FACTORS THAT INFLUENCE THE PUBLIC’S ABILITY TO SELF-MEDICATE
Part 2 – Actions in Seeking Relief from Minor Illness

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ABSTRACT
In part 1 of this series I reviewed the factors which influence a consumer in making judgments about minor illness, including whether to consult or practice self care in some form. Willingness to engage in self care depends in part on the individual’s circumstances and past experience.

In this part of the review I consider what options are open to individuals wanting to practice some form of self care for minor illness. The factors which influence consumer behavior in choosing the course of action to pursue are reviewed, as are the drivers for what happens next, including subsequent consultation with a health care professional.

When the choices involve the potential use of an OTC medicine, other factors come into play and govern the appropriate selection of a product, and appropriate use once purchased. Despite the difficulties inherent in making such choices, many consumers become confident in self medication particularly when managing recurrent episodes with familiar medicines. Many reports indicate generally reassuring patterns of usage of OTC medicines, including what consumers would do should the medicine not work as intended. However others indicate a worrying lack of knowledge about OTC ingredients and the potential for misuse amongst a proportion of users; there may be little room for complacency.

The support offered to individuals through medication labels and the perceptions of those individuals in relation to OTC medicines will be considered in the next paper in this series.

Key words: self-medication; OTC medicines; review; minor ailments.

CHOOSING THE STRATEGY FOR SELF CARE
Once someone has decided that their symptoms represent a minor illness, several approaches can be considered. A person can: do nothing (the ‘wait-and-see’ approach); use a non-medicated form of treatment (such as a warm compress or bed rest); take some form of medication (be it commercial or home remedy); or opt to seek professional care. Americans took the following courses of action for their most recent health condition (with multiple responses allowed):
used an OTC medicine (77%), took a wait-and-see approach (69%), consulted a doctor (43%), or used a prescribed medicine (38%)¹.

If minor ailments do not overly interfere with normal activities, ‘doing nothing’ may be the natural response and this is indeed common²-⁵. However, early work by Knapp et al found that an OTC medicine was used within the first four hours in nearly half the incidents of acute minor illnesses⁶. In one UK report, one-quarter of patients had already tried to treat their problem on their own before seeking help⁷. In Scotland, 45% of patients seeing their GP reported using OTC preparations in the prior seven days⁸.

Researchers have surveyed the public to indicate what steps they would take for a host of minor symptoms¹,³,⁹-²². This can help gauge appropriateness of response, although a ‘correct’ answer is not always evident nor implied in such reports. Stoller et al assessed the appropriateness of lay evaluations based on symptoms experienced by 667 elderly patients²³. The number of symptoms under scrutiny was extensive (n = 23) and included fever, shortness of breath, chest pain, nausea, rectal bleeding, vision problems, and headache. One in eight of this population was considered at some medical risk, with the researchers concerned that medical care had not been sought. However, this need not imply that any patient’s actual interpretation of their symptoms was incorrect, simply that medical care was not pursued.

Research from Ireland provided the following data on how people would generally respond to a range of symptoms²⁴:

<table>
<thead>
<tr>
<th>Situation</th>
<th>Seek Doctor Advice</th>
<th>Seek Pharmacist Advice</th>
<th>Self-treat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td>7.3%</td>
<td>7.6%</td>
<td>83.5%</td>
</tr>
<tr>
<td>Cough/Phlegm</td>
<td>18.9%</td>
<td>21.5%</td>
<td>58.5%</td>
</tr>
<tr>
<td>Backache</td>
<td>61.4%</td>
<td>5.7%</td>
<td>30.4%</td>
</tr>
<tr>
<td>Indigestion</td>
<td>9.5%</td>
<td>20.0%</td>
<td>69.2%</td>
</tr>
<tr>
<td>Undue Tiredness</td>
<td>41.5%</td>
<td>6.6%</td>
<td>49.5%</td>
</tr>
<tr>
<td>Constipation</td>
<td>19.7%</td>
<td>20.4%</td>
<td>59.1%</td>
</tr>
<tr>
<td>Colds/Flu</td>
<td>19.7%</td>
<td>24.2%</td>
<td>55.3%</td>
</tr>
<tr>
<td>Sleeplessness</td>
<td>40.8%</td>
<td>12.2%</td>
<td>43.7%</td>
</tr>
<tr>
<td>Foot Problems</td>
<td>35.6%</td>
<td>18.6%</td>
<td>30.8%</td>
</tr>
<tr>
<td>Depression</td>
<td>67.2%</td>
<td>1.8%</td>
<td>28.9%</td>
</tr>
<tr>
<td>Muscle/Joint Pain</td>
<td>57.5%</td>
<td>11.5%</td>
<td>27.3%</td>
</tr>
<tr>
<td>Acne/Spots/Rash</td>
<td>27.1%</td>
<td>29.3%</td>
<td>42.5%</td>
</tr>
</tbody>
</table>

