Non-adherence to Prescribed Therapy: A Persistent Contributor to the Care Gap

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Abstract

Comparisons of the scope, causes and successful interventions to improve adherence to medical therapy over the last decade do not reveal significant advances in improvement of patient care and outcomes. Rather, patients' adherence to prescribed therapies remains sub-optimal; and, not by a small degree. In the 2016 Health Care in Canada survey, among the 43 percent of Canadian adults prescribed an average of 3.4 medications per person, per day, more than 50 percent reported some form of non-adherence to the prescribed therapy. The adherence deficit spans all major chronic diseases and involves multiple patterns, particularly taking medications less frequently than prescribed, but occasionally, more frequently; and, at higher, or lower, doses. Patients' most commonly reported reasons for non-adherence are forgetfulness; and, an inclination to make ongoing treatment decisions within a construct of how they feel in the moment – apparently irrespective of existing evidence. Therapeutic costs, concern for side effects and disbelief in efficacy are uncommon or minimal fears. Rather, patients' reported understanding of their medications' scientifically-based efficacy and rationale, their hoped-for outcomes; and, how / when to take their prescriptions range from 77 to 91 percent. These findings are very compatible with health professionals' reported transmission of the same knowledge to patients, as part of their recommendation of the prescribed therapies. The bottom-line contemporary reality is: despite increased professional-patient discussions on benefit-risk balance, improved therapeutic adherence results are not forthcoming. It appears that stakeholders are adherent to non-adherence; or, at least amazingly tolerant of its negative impact on patient outcomes. Thus, despite advances in diagnostic and therapeutic capabilities that reduce key gaps between best and usual care, the overall impact on improved patient outcomes remains less than optimal because of poor compliance with prescribed evidence-based therapies. Things can be better. One outstanding opportunity to shrink the adherence gap is adoption of regular measurement and feedback of real-world clinical adherence practices by all stakeholders, an innovation that would likely produce adherence rates comparable to their very high levels in randomized clinical trials. It seems an outstanding opportunity. The time is right to test its hypothesis.

Introduction

The term 'care gap' connotes the difference between what best, evidence-based medical care and accompanying outcomes could be for patients at disease risk, versus actual care (1). There are four major contributors to the care gap: sub-optimal patient access; inadequate diagnosis; non-prescription of proven therapies; and, poor adherence to therapies (1). Patients in one, or more, of these situations can be considered as being on an invisible waiting list - waiting for best care and best outcomes (1–3).

This paper highlights the continuing high degree of contemporary non-adherence as a major lost opportunity to achieve optimal health care and outcomes in Canada; and, reviews contributing causes and possible paths to make things better.

Data Sources / Methods

The principal data sources for this review were the recorded views of representative samples of the adult Canadian public and a broad spectrum of health professional groups, polled online in the summer of 2016 as part of the most recent Health Care in Canada (HCIC) survey (4).

The 2016 HCIC public study population sample (n=1500) was nationally representative of all Canadian adults. Health professionals' sample sizes, although smaller, were also representative of each target group: doctors (n=102), nurses (n=102), pharmacists (n=100), administrators (n=100). The 2016 survey also included a sample of allied professionals: nutritionists, dieticians, occupational therapists, physical therapists, psychologists and social workers (n=100).

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Components of Adherence

Adherence is an umbrella term connoting perseverance with mutually-agreed therapeutic components in the patient-provider covenant, following professional diagnosis and recommendation / provision of evidence-based pharmaceutical prescriptions or other evidence-based therapy (5). The overarching goal is attainment of the best possible patient outcomes in the long term.

In contemporary patient-centred care (6), concordant understanding of diagnoses and consent around the risks and benefits of possible therapies are highly desired outcomes of the bi-lateral discussion between professionals and patients as they seek a mutually determined treatment strategy (6). In the short term, they reflect patients' understanding and acceptance of diagnosis and prescribed therapy. In the longer term, the hoped-for expectations are that patients will obtain an initial prescription and faithfully persist in obtaining subsequent refills (5, 7). The compliance components of adherence refer to patients' understanding and commitment to specific prescription requirements, such as dosage and timing (5).

Challenges

The scope of the challenges to achieve optimal therapeutic adherence are not insignificant.

