC medicines in the last month, with only 16.9% reporting to have not used an OTC in the last month.

Usage of OTC medicines in the last year

![Pie chart showing OTC usage in the last year](image)

The majority of respondents used five or more OTC medicines in the last year. This suggests consumers are comfortable treating a variety of illnesses with OTC medicines on a regular basis.
Category penetration

When did you last take this type of medicine?
Pain relievers have the highest penetration, followed by cough and cold medication with only 4.5% and 6.9% of people respectively having never used them.

Figure 1.3: OTC category penetration | N:1146

Among the 1146 respondents, more than 70% have taken an analgesic/pain reliever medicine within the last month. This is followed by medicated skin products at 28% and muscle and pain rubs at 27.5% as the second and third major type of medicines taken by respondents within the last month.
Frequency of use by category

In the last 12 months, how many times did you take a particular type of medicine to treat that type of illness or condition?

Pain relievers, products for digestive health and allergy or sinus products have the highest frequency of use, with larger proportions of respondents in these groups reporting taking medicine four or more times within the last 12 months for these conditions than compared with other conditions.
Usage duration by category

For how long did you usually take these medicines?
Respondents reported using medicated skin products and quit smoking aids on a daily basis at 20.5%, and 19.9% respectively. While muscle and pain rubs are mainly used for two days (27.6%), cough and cold medicines are mainly taken for a period of three to five days (39.2%). An average use per 90 days is listed for each product (annualised average use is calculated as 4x average use per 90 days).

Figure 1.5: Category by duration of usage
**Retail split of OTC purchases**

**Where did you buy the medicine you took?**

Overall, 41% of medicines were self-selected either from pharmacy open shelves or front-of-counter. This is followed by purchase from behind-the-counter in the pharmacy at 36%. This split reflects legislative requirements in each state about placement of medicines within pharmacies, not product schedules. A smaller proportion of medicines (23%) is bought from a supermarket.

![Pie chart showing the retail split of OTC purchases](image)

**Figure 1.6: Retail split of OTC purchases | N: 1146**

**Retail split by category of OTC purchases**

![Bar chart showing the retail split by OTC category](image)

**Figure 1.7: Retail channel by OTC categories**
If you could not get the medicine you needed without a prescription, what would you do?
Respondents were asked what they would do if they could not get the medicine they needed without a doctor’s prescription. For example, if pain relievers were suddenly up-scheduled to prescription only, what would they do? 51.1% of respondents reported that if they could not get the medicine they needed without a prescription, they would mainly visit their doctor. Alternatively they may also use a home remedy (21%), or decide to “tough it out” by doing nothing (19.3%). A minority (1.5%) said they would consider going to an emergency department. Respondents could choose multiple options for this response and frequently did so.
### Alternative actions from restricting access to OTC medicines - by category

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicated Skin Products</td>
<td>20.2%</td>
<td>560 N</td>
</tr>
<tr>
<td>Allergy or Sinus Products</td>
<td>17.9%</td>
<td>604 N</td>
</tr>
<tr>
<td>Quit Smoking Aids</td>
<td>24.2%</td>
<td>141 N</td>
</tr>
<tr>
<td>Cough and Cold Products</td>
<td>21.3%</td>
<td>812 N</td>
</tr>
<tr>
<td>Muscle and Pain Rubs</td>
<td>24.3%</td>
<td>709 N</td>
</tr>
<tr>
<td>Digestive Health Products</td>
<td>23.8%</td>
<td>574 N</td>
</tr>
<tr>
<td>Analgesics/Pain Relievers</td>
<td>27.6%</td>
<td>1047 N</td>
</tr>
<tr>
<td>First Aid and Antiseptics</td>
<td>27.8%</td>
<td>723 N</td>
</tr>
</tbody>
</table>

**Figure 1.9: Alternative action if OTC unavailable - by category**
If you didn't have any access to the medicine below, how many extra days would you be off from work for each illness?

The majority of respondents stated that they prefer to have zero days off from work for any illness. The majority of people also said that they would take one or more days off from work if there were no OTC cough/cold products available.

**Figure 1.10: Days off work if OTC unavailable - by category**

<table>
<thead>
<tr>
<th>Category</th>
<th>0%</th>
<th>10%</th>
<th>20%</th>
<th>30%</th>
<th>40%</th>
<th>50%</th>
<th>60%</th>
<th>70%</th>
<th>80%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cough and Cold Products</td>
<td>1.4</td>
<td>9.3</td>
<td>11.5</td>
<td>21.1</td>
<td>21.7</td>
<td>54.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allergy or Sinus Products</td>
<td>0.9</td>
<td>8.2</td>
<td>13.7</td>
<td>19.2</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Analgesics/Pain Relievers</td>
<td>0.9</td>
<td>10.2</td>
<td>23.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muscle and Pain Rubs</td>
<td>0.8</td>
<td>8.9</td>
<td>9.5</td>
<td>18.5</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Quit Smoking Aids</td>
<td>0.7</td>
<td>5.7</td>
<td>12.5</td>
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<td></td>
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<tr>
<td>Digestive Health Products</td>
<td>0.7</td>
<td>6.6</td>
<td>18.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicated Skin Products</td>
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<td>5.5</td>
<td>12.4</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Aid and Antiseptics Products</td>
<td>0.4</td>
<td>2.9</td>
<td>3.3</td>
<td>14.5</td>
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</tbody>
</table>

- **Zero**
- **One**
- **Two**
- **Three**
- **Four or more**
- **Mean**

*Figure 1.10: Days off work if OTC unavailable - by category*
Approximately 16.9% of people surveyed said they can never wait for their next doctor's appointment to get the prescription, particularly if the relief they need is urgent such as an analgesic/pain reliever. In contrast, 17.3% of respondents reported that they can always wait for their next doctor's appointment especially if the medicine they need is first aid and antiseptics products. The results are mixed for quit smoking aids.