While these situations and symptoms may have represented hypothetical circumstances for the responders, others have found relatively similar patterns¹,³,⁵,²⁵-³⁶. Symptoms such as cold/flu, cough, sore throat, headache, heartburn, constipation, and indigestion are situations where people tend to self-treat. When people experience backache, red eyes, depression and
chesty cough, they prefer to seek the opinion of health professionals. In data from Georgia, for example, almost 90% of those surveyed would seek a physician for difficult breathing/shortness of breath, while only about 7% would self-treat or do nothing. Two-thirds, on the other hand, would not seek formal care for something such as nasal congestion.

As an extension to this, consumer pharmaceutical industry research in the UK uncovered the ailments most likely to be left untreated and further, the reasons given not to use an OTC. A thinning hairline, bruises, and tiredness were the top three conditions to be left alone. For all untreated ailments under consideration, 70% stated the decision to take this route was either because the condition was not serious enough to treat or simply that treatment was not necessary. Of note is that 17% had an expectation that the situation could not be improved by any treatment.

Patients may have a ‘break-point’ as to when it is acceptable to seek care. In one report, participants were asked to consider situations such as a cough (experienced for one day versus several days) and then diarrhea (for one day versus several days). While higher risk was definitely attributed to the scenarios lasting several days, it appeared to be less risky from a social perspective to discuss a problem if it had persisted for several days. In other words, it may be less embarrassing to bring a case to a doctor if it has lasted a few days, with less risk for feeling that the consultation would be wasting his/her time. Not wanting to bother a doctor has been seen in other research, and a common reason for some parents to initiate medicine use was not wanting to trouble a doctor with a minor childhood ailment.

Much of the research discussed above attempted to outline how the public react to certain situations. A few researchers have examined the courses of action subsequently taken, in an attempt to move towards an assessment of appropriateness. Dean cited reports (all published in the seventies) describing the activities undertaken by patients before seeing general practitioners in three parts of the world. In London, a panel evaluating self-care practices concluded that approximately two-thirds used effective treatments. In an example involving Danish patients seeing an MD for first-time symptoms, self-treatment activities were considered to be relevant in 77% of cases. Of 500 cases considered, in only one case was the action taken judged as damaging.

Elsewhere, the health-related actions of 340 Australians involving minor symptoms were assessed by medical practitioners. Subjects were selected if they had experienced at least one of 47 symptoms within a two-week period. In just 2% of cases were the actions taken determined to be inappropriate and potentially harmful. The use of leftover prescription medicines was one practice of prime concern, while there was disagreement amongst the panel on the use of some home remedies and OTC medicines.

Porteous et al used discrete choice methodology to determine the importance Scottish people place on different characteristics of a professional service. Researchers asked responders to consider a flu-like illness. Participants were asked to select (from three options) their preference...
for managing the symptoms, one of which was ‘do nothing’. Self-care was the preferred option chosen for managing the scenario, and was also the measure deemed the most appropriate action by the authors.

In a Canadian report, while parents showed limited understanding on some fronts, they choose reasonable criteria upon which to seek medical care for their child’s upper respiratory infection. For example, children with higher fevers, with earaches, symptoms persisting for more than 24 hours or which had taken an unusual course, were more likely to be taken for medical attention.