They begin with the large fraction of the general adult population using prescribed medications. In 2016, the prevalence of prescribed medication therapies for chronic diseases averaged 40 percent (Figure 1). And, the average number of prescribed medications was more than three per patient (Figure 1). These figures are in keeping with comparative figures from the 2013-2014 HCIC survey: 45 percent overall prevalence; and, 4.0 prescriptions per patient, respectively (8).

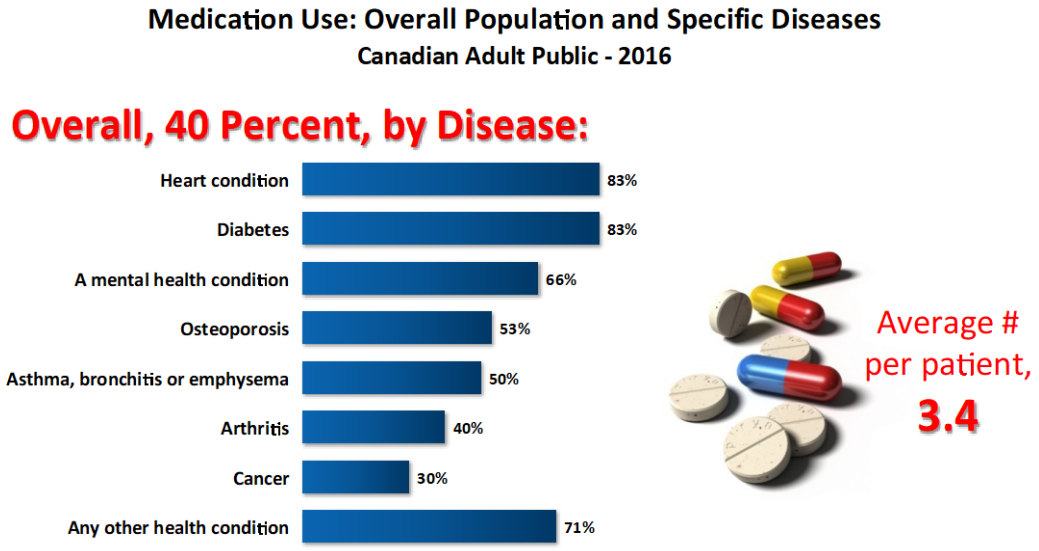

Figure 1. Canadian adult public's responses in 2016 when asked: "Do you currently take any prescription medications on a regular (daily or weekly) basis" (n=1500); and, "How many different types of prescription medications are you currently taking in total" (n=641)?

Beyond the high prevalence of adults currently prescribed medications, is the spectrum of multiple non-compliant patterns in all major disease states (Figures 2, 3). Among the millions of Canadians currently taking prescription medications, more than half (52 percent) are non-adherent in some way – most commonly because they take their medications less frequently than prescribed (Figure 2). Younger people were more likely to be non-adherent, with only 35 percent of those under 45 years always compliant with instructions, compared to 49 percent of patients aged 45 to 64 years; and, 55 percent of those 65 and older. However, non-adherence does not appear to be related to the number of medications prescribed, nor their dosing patterns (Figure 2).

In terms of patients' therapeutic adherence in specific diseases, the highest reported levels in 2016 were: 62 percent, for patients with osteoporosis; and, 55 percent for cardiac patients (Figure 3). In all other major disease populations, including patients with diseases that carry some of the most disabling symptoms and guarded outcomes, non-adherence dramatically outweighed adherence rates (Figure 3).