The averages quoted to the right of the graph represent the position, from the left of the graph, of the mean “ability to defer” for their respective categories. They all lie between 67-72% and in all cases the average respondent reported that they could “usually” defer a visit to the doctor if the OTC medicine they wanted was unavailable.
1.2 Usage of OTC medicines by children/dependants

Of the total 1146 respondents only 807 reported on children or dependants.

Usage of OTC medicines in the last month

Of the children and dependants in the survey, 65% used an OTC medicine once or more in the last month.

Usage of OTC medicines in the last year

58% of children and dependants had used an OTC four or more times in the last twelve months, while only 7.8% had not used an OTC for their child/dependant in the last year. Children and dependants tended to use five or more OTC medicines, taking up 42.8% of all use.
Penetration of child population - tables by category

When did your children (child under 18) or family member last take this type of medicine?

Analgesics/pain relievers are the main medicine that has been taken by children/dependants (supervised by a primary person), within the last month. Similarly, cough and cold medicine has been the main medicine taken within the last two to twelve months. In contrast, the majority of respondents in this sample (80.3%) have never taken a quit smoking medicine. Given the age limitation on these products, this low penetration is not surprising.

![Figure 1.15: Incidence of usage by children/dependants - by category | N:807](image)

Average frequency of use - adults vs. children/dependants

On average over the last 12 months, how many times did your children/dependants take a particular type of medicine to treat that type of illness or condition?

![Figure 1.16: Average frequency of use by category – children/dependants vs. adults](image)

Analgesic/pain relievers are slightly more prevalent among adults compared to their children and dependants. By contrast, although the difference is only small, the usage of cough and cold products and first aid and antiseptics products is higher among children.
Usage duration by category

For how long did your children/dependants usually take these medicines?

<table>
<thead>
<tr>
<th>Category</th>
<th>1 Day or Less</th>
<th>2 Days</th>
<th>3-5 Days</th>
<th>About a week</th>
<th>About a Month</th>
<th>Everyday</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Aid and Antiseptics Products</td>
<td>46.1%</td>
<td>30.0%</td>
<td>15.9%</td>
<td>4.8%</td>
<td>2.0%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Digestive Health Products</td>
<td>43.4%</td>
<td>21.2%</td>
<td>15.3%</td>
<td>7.5%</td>
<td>4.2%</td>
<td>8.4%</td>
</tr>
<tr>
<td>Analgesics/Pain Relievers</td>
<td>41.6%</td>
<td>28.9%</td>
<td>16.3%</td>
<td>5.4%</td>
<td>9.1%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Quit Smoking Aids</td>
<td>36.0%</td>
<td>21.2%</td>
<td>15.4%</td>
<td>11.4%</td>
<td>7.1%</td>
<td>8.9%</td>
</tr>
<tr>
<td>Muscle and Pain Rubs</td>
<td>31.4%</td>
<td>29.7%</td>
<td>21.4%</td>
<td>9.8%</td>
<td>4.9%</td>
<td>9.9%</td>
</tr>
<tr>
<td>Allergy or Sinus Products</td>
<td>29.4%</td>
<td>28.0%</td>
<td>23.5%</td>
<td>7.9%</td>
<td>4.4%</td>
<td>6.7%</td>
</tr>
<tr>
<td>Medicated Skin Products</td>
<td>23.9%</td>
<td>19.2%</td>
<td>21.4%</td>
<td>16.2%</td>
<td>7.2%</td>
<td>12.0%</td>
</tr>
<tr>
<td>Cough and Cold Products</td>
<td>15.0%</td>
<td>31.7%</td>
<td>38.3%</td>
<td>12.8%</td>
<td>0.7%</td>
<td>0.6%</td>
</tr>
</tbody>
</table>

Average use (Days) N:
- First Aid and Antiseptics Products: 3.7 463
- Digestive Health Products: 10.8 289
- Analgesics/Pain Relievers: 8.0 652
- Quit Smoking Aids: 12.4 102
- Muscle and Pain Rubs: 7.8 374
- Allergy or Sinus Products: 9.7 374
- Medicated Skin Products: 5.6 349
- Cough and Cold Products: 4.0 536

Retail split by category

Where did you buy the medicine for your child/dependant?

From Supermarket 18%

From Pharmacy 82%

The majority of medicines taken by children were bought from a pharmacy (82%). In only 18% of cases the medicine taken by children (mainly first aid and antiseptics products) was bought from a supermarket. Allergy or sinus and medicated skin products are two main products bought from a pharmacy as opposed to a supermarket.
Pharmacy appears to be the preferred retail channel for the majority of OTC purchases for children/dependants.
Alternative actions from restricting access to OTC medicines - Doctors’ visits for children/dependants

If your child/dependant could not get the medicine they needed without a prescription, what would you do?