WHEN THE CHOICE INVOLVES AN OTC MEDICINE

For those judging an illness as minor, a purchased medicine option might be considered. One may be right at hand, through previous use (and at times, the result of a professional recommendation). If not readily available, a decision might be made to go to a retail outlet for purchase. A key issue at that juncture will be consumer knowledge as to what product categories are even available for any given situation. Once there, a scan is likely made of the products available (in countries where products are presented in front rather than behind the pharmacy counter), attempting to match symptoms to those listed on the package. Others may simply recall an advertisement describing a product that appears to meet their needs. Still others might opt for pharmacist assistance, to confirm a selection that they have made is suitable or to select the ‘best’ product for them.

Hundreds of products are available to consumers on pharmacy shelves, and in some instances dozens are available for just one indication. From this plethora of products, a person must choose the most appropriate. This can be a daunting task, made even more challenging by the rise of ‘line extensions’ in which the same brand name is ‘extended’ by use of prefixes and suffixes to denote different combinations of ingredients. Indeed, a marketing report suggested that people considered selecting a cold or allergy remedy as one of the top five more confusing decisions to make (of 32 categories of retail products/services). And yet, a Canadian report discovered that around half of self-selectors chose such products in under a minute.

Some studies have attempted to quantify user behavior during self-medication with OTC medicines. However, a clear picture of how appropriately the public use such products is still to be realized. Blenkinsopp and Bond noted that while there are reports of problems with certain agents, there is no epidemiologic data to allow a reliable estimate of OTC misuse. They did conclude that misuse of OTCs was of concern in a minority of users. They felt society needs to balance the benefits of effective product availability against the risks of misuse.

The Slone Survey (USA) was not designed to identify inappropriate use, but the authors nonetheless felt a certain degree of insight was possible. Including prescription drugs, they concluded that patterns observed regarding reasons for use generally correlated with the
approved indications for use. Others have noted relatively judicious use of OTC medicines, given their widespread utilization\textsuperscript{75}.

Industry-sponsored data also suggests a level of appropriateness\textsuperscript{1,76}. Recent work in Canada found that any deviation from labeled directions was generally far from extreme or reckless\textsuperscript{77}. Most episodes involved taking up to twice the recommended dose at one time or taking an additional dose before the end of a recommended interval, generally because individuals were still bothered with symptoms. Among 63 participants, almost all were engaged in episodic non-compliance (once every few weeks or months) rather than chronic non-compliance. It was felt that such deviations were rarely based on poor knowledge of directions, instead appearing to be a rational choice based on personal experience. Nor was non-compliance something that occurred during the first use of an agent, but was a pattern of behavior evolving over time as people became more familiar with the expected outcomes from use.

Also in Canada, 88\% of a population during a telephone survey stated that they followed the manufacturer’s directions when last using an OTC medicine\textsuperscript{78}. Among the 5\% who self-identified as being non-compliant to those directions, 31\% took a dose larger than directed, 19\% took another dose sooner than directed, and 11\% exceeded the maximum daily dose. This was usually motivated by serious symptoms or a perceived lack of efficacy in the agent. Sixteen percent of non-compliers stated that they were actually following directions from a healthcare professional.

With newer introductions to self-medication, experiences from Prescription-to-OTC ‘reclassifications’ (or ‘switches’) seem to indicate a general pattern of successful use\textsuperscript{12,79-87} and public support\textsuperscript{88-90}. Health departments of governments are continuing to encourage such moves, suggestive of a general satisfaction with levels of safety. Responding to 50 ‘switches’ in the UK over 15 years, Smith and Martin set out to characterize new users of newly-switched products\textsuperscript{12}. Users were identified via visits to 100 pharmacies. No clinically significant drug-drug interactions involving newly-switched agents and concurrent prescribed medicines were found. In the vast number of cases, the symptoms reported also coincided with the product’s indication. In most instances, products were purchased for symptoms of short duration. However, the authors did note some concerns with certain product categories. On a less positive note, Rizzo \textit{et al} reported on studies examining 23 Rx-to-OTC switches, with 10 producing equivocal results on the net benefits of the move\textsuperscript{91}.