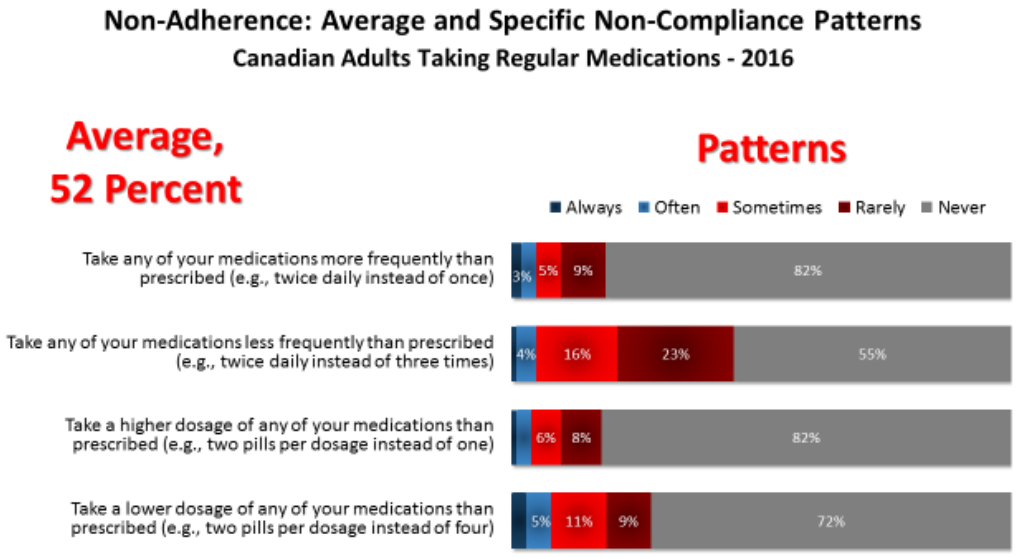

Figure 2. Overall prevalence of non-adherence, and specific patterns of non-compliance, to prescribed medical therapy in Canadian patients in 2016 (n=641).

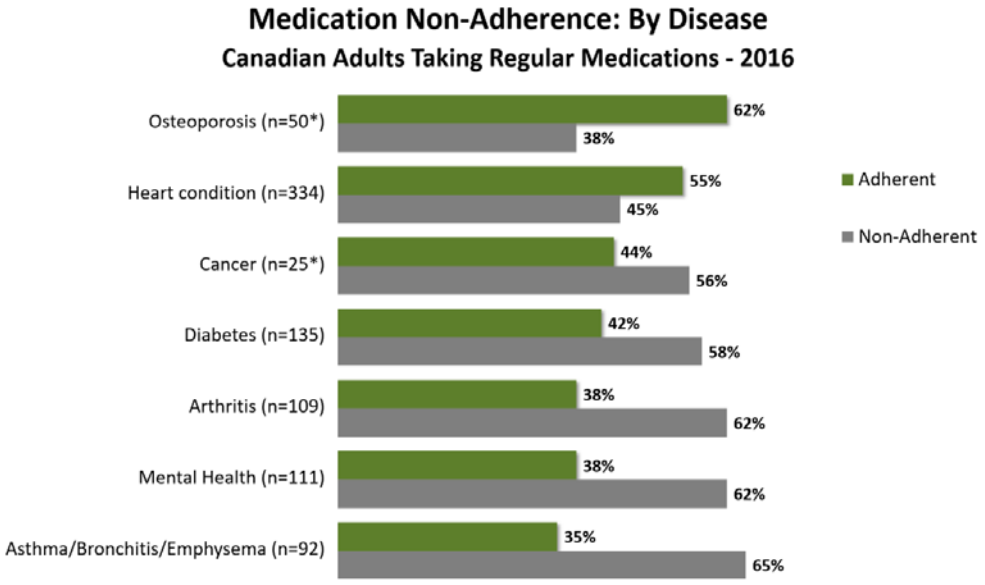

Figure 3. Comparison of contemporary adherence, versus non-adherence, rates to medical therapy prescribed for important disease states among Canadian adults in 2016. *Results should be interpreted with caution due to small base size.

Adherence patterns of patients (Figure 3) may appear somewhat counter-intuitive to health care professionals; and, even to other patients and non-patients among the general public.

However, as outlined in Figure 4, the spectrum of reasoning around patients' decisions for non-compliance provides some insight. For example, costs of prescriptions, worries about efficacy, or

negative side effects, are minimal concerns for patients (Figure 4). Rather, patients' top-rated reasons for non-compliance are forgetfulness; and, a sense of how they feel in the moment (Figure 4).

