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## Perceptions of risk may explain the discrepancy between patient and clinician-recorded symptoms

See linked article by Barbara *et al.* on pg 145

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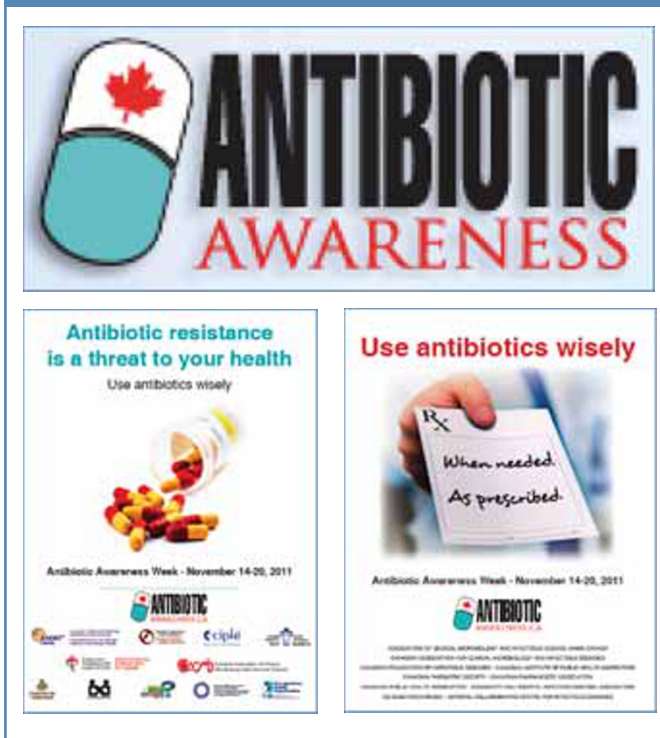
In this issue of the *PCRJ*, Barbara and colleagues<sup>1</sup> report the agreement between patient-recorded and clinician-recorded symptoms of respiratory illness. Contrary to other research, the study revealed that the patients recorded fewer symptoms than were captured by the clinicians following consultation. Barbara *et al.*'s intriguing findings raise two key questions. First, what factors might cause patients to increase the quantity of the symptoms that they report when conversing with their clinician? Second, are there any reasons why clinicians may record symptoms in addition to the symptoms presented by the patients during consultation? We believe the answer to these questions may be explained by considering the psychological factors that may underlie patient and clinician symptom-recording behaviours. More specifically, we

suggest that the different symptom-recording behaviours of patients and clinicians may be motivated by an intrinsic desire to manage perceived risks.

When patients visit their physician they often arrive with an agenda and expectation of receiving a prescription, particularly when they believe they have a respiratory illness.<sup>2,3</sup> Such expectations seem reasonable given that patients typically visit their clinicians to obtain a solution (e.g. a prescription) to a problem (e.g. a respiratory infection). However, patients may perceive a risk that the clinician will not provide the anticipated solution and therefore not address the problem to a satisfactory standard. This perceived risk may be heightened as a result of the rise in public awareness of current campaigns to discourage clinicians from prescribing certain medications (e.g. antibiotics) due to costs, misuse and a slow decline in effectiveness (see Figure 1).<sup>4,5</sup> Consequently, patients may now perceive the risk of leaving the practice without an appropriate remedy as being much greater than in previous decades. In an attempt to manage this risk, we hypothesise that patients may report a greater quantity of symptoms during clinical consultations, with the intention of encouraging the clinician to diagnose an illness that would typically warrant a prescription. In short, the 'over-reporting' of symptoms by patients may lead some clinicians to record a greater quantity of symptoms than those recorded by the patient prior to the consultation. This thesis provides a potential explanation for Barbara *et al.*'s main finding that patients and clinicians record a different quantity of symptoms and for the contrast between this finding and findings observed in earlier work.

This notion is further supported by Barbara *et al.*'s finding that the symptoms which patients under-recorded (e.g. cough, fever, etc.) appear to be those that may be more difficult for a clinician to verify objectively in a short consultation. This behaviour may stem from the

Figure 1. Canadian antibiotic awareness campaign (<http://antibioticawareness.ca/>)



patient's perceived risk of not receiving help for an illness due to policy agendas enacted within the health system.

The discrepancies between patient-recorded and clinician-recorded symptoms could be attributable to the behavioural risk management strategies employed, either knowingly or unknowingly, by clinicians. Research shows that clinicians often recognise that patients expect to receive prescription medication as a result of a consultation and that clinicians worry that a failure to meet such expectations may damage the clinician-patient relationship.<sup>6,7</sup> To ameliorate the perceived risk of failing to meet patients' expectations the clinician may, following an examination and diagnosis, issue a prescription or alternative form of clinical intervention (e.g. referral). To ensure these actions are defensible, the clinician then records a list of symptoms that are typical of the diagnosed condition – a list that may extend beyond the symptoms reported by the patient. Sometimes practitioners are aware that they are using a diagnostic label to justify their decision to treat:

*"...when someone comes along in the flu season, and they've got a viral type infection, and it may be viral... There's a bit of you that says this is probably viral, so I ought to really code it as virus infection, don't know what virus but that doesn't matter, but because they've got a yellow coloured sputum, you say oh well, that sounds like a bacterial thing and I'm giving them antibiotics, so I'll call it bronchitis. So I actually put down acute bronchitis. So yes, in a sense, you are altering diagnoses... it is playing a kind of a game in a sense for the doctor to justify what he has done, depending upon the decision he came up with."*<sup>8</sup>

Decision-making in primary care often involves subconscious use of heuristics or mental 'rules of thumb' to generalise the typical symptoms of the diagnosed illness to the patient. Within the literature on decision-making, the psychological mechanism underlying this generalisation process is referred to as the 'representativeness heuristic'. Similarly, there are alternative heuristics that have been identified in clinical decisions and diagnostic judgments.<sup>9-11</sup> While such heuristics are often employed subconsciously and have received praise for enabling 'fast and frugal' diagnoses, there is also evidence to indicate they can lead to judgmental bias in some instances.<sup>12-14</sup> For example, clinicians who avoid making computer records during the consultation but do so afterwards, so called "minimal users," are more likely to include symptoms that fit with their diagnosis and exclude those that don't than doctors who record notes as they go.<sup>15</sup> We also know that pay for performance targets for chronic disease management temporarily distort the recording of blood pressure.<sup>16</sup> Hence, we suggest it is also possible that the clinicians in Barbara et al.'s study may have unknowingly documented additional symptoms as a result of a mental heuristic that would typically serve to facilitate efficient decision-making and maintain comprehensive medical records.

Defensive practice may also stimulate doctors to write more extensive records. Defensive medicine is well established in family practice;<sup>17</sup> one of its characteristics is more detailed note-taking<sup>18</sup> which is said to reduce the risk of malpractice suits.<sup>19</sup> Although family practitioners are in a relatively low-liability group they appear to have greater concerns about malpractice suits than higher risk specialities.<sup>20</sup> These tensions may have been enhanced while participating in a clinical trial. It is plausible that physicians recorded more symptoms to justify not prescribing antibiotics; this is an interaction which merits exploration.

Our interpretation highlights the complex psychological interplay that can take place between patients and clinicians; reassuringly, this interaction may be underscored by a mutual desire to elicit or maintain a positive clinician-patient relationship, avoiding potential harm from a missed infection, and keeping detailed medical records.

There are two important implications of this study;<sup>1</sup>

- Firstly, policy makers should be mindful of the impact that public health decisions (e.g. cutting costs) can have upon a patient's perceived risk of not receiving an appropriate level of treatment. Such perceptions may cause patients to question the efficacy of the public health system and adopt counter-behaviours, "workarounds" to elicit their desired response.
- Secondly, clinicians must remain mindful of ensuring that the records they maintain are an accurate representation of the patient's actual health status. To this end, we recommend that clinicians should always ensure that a clear distinction is made in medical records between patient-reported symptoms and the symptoms observed by the clinician – as suggested in Weed's problem-orientated records.<sup>21</sup> We must ensure that patients' medical records are sufficiently reliable to be used to inform important decisions.

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# Streptococcus pyogenes upper respiratory infections and their effect on atopic conditions

See linked article by Juhn *et al.* on pg 153

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The effect of the upper airway on the lower airway was recognised as early as the second century by Claudius Galenus, who defined the nose as a 'respiratory instrument' in his work *De usu partium (On the usefulness of the [body] parts)*.<sup>1</sup> However, the modern concept of the upper and lower respiratory passages being a continuum and forming a single unified airway has been highlighted only over the last 10-15 years.<sup>2</sup>

The Allergic Rhinitis and its Impact on Asthma (ARIA) initiative focused on the co-morbidities of allergic rhinitis and included

involvement of the eyes, the paranasal sinuses and the lower airways.<sup>3</sup> The nasal and bronchial mucosa present a number of similarities, and one of the most important concepts regarding nose/lung interactions is their functional complementarity.<sup>4</sup> Interactions between the upper and lower airways are well known; it has been observed that over 80% of asthma patients have rhinitis and 10-40% of patients with rhinitis have asthma.<sup>3</sup>

The role of upper respiratory tract infections (URTIs) and how they affect the lower respiratory tract have been less well studied compared to the role of allergic diseases. Similarly, the effects of URTIs on atopic conditions (other than asthma) have also not been documented to any appreciable extent. Asthma in children is associated with an increased risk of *Streptococcus pyogenes* upper respiratory infections,<sup>5</sup> even though *Strep. pyogenes* is not known to be a cause of asthma exacerbations.<sup>6</sup>

*Strep. pyogenes* is a well-known causative agent of a number of autoimmune conditions. The relatively new disease PANDAS,<sup>7</sup> supposedly of post-streptococcal etiology, is the acronym for Paediatric Autoimmune Neuropsychiatric Disease Associated with Streptococcal