<table>
<thead>
<tr>
<th>Alternative Action</th>
<th>Medication Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Go to My Usual Doctor</td>
<td>Medicated Skin Products</td>
<td>61.4%</td>
</tr>
<tr>
<td></td>
<td>Allergy or Sinus Products</td>
<td>56.8%</td>
</tr>
<tr>
<td></td>
<td>Analgesics/ Pain Relievers</td>
<td>56.7%</td>
</tr>
<tr>
<td></td>
<td>Digestive Health Products</td>
<td>52.9%</td>
</tr>
<tr>
<td></td>
<td>Cough and Cold Products</td>
<td>50.5%</td>
</tr>
<tr>
<td></td>
<td>Muscle and Pain Rubs</td>
<td>49.9%</td>
</tr>
<tr>
<td></td>
<td>First Aid and Antiseptics Products</td>
<td>46.6%</td>
</tr>
<tr>
<td></td>
<td>Quit Smoking Aids</td>
<td>43.6%</td>
</tr>
<tr>
<td>Use a Home Remedy</td>
<td>Medicated Skin Products</td>
<td>19.2%</td>
</tr>
<tr>
<td></td>
<td>Allergy or Sinus Products</td>
<td>15.2%</td>
</tr>
<tr>
<td></td>
<td>Analgesics/ Pain Relievers</td>
<td>17.8%</td>
</tr>
<tr>
<td></td>
<td>Digestive Health Products</td>
<td>22.5%</td>
</tr>
<tr>
<td></td>
<td>Cough and Cold Products</td>
<td>27%</td>
</tr>
<tr>
<td></td>
<td>Muscle and Pain Rubs</td>
<td>24.2%</td>
</tr>
<tr>
<td></td>
<td>First Aid and Antiseptics Products</td>
<td>27%</td>
</tr>
<tr>
<td></td>
<td>Quit Smoking Aids</td>
<td>18.9%</td>
</tr>
<tr>
<td>Nothing, I’d Tought It Out</td>
<td>Medicated Skin Products</td>
<td>11.7%</td>
</tr>
<tr>
<td></td>
<td>Allergy or Sinus Products</td>
<td>13.4%</td>
</tr>
<tr>
<td></td>
<td>Analgesics/ Pain Relievers</td>
<td>14.6%</td>
</tr>
<tr>
<td></td>
<td>Digestive Health Products</td>
<td>10.3%</td>
</tr>
<tr>
<td></td>
<td>Cough and Cold Products</td>
<td>14.7%</td>
</tr>
<tr>
<td></td>
<td>Muscle and Pain Rubs</td>
<td>11.2%</td>
</tr>
<tr>
<td></td>
<td>First Aid and Antiseptics Products</td>
<td>13.9%</td>
</tr>
<tr>
<td></td>
<td>Quit Smoking Aids</td>
<td>9.9%</td>
</tr>
<tr>
<td>Go to a Walk-In Clinic/ Medical Centre</td>
<td>Medicated Skin Products</td>
<td>9.9%</td>
</tr>
<tr>
<td></td>
<td>Allergy or Sinus Products</td>
<td>11.2%</td>
</tr>
<tr>
<td></td>
<td>Analgesics/ Pain Relievers</td>
<td>9.1%</td>
</tr>
<tr>
<td></td>
<td>Digestive Health Products</td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td>Cough and Cold Products</td>
<td>9.5%</td>
</tr>
<tr>
<td></td>
<td>Muscle and Pain Rubs</td>
<td>12%</td>
</tr>
<tr>
<td></td>
<td>First Aid and Antiseptics Products</td>
<td>11.1%</td>
</tr>
<tr>
<td></td>
<td>Quit Smoking Aids</td>
<td>17.9%</td>
</tr>
<tr>
<td>Use a Nutritional Supplement</td>
<td>Medicated Skin Products</td>
<td>1.8%</td>
</tr>
<tr>
<td></td>
<td>Allergy or Sinus Products</td>
<td>2.5%</td>
</tr>
<tr>
<td></td>
<td>Analgesics/ Pain Relievers</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td>Digestive Health Products</td>
<td>2.3%</td>
</tr>
<tr>
<td></td>
<td>Cough and Cold Products</td>
<td>2.3%</td>
</tr>
<tr>
<td></td>
<td>Muscle and Pain Rubs</td>
<td>1.8%</td>
</tr>
<tr>
<td></td>
<td>First Aid and Antiseptics Products</td>
<td>3.9%</td>
</tr>
<tr>
<td></td>
<td>Quit Smoking Aids</td>
<td>1.7%</td>
</tr>
</tbody>
</table>

The majority of respondents reported that they would visit their doctor if their children (or dependant family member) could not get the medicine they needed without a prescription. This applies particularly for medicated skin products, allergy or sinus and analgesics/pain relievers. For all different types of medicines, going to an emergency department is the least likely approach.
If an OTC solution was unavailable, the most impacted condition is cough and cold, with 45% taking two or more days off school. While children are least likely to miss school due to the lack of access to first aid and antiseptic products (55%) and medicated skin products (51%), the main reason to be off from school for just one day would be in response to no OTC availability of analgesics/pain relievers at 34%, followed by digestive health at 30%.

Figure 1.21: Days off school if OTC is unavailable –by category
The above chart identifies the corresponding time off work for the parent/carer when the child/dependant is suffering from a condition with no OTC option available.
In comparison, respondents are less likely to tough it out when it comes to their children and family members; instead they are more likely to visit their doctor when their children need a treatment, particularly if there is no OTC available.

**Urgency of treatment metric if OTC medicines were not available without prescription – children/dependants**

Could your children have waited until their next doctor’s appointment to get a prescription?