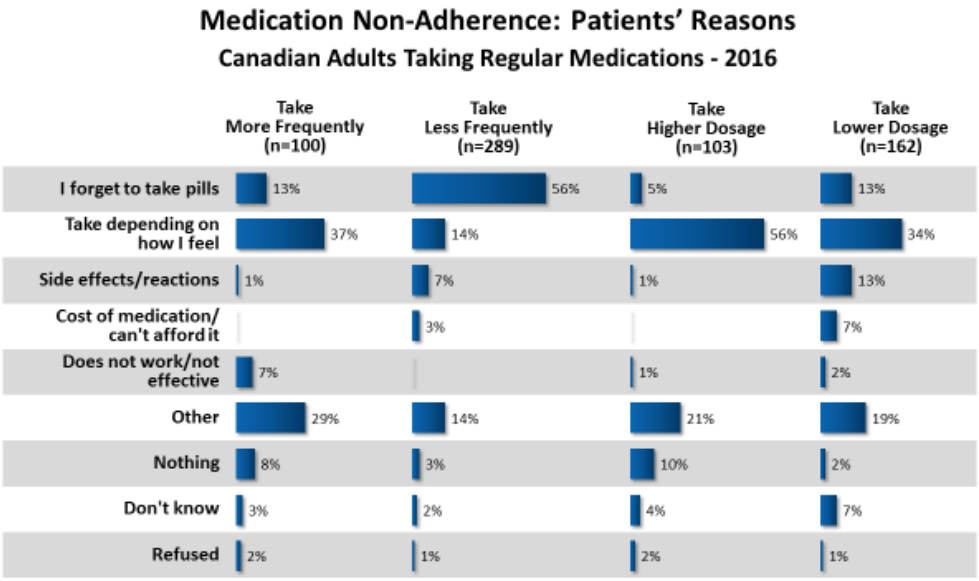

Figure 4. **Patients' responses when asked: "Why do you, at least occasionally, do the following when it comes to taking your prescribed medication?"**

While these data do not allow definitive explanation of why it is so common for patients with significant chronic diseases to not take their medications because of forgetfulness; or, to decide on merits of how they feel in the moment, some reasonable speculations are possible. For example, the data may reflect an integral optimism among patients that is temporally reflective of a decreasing level of severity, or transient absence, of disabling symptoms - fostering willful belief that a best case scenario is unfolding for them as they had hoped; and, consequently, the need for medication has decreased. Or, perhaps it just reflects patients' fatigue with the persistent processes of chronic care and disease management?

One area of potential contribution to the adherence care gap is inadequate knowledge exchange between patients and their professional health care providers. However, as indicated in Figure 5, the great majority of patients report they do not lack knowledge or understanding regarding the rationale, key compliance how-to factors and potential side effects of their prescribed medications. And, the majority of health professionals' support patients' perceptions of knowledge delivery to a very high degree (Figure 6).

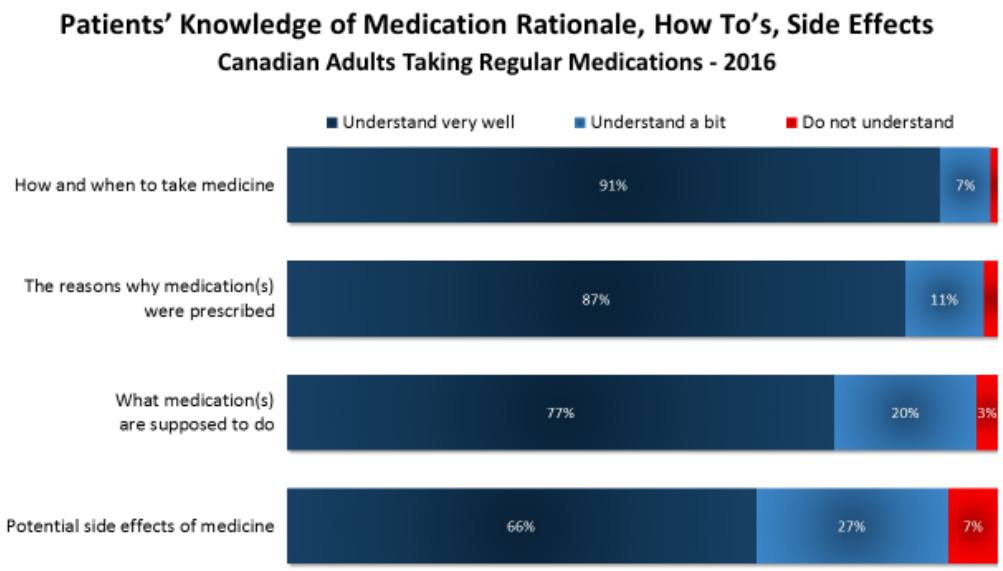

Figure 5. Patients' responses when asked: "How much would you say you understand about each of the following?"