Consumers have stressed their ability to self-manage specific minor ailments using OTCs\textsuperscript{1,75,92}. Their confidence stems in part from long personal experience of successful management. Where consumers had long experience of managing minor ailments in the absence of unpleasant side effects, concerns about risk and danger were lessened. Many consumers reported using the same OTC for a particular minor ailment for years\textsuperscript{38}.

However, the ease with which such patients find relief conflicts with the frustration experienced at times by others – the elderly suffering with constipation, for example\textsuperscript{93}. Seniors expressed...
concern that a solution to constipation was fraught with great difficulty. Although many turned to laxatives, they were uncertain as to which choice to make amongst the options.

An aspect important to assessing appropriate care is how long sufferers will self-medicate without professional care. This builds on information already presented on illness duration without that same care (irrespective of using a medicine). Early work by Knapp and colleagues asked 2839 Americans how long they use medicine on their own (for common ailments) and the longest time that they have ever used one without physician advice. Most stated they would only treat common ailments (sore throat, cough, acid stomach, headaches, skin rash) for about a week without asking for medical advice, even if the agent they were using controlled the condition. However, in another report, 12% of Americans indicated they would self-medicate for longer than two weeks for sore throat, coughs, sinus trouble, head colds, hay fever, skin problems, sleeping issues, or upset stomach.

Along similar lines, a survey of 1000 people in Ireland found that if an OTC medicine did not work within the listed time frame, 40.8% would stop using it and go to their doctor, 24.3% would stop and return to the pharmacy, 22.1% would decrease the dose or outright stop use, less than 9% would increase the dose, and 2.3% and 2.2% (respectively) would use the product more often or for a longer time than recommended.

In contrast to this generally positive information, concern over the public’s ability to self-medicate does exist and evidence suggestive (or fully indicative) of concern is available. With regard to general medicine-taking habits, 334 of 1011 American responders indicated that they had taken more than the recommended dose of an OTC product. The BeMedWise campaign in Canada found that 13% of individuals surveyed took two products simultaneously to treat the same symptoms. Further, half of those surveyed could not name the active ingredient in the headache medication they use most often. In the USA, 66% could not do the same. A follow-up NCPIE survey in 2003, however, suggested some improvements had been made.

Of 553 Americans in another report, one third reported at least one measure of misuse of an OTC product. This included 11% taking a medicine for different purposes than those indicated. There are also concerns regarding the potential for prescription-OTC drug interactions.

While intervention by pharmacists is considered out-of-scope for this review (in that such involvement would not constitute self-medication), product choices changed by pharmacists is of interest, as will be any drug-related problems (DRPs) captured in pharmacies. The reason for the relevance of the former is that in North America, consumers in pharmacy aisles will often select a product, then ask a pharmacist whether it was a good choice. A degree of concern has been raised in various reports.

* It should be noted that the references cited here are not intended to be a comprehensive list across all therapeutic categories.
SUMMARY

In responding to symptoms of minor illness, a person might do his/her best to ignore them, use a non-medicated form of treatment, opt for some form of medication, or seek professional care. The taking of an OTC medicine is an increasingly common approach.

The appropriateness of self-medication with an OTC product should consider two facets of this choice – the selection of the best product for a given condition (appropriate selection) and the correct use of it once purchased (appropriate use), each often undertaken without professional intervention. In practice, both aspects can interact and give rise to potential problems. It is perfectly possible for someone to choose an ill-suited medicine for their condition but then follow directions for use meticulously. Conversely, having chosen the best product for their symptoms, others may deliberately or inadvertently use the product incorrectly.

This review has sought to survey the evidence which relates to self care of the symptoms which accompany minor illness. Much of this evidence is reassuring that people make reasonable choices when deciding if and how to treat these conditions. Reports of patterns of usage for OTC medicines likewise show appropriate choices are generally made. Never the less, examples of suboptimal knowledge and misuse are not uncommon and lead some to be concerned with regard to the potential for safety problems to arise.

Statement of Interests: None relevant.

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