- **Never**: 15.4%
- **Occasionally**: 15.3%
- **Sometimes**: 28.0%
- **Usually**: 26.0%
- **Always**: 15.3%

Similar to adult respondents, in around 85% of cases, children can to some degree wait until their next doctor’s appointment.
1.3 Shopping Behaviour

Retail channel split as a proportion of population

Approximately what percentage of the time do you buy OTC medicines from a pharmacy or a supermarket?

Pharmacy remains the main retail channel for OTC medicines. For 24% of people surveyed, pharmacy is the only channel of purchase (100% pharmacy, 0% supermarket). In contrast, only 2.8% of people buy OTC medicines exclusively from supermarkets.

Retail channel preferences by gender

On average, females are less likely to buy OTC medicines from supermarkets compared to males.
Approximately what percentage of the time do you buy OTC medicines because you need them immediately as opposed to because you are stocking the pantry?

Overall, immediate need is the main reason to buy OTC medicine.

### 1.4 Examining the attitudes of Australian OTC shoppers

Respondents were also asked their general attitudes toward OTC medicines. They were asked to either agree or disagree with 55 statements about OTC medicines. The response scale ranged from strongly agree to strongly disagree. These attitudes are listed below in order from the most agreed to statements to the least agreed to statements, with the aggregated response marked by a light blue line. The main influences in choosing an OTC medicine are packet directions on usage and dosage, family recommendations, pharmacy staff advice and accessibility.
Figure 1.28: Attitudes towards OTC medicines (1/5) | N: 1146

- I always read and follow the packet directions for dosage and timings: 76.1% Strongly Agree, 5.8% Strongly Disagree
- Pharmacist recommendations help me make the best choices: 73.5% Strongly Agree, 4.7% Strongly Disagree
- I usually follow the advice I’m given in the pharmacy: 72.8% Strongly Agree, 4.9% Strongly Disagree
- I always seek out a recommendation at the pharmacy when I’m not sure of what OTC medicine to buy: 69.9% Strongly Agree, 5.9% Strongly Disagree
- Choosing the right OTC medicine is extremely important to me: 68.9% Strongly Agree, 5.2% Strongly Disagree
- You should never go over the maximum dosage written on the packet: 68.0% Strongly Agree, 8.5% Strongly Disagree
- The best thing about OTC medicines is I can get what I need and don’t have to waste time going to the doctor: 65.6% Strongly Agree, 8.1% Strongly Disagree
- Compared to the hassle of going to the doctor, the convenience of going to the pharmacy is great: 62.8% Strongly Agree, 7.7% Strongly Disagree
- I only want to follow advice with OTC medicines when I trust that the person giving it is very knowledgeable: 62.3% Strongly Agree, 6.1% Strongly Disagree

Figure 1.18: Attitudes towards OTC medicines (1/5) | N: 1146
Figure 1.29: Attitudes towards OTC medicines (2/5) | N:1146

- Understanding OTC medicines is important to me
  - Strongly Agree: 61.3%
  - Agree: 60.7%
  - Somewhat Agree: 59.5%
  - Neither Agree or Disagree: 59.3%
  - Somewhat Disagree: 59.2%
  - Disagree: 59.1%
  - Strongly Disagree: 55.8%

- When I choose OTC medicines I am usually confident about my choice
  - Strongly Agree: 60.7%
  - Agree: 60.7%
  - Somewhat Agree: 59.5%
  - Neither Agree or Disagree: 59.3%
  - Somewhat Disagree: 59.2%
  - Disagree: 59.1%
  - Strongly Disagree: 50.4%

- Before I buy I spend time reading the OTC medicine’s packet
  - Strongly Agree: 60.7%
  - Agree: 60.7%
  - Somewhat Agree: 59.5%
  - Neither Agree or Disagree: 59.3%
  - Somewhat Disagree: 59.2%
  - Disagree: 59.1%
  - Strongly Disagree: 50.4%

- I always want to know more about the OTC medicines I'm buying
  - Strongly Agree: 59.5%
  - Agree: 59.5%
  - Somewhat Agree: 59.3%
  - Neither Agree or Disagree: 59.2%
  - Somewhat Disagree: 59.1%
  - Disagree: 55.8%
  - Strongly Disagree: 50.4%

- If behind-the-counter (e.g., pharmacist only) medicines were advertised, I might know to ask about them
  - Strongly Agree: 59.2%
  - Agree: 59.2%
  - Somewhat Agree: 59.1%
  - Neither Agree or Disagree: 59.1%
  - Somewhat Disagree: 50.4%
  - Disagree: 50.0%
  - Strongly Disagree: 49.9%

- When I'm at the pharmacy looking for the right medicine, I like asking the shop assistant for recommendations
  - Strongly Agree: 59.1%
  - Agree: 59.1%
  - Somewhat Agree: 59.1%
  - Neither Agree or Disagree: 59.1%
  - Somewhat Disagree: 50.4%
  - Disagree: 50.0%
  - Strongly Disagree: 49.9%

- It is really annoying to purchase OTC medicines that are not suitable
  - Strongly Agree: 55.8%
  - Agree: 55.8%
  - Somewhat Agree: 55.8%
  - Neither Agree or Disagree: 55.8%
  - Somewhat Disagree: 50.4%
  - Disagree: 50.0%
  - Strongly Disagree: 49.9%

- I'm willing to take advice from knowledgeable pharmacy staff - but only on my terms
  - Strongly Agree: 50.4%
  - Agree: 50.4%
  - Somewhat Agree: 50.0%
  - Neither Agree or Disagree: 49.9%
  - Somewhat Disagree: 50.0%
  - Disagree: 50.0%
  - Strongly Disagree: 49.9%

- If after I bought an OTC medicine my choice proved to be poor, I would be really upset
  - Strongly Agree: 50.4%
  - Agree: 50.4%
  - Somewhat Agree: 50.0%
  - Neither Agree or Disagree: 49.9%
  - Somewhat Disagree: 50.0%
  - Disagree: 50.0%
  - Strongly Disagree: 49.9%

- I’d rather be given options for how to treat my illness than be told what to do
  - Strongly Agree: 49.9%
  - Agree: 49.9%
  - Somewhat Agree: 49.9%
  - Neither Agree or Disagree: 49.9%
  - Somewhat Disagree: 50.0%
  - Disagree: 50.0%
  - Strongly Disagree: 49.9%

- I wish I knew more about OTC medicines available behind-the-counter or from the pharmacy dispensary without a prescription
  - Strongly Agree: 49.1%
  - Agree: 49.1%
  - Somewhat Agree: 49.1%
  - Neither Agree or Disagree: 49.1%
  - Somewhat Disagree: 50.0%
  - Disagree: 50.0%
  - Strongly Disagree: 49.1%

- I like to spend time comparing products I see on the pharmacy’s shelf
  - Strongly Agree: 46.5%
  - Agree: 46.5%
  - Somewhat Agree: 46.5%
  - Neither Agree or Disagree: 46.5%
  - Somewhat Disagree: 50.1%
  - Disagree: 18.7%
  - Strongly Disagree: 12.7%
I am loathe to go to the doctor when I can go to the pharmacy and get something almost as good

I'm the one who's sick so, if possible, I want to be the one to decide how to treat it

The choices for OTC medicines are overwhelming

I like buying generics

It really annoys me when I go to the doctor and s/he prescribes something I could have gotten without a prescription

For OTC medicines, I usually feel more comfortable talking about brand names, rather than the chemical name

If I need to go to a pharmacy for an OTC medicine, I prefer to grab it and get out of there

When I face a shelf of OTC medicines, I always feel at a loss to make my choice

It frustrates me that they often hide the best medicines behind-the-counter or in the pharmacy dispensary and don’t tell anybody about their availability

I like looking up information on the internet to help me buy OTC medicines

I understand the pluses and minuses of OTC medicines well enough to evaluate different brands

If I take a prescribed medicine and have a bad reaction to it, I can just stop using it and mention it to the doctor the next time I see her/him
Figure 1.31: Attitudes towards OTC medicines (4/5) | N: 1146

- It bothers me when people tell me I have to take this or that medicine
  - % Agree: 30.6, % Disagree: 29.7

- I’m really familiar with OTC medicines
  - % Agree: 29.6, % Disagree: 31.3

- Choosing OTC medicines is rather complicated
  - % Agree: 28.3, % Disagree: 32.9

- When one purchases OTC medicines, one is never certain of one’s choices
  - % Agree: 26.3, % Disagree: 30.6

- When I need an OTC medicine, I always ask friends or family for recommendations
  - % Agree: 25.9, % Disagree: 39.1

- Whenever one buys OTC medicines, one never really knows whether they are the ones that should have been bought
  - % Agree: 25.9, % Disagree: 32.4

- I don’t like shopping for OTC medicines
  - % Agree: 25.1, % Disagree: 30.5

- I have a lot of expertise about OTC medicines
  - % Agree: 24.2, % Disagree: 37.1

- Shopping for OTC medicines is frustrating
  - % Agree: 23.9, % Disagree: 36.7

- I know a lot about OTC medicines
  - % Agree: 23.9, % Disagree: 37.0

- I’m often not sure of the OTC medicines I buy
  - % Agree: 21.6, % Disagree: 40.3

- Brand name OTC medicines are better than generics
  - % Agree: 20.9, % Disagree: 32.7
For OTC medicines, when you pay more you usually get more

Using the full name of OTC medicines (e.g., paracetamol, ibuprofen, pseudoephedrine) is a bit scary

For OTC medicines, I'm a "cat" - I don't trust what I am told and I tend to tip toe around the store, too

If I'm on a prescription medicine and I sometimes need to go a little beyond the recommended dosage every once in a while to get relief, that's okay

OTC medicines are safe so you can take more than the maximum dosage

When you choose an OTC medicine, it is not a big deal if you make a mistake

Everybody knows that the prescription strength of medicine is twice what the OTC strength is, so you can always go above the OTC recommended dosage

If you have to take more than the maximum dosage to get through the day, that's okay

I'm just too demanding to buy OTC medicines

If I'm on a prescription antibiotic for 10 days and I feel better on the seventh day, it's okay to stop taking it

Figure 1.32: Attitudes towards OTC medicines (5/5) | N: 1146
SECTION 2:
How do consumers use vitamins, minerals and supplements?

2.1 Penetration and usage of VMS products by adults

Usage of VMS in the last year

70% of respondents have used VMS products in the last year, with 47% using 2 or more types.

VMS usage by gender

Usage of VMS in the last year is higher amongst females at 78% versus males at 63%. Usage of multiple VMS products (2 or more) is also higher amongst females at 54% versus 41% for males.
37.0% of respondent VMS users were aged 55 or over, compared with 33.4% of the Australian population being in this age group.

**Usage of VMS by age group**

The following charts depict the usage of VMS products within discrete age groups. Usage of VMS is fairly consistent across all age groups, the overall penetration range being 65 – 73%. Each figure in this set of charts is based on N:1146.
Ages 18-24

Figure 2.5: Usage of VMS by ages 18-24

Ages 25-34

Figure 2.6: Usage of VMS by ages 25-34

Ages 35-44

Figure 2.7: Usage of VMS by ages 35-44

Ages 45-54

Figure 2.8: Usage of VMS by ages 45-54

Ages 55-64

Figure 2.9: Usage of VMS by ages 55-64

Ages 65+

Figure 2.10: Usage of VMS by ages 65+
63.3% of respondent VMS users had a post-secondary education, compared with 33.1% of the Australian population being at this education level.

**Penetration and number of VMS products used by education level**

The following charts depict the usage level of VMS products within education levels. Usage of VMS is high among all groups (66 – 75%), with the highest usage amongst university graduates at 75%. Each figure in this set of charts is based on N:1146.
Overall VMS usage by product category - among total respondents

Do you take any health or nutritional supplements?

Among total respondents, multivitamins and fish oil/krill oil/omega 3, are the major two types of VMS taken at 36.0% and 33.6% respectively. This is followed by calcium supplement and glucosamine at 18.5% and 14.1%.

Overall VMS usage by product category - among VMS users

What health or nutritional supplements do you take?

Among VMS users, multivitamins and fish oil/krill oil/omega 3 are the major two types of VMS taken, at 51.4% and 48.0% respectively.
The majority of users of glucosamine/coenzyme Q10 and specific vitamin/mineral supplements take those products on a daily basis at 64.2% and 58.4% respectively. While pregnancy/breastfeeding and natural weight loss medicine are taken most days, stress/sleep products and children’s supplements are among the type of supplements that respondents reported taking only occasionally. * Please note however that in cases where the sample size is less than 100, it is difficult to make meaningful extrapolations to the general public.
At 57.2% of men versus 50.5% of women, men tend to be more likely than women to use VMS products on an every-day basis.

**Frequency of VMS usage by education**

While the data collected in this study shows no obvious trend in frequency of use by education, more complex ANOVA models by the author do show a positive effect of education on VMS use.
Every day use of VMS products is more common among people aged 65 and over. At 74.8% compared with 27.9%, this is almost three times the frequency of usage by people aged 18-24.

Note that in Figures 2.19, 2.20 and 2.21, “Other Use” includes most days, half the time, occasionally and rarely. Further detailed breakdown of usage is contained in the charts in Appendix A.

**2.3 Reasons for VMS usage**

People mainly take supplements for general health. People do however take specific supplements for specific reasons - for example stress/sleep products to help with stress and natural weight loss supplements for weight loss. *Note that the analysis in this figure is based on 2010 responses reported by 802 VMS users.*

Across a variety of VMS products, the major motivation for use is general health. Respondents were allowed to select multiple reasons and they often selected more than one reason. Specific VMS products have a pattern of motivations for use that are specific to them. For example, respondents reported taking immunity products for both general health and to boost immunity.
For what reasons do you use vitamins, minerals and supplements?

- For General Health: 61.2%
- For Joint Health: 21.5%
- For Bone Health: 17.7%
- To Boost Immunity: 16.7%
- For Energy: 13.0%
- For Heart Health: 12.3%
- To Help With Stress and/or Sleep: 9.4%
- For Cholesterol Management: 6.3%
- Specific Nutrient Deficiency: 4.5%
- For Gut Health: 4.3%
- For Children's Health: 2.8%
- Pregnancy/Breastfeeding Supplements: 2.0%
- For Weight Loss: 1.8%
- Other: 4.2%

*Figure 2.22: Reasons to take supplements – aggregate | N:2010*
## Reasons for VMS usage by product category

[Table and chart illustrating reasons for VMS usage by product category]

* Please note however that in cases where the sample size is less than 100, it is difficult to make meaningful extrapolations to the general public.
2.4 VMS usage based on health risk

Do you take the various VMS products you indicated because you are at higher risk of those particular health concerns compared to people of your age and gender?

In general, respondents reported that they were taking VMS products because they were at higher health risks than others of the same age and gender. This seems consistent with the dominant reason of general health as a motivation for taking VMS products.

* Please note however that in cases where the sample size is less than 100, it is difficult to make meaningful extrapolations to the general public.

Glucosamine/coenzyme, calcium supplements and specific vitamins are the main products people take due to being at higher risk of the health concerns. Children’s supplements, homeopathic remedy and pregnancy/breastfeeding/ folate are among the products people take for reasons other than specific...
health risks. The chart above provides a summary of the extent respondents reported taking each VMS product due to perceived higher risk or vulnerability.

### 2.5 Place of purchase of VMS products

**Where do you buy your health and nutritional supplements?**

![Retail channel split for VMS](image)

Pharmacy and supermarket are the two main preferred channels of VMS purchase at 52% and 35% respectively. In contrast, VMS purchases from a practitioner of natural medicine accounts for just 2.8% of purchases.

### 2.6 Further information about VMS usage

In addition to the analysis in this section, further demographic splits of VMS usage for individual VMS categories are provided in Appendix A.
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3.1 Number of prescription medicines used

52.8% of respondents reported taking one to three prescription medicine types, while 40% take none at all.

3.2 Penetration of prescription categories

Do you currently take or have you recently taken (in the last 12 months) any of the following products by a doctor’s prescription?

The penetration of possible switch candidate categories varies by category, with flu prevention, cholesterol controllers and stomach acid reducers at the higher end.
### 3.3 Pharmacist-only access preference by type of prescription medicine

If these medicines were available without a prescription, would you consider obtaining this medicine direct from your pharmacist instead of going to the doctor for a prescription?

![Figure 3.3: Access preference for key prescription-only medicine](image)

<table>
<thead>
<tr>
<th>Medicine Type</th>
<th>Definitely Yes</th>
<th>Possibly Yes</th>
<th>Don't Know</th>
<th>Possibly No</th>
<th>Definitely No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erectile Dysfunction Products</td>
<td>65.0%</td>
<td>19.9%</td>
<td>12.5%</td>
<td>2.7%</td>
<td></td>
</tr>
<tr>
<td>Oral Contraceptive Pill</td>
<td>59.5%</td>
<td>20.3%</td>
<td>10.8%</td>
<td>5.0%</td>
<td></td>
</tr>
<tr>
<td>Osteoarthritis Pain Relievers</td>
<td>53.2%</td>
<td>19.4%</td>
<td>9.5%</td>
<td>4.4%</td>
<td>13.6%</td>
</tr>
<tr>
<td>Urinary Tract Infection Antibiotics</td>
<td>47.7%</td>
<td>20.5%</td>
<td>11.6%</td>
<td>5.7%</td>
<td>14.3%</td>
</tr>
<tr>
<td>Stomach Acid Reducers</td>
<td>42.8%</td>
<td>22.7%</td>
<td>15.7%</td>
<td>6.0%</td>
<td>12.8%</td>
</tr>
<tr>
<td>Obesity / Weight Reducing</td>
<td>40.7%</td>
<td>32.3%</td>
<td>16.2%</td>
<td>10.8%</td>
<td></td>
</tr>
<tr>
<td>Flu Prevention Products</td>
<td>39.6%</td>
<td>23.5%</td>
<td>15.8%</td>
<td>8.0%</td>
<td>13.1%</td>
</tr>
<tr>
<td>Triptans for Migraine</td>
<td>39.6%</td>
<td>34.2%</td>
<td>16.7%</td>
<td>2.1%</td>
<td>7.4%</td>
</tr>
<tr>
<td>Overactive Bladder Treatments</td>
<td>38.6%</td>
<td>15.1%</td>
<td>32.8%</td>
<td>3.3%</td>
<td>10.2%</td>
</tr>
<tr>
<td>Low Dose Cholesterol Controllers</td>
<td>36.3%</td>
<td>23.1%</td>
<td>12.4%</td>
<td>7.9%</td>
<td>20.2%</td>
</tr>
<tr>
<td>Osteoporosis Products</td>
<td>28.7%</td>
<td>22.8%</td>
<td>11.5%</td>
<td>9.9%</td>
<td>27.1%</td>
</tr>
</tbody>
</table>

Erectile dysfunction products and the oral contraceptive pill are two main products that people would consider buying directly from a pharmacist rather than going to a doctor for a prescription. In contrast, people are least likely to buy osteoporosis products and low dose cholesterol controllers/lipid lowering products from a pharmacist instead of going to a doctor for a prescription. *Please note however, that when the sample size is less than 100, it is difficult to make meaningful extrapolations to the general public.*
3.4 Visits saved by prescription medicine if switched

If you could get these products without a prescription through your pharmacist, how many visits to the doctor would you save each year?

Getting one of these medicines without a prescription from a pharmacy saves at least one visit to the doctor per year for 85% of respondents.

3.5 Conclusion

This study provides important insights into the attitudes and behaviour of Australian consumers regarding OTC and complementary medicines. It reveals a high uptake of OTC medicines in Australia, indicating that consumers are comfortable treating a variety of illnesses with OTC medicines. It also shows the majority of Australians use complementary medicines and that they take supplements mainly for general health.

This study provides an important fact base in consumer healthcare to inform decision making and policy formulation in relation to OTC and complementary medicines.
For each VMS category, the age group, represented by different colours, is broken down by frequency of usage, and grouped by frequency, i.e. all the blue bars in a column, representing ages 18-24, will add up to 100%. * Please note that when sample size is less than 100 it is difficult to make extrapolations to the general public.
A.2 Age x Frequency of usage x VMS product

This is the same set of data as in Figure A.1, however it is grouped by age to provide another useful perspective. Clear trends are visible within age groups, for example calcium supplements tend to be used more as people get older, signalled by the increasing amount of every day users for this product in this age category.

* Please note that when sample size is less than 100 it is difficult to make extrapolations to the general public.
### A.3 Frequency of usage x Gender x VMS product

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Gender</th>
<th>All VMS N=2094</th>
<th>Calcium Supplements N=217</th>
<th>Children's Supplements N=407</th>
<th>Fish Oil/ Krill Oil/Omega 3 N=389</th>
<th>Glucosamine/ Coenzyme Q10 N=164</th>
<th>Homeopathic Remedy N=285</th>
<th>Product N=131</th>
<th>Multivitamin N=53</th>
<th>Natural Weight Loss N=297</th>
<th>Practitioner Mixture/ Tonic N=98*</th>
<th>Pregnancy/ Breastfeeding/ Folate N=91</th>
<th>Probiotics N=121</th>
<th>Specific Vitamin/ Mineral Supplement N=204</th>
<th>Stress/ Sleep Product N=188</th>
<th>Vitamin B6 N=140</th>
<th>Other N=74</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every day (100%)</td>
<td>Male</td>
<td>47%</td>
<td>46%</td>
<td>20%</td>
<td>53%</td>
<td>64%</td>
<td>53%</td>
<td>48%</td>
<td>41%</td>
<td>38%</td>
<td>16%</td>
<td>25%</td>
<td>54%</td>
<td>30%</td>
<td>16%</td>
<td>24%</td>
<td>71%</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>44%</td>
<td>50%</td>
<td>9%</td>
<td>54%</td>
<td>65%</td>
<td>20%</td>
<td>29%</td>
<td>41%</td>
<td>16%</td>
<td>25%</td>
<td>54%</td>
<td>30%</td>
<td>16%</td>
<td>24%</td>
<td>18%</td>
<td>16%</td>
</tr>
<tr>
<td>Most days (75%)</td>
<td>Male</td>
<td>18%</td>
<td>21%</td>
<td>13%</td>
<td>21%</td>
<td>19%</td>
<td>20%</td>
<td>22%</td>
<td>24%</td>
<td>32%</td>
<td>30%</td>
<td>29%</td>
<td>23%</td>
<td>25%</td>
<td>18%</td>
<td>19%</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>22%</td>
<td>23%</td>
<td>13%</td>
<td>19%</td>
<td>20%</td>
<td>20%</td>
<td>22%</td>
<td>24%</td>
<td>32%</td>
<td>29%</td>
<td>23%</td>
<td>25%</td>
<td>18%</td>
<td>19%</td>
<td>17%</td>
<td>16%</td>
</tr>
<tr>
<td>Half the time (50%)</td>
<td>Male</td>
<td>15%</td>
<td>21%</td>
<td>17%</td>
<td>10%</td>
<td>11%</td>
<td>20%</td>
<td>22%</td>
<td>24%</td>
<td>32%</td>
<td>30%</td>
<td>29%</td>
<td>23%</td>
<td>25%</td>
<td>18%</td>
<td>19%</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>14%</td>
<td>9%</td>
<td>17%</td>
<td>10%</td>
<td>7%</td>
<td>20%</td>
<td>22%</td>
<td>24%</td>
<td>32%</td>
<td>25%</td>
<td>18%</td>
<td>18%</td>
<td>19%</td>
<td>17%</td>
<td>16%</td>
<td>16%</td>
</tr>
<tr>
<td>Occasionally (25%)</td>
<td>Male</td>
<td>12%</td>
<td>5%</td>
<td>6%</td>
<td>9%</td>
<td>3%</td>
<td>20%</td>
<td>16%</td>
<td>9%</td>
<td>5%</td>
<td>4%</td>
<td>18%</td>
<td>3%</td>
<td>15%</td>
<td>3%</td>
<td>33%</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>11%</td>
<td>14%</td>
<td>8%</td>
<td>3%</td>
<td>9%</td>
<td>20%</td>
<td>16%</td>
<td>9%</td>
<td>5%</td>
<td>4%</td>
<td>18%</td>
<td>3%</td>
<td>15%</td>
<td>3%</td>
<td>33%</td>
<td>22%</td>
</tr>
<tr>
<td>Rarely (&lt;25%)</td>
<td>Male</td>
<td>8%</td>
<td>5%</td>
<td>13%</td>
<td>7%</td>
<td>6%</td>
<td>7%</td>
<td>10%</td>
<td>7%</td>
<td>10%</td>
<td>4%</td>
<td>18%</td>
<td>3%</td>
<td>15%</td>
<td>3%</td>
<td>33%</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>9%</td>
<td>4%</td>
<td>13%</td>
<td>7%</td>
<td>6%</td>
<td>7%</td>
<td>10%</td>
<td>7%</td>
<td>10%</td>
<td>4%</td>
<td>18%</td>
<td>3%</td>
<td>15%</td>
<td>3%</td>
<td>33%</td>
<td>22%</td>
</tr>
</tbody>
</table>

Each cell in the figure above contains two bars, blue for male and red for female, and represents the percentage of male and female who use the product in that column, at the frequency of its respective row.

This chart shows a comparison of frequency of VMS usage between male and female. A higher percentage of males use probiotics and specific VMS every day, whereas females tend to use calcium supplements and vitamins B and C on a daily basis more than males do.

* Please note that when sample size is less than 100 it is difficult to make extrapolations to the general public.
This chart uses the same data as Figure A.3, however groups the data according to gender rather than frequency. This chart makes clear the trend in frequency with each gender and shows that overall, the majority of both males and females take a VMS product most days, if not every day.

* Please note that when sample size is less than 100 it is difficult to make extrapolations to the general public.
This chart represents the relationship between VMS usage and the respondent’s highest level of education, grouped by frequency of usage. Colour represents level of education. Although these tables show no one-way effect of education, more complex ANOVA models by the authors do show a positive effect of education on VMS usage.

* Please note that when sample size is less than 100 it is difficult to make extrapolations to the general public.
The data used in this chart is the same as Figure A.5, however represented so that frequency is grouped by education level. In this view of the data, a clear pattern can be seen across all education groups tending towards daily usage of most VMS products.

* Please note that when sample size is less than 100 it is difficult to make extrapolations to the general public.
This paper was written by Professor Scott Koslow. The author gratefully acknowledges the assistance of Laknath Jayasinghe, Andrew West, Cathy Xu, LayPeng Tan, Lawrence Ang, Con Korkofingas, Hume Winzar, Stephanie Huang, Daniel Dilley and Boaz Ng.

The opinions in this paper are those of the author and do not necessarily represent the views of Macquarie University, any of its centres or affiliates, or any other individual member of any of its academic or industry advisory boards. Any errors or omissions are the sole responsibility of the author.

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