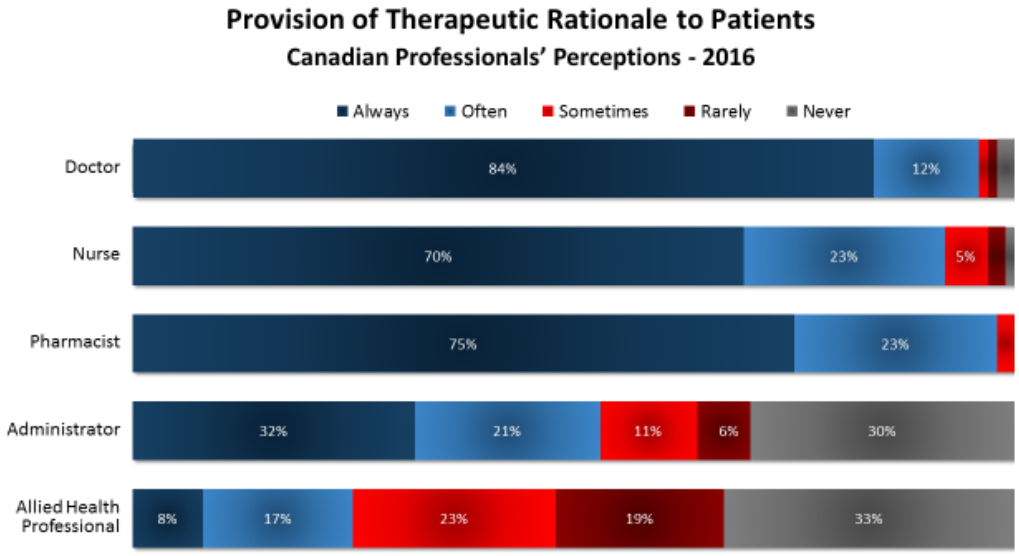

Figure 6. Professionals' responses when asked: "How often do you tell patients why the medication(s) was prescribed?"

Next Steps

Non-adherence is a consistent reality in medical care; and, not likely a play of chance phenomenon. Previous studies (9–12), as well as the findings of the 2016 HCIC survey (Figure 4), suggest it may be shaped by patients' intrinsic health and medication-related values and beliefs; and / or the symptomatic realities of managing one or more chronic diseases, all of which may

flux over time. So, we return to the enduring question: are there any practical approaches to improve therapeutic adherence?

In the academic sphere, the traditional answer to this question is to recommend further studies. For example, based on the findings from the 2016 HCIC survey, more definitive clarity around patients' precise definitions of what is meant by "forgetfulness" and "deciding in the moment" (Figure 4) are likely to lead to better understanding of these decision-determining feelings. In the interim, adoption of some other practical adaptations may also improve adherence. For example, existing data consistently demonstrate that patients' decisions to not adhere to prescribed therapy occur relatively early post-prescription (5, 10, 11). Thus, reinforcement of the initial patient – provider discussion of benefit versus risk in balancing the prescribed therapy should be done sooner rather than later.

Another intriguing insight that bears further exploration to advance adherence to medical therapies in real world practice comes from the world of randomized clinical trials, where adherence rates have been reported to be maintained at very high levels for prolonged periods (5). For example, in a real-world clinical practice setting for management of risk reduction among 26,000 Canadian cardiac patients with full insurance for drug coverage, use of two proven therapies (angiotensin converting enzyme inhibitors and lipid-lowering agents) fell to below 80 percent at three months following therapy initiation; and thereafter, fell continuously to about 40 percent adherence at 24 months post-initiation of therapy (5). In comparison, the adherence rates among a similar cohort of adult Canadian cardiac patients taking the same two medications in the Simvastatin / Enalapril Coronary Atherosclerosis Trial, continuously averaged almost 95 percent over the five year course of the trial (5).

A leading difference in trials' practice versus real-world clinical practice is trials' demand for regular measurement and feedback to patients and providers of adherence to medications. Trials demand both; current community practice demands neither. Unfortunately, despite strong support among public and professional stakeholders for many components of patient centred care, priority for implementing regular measurement and feedback of practices, such as adherence rates, does not come close to the top of any stakeholders' priority list for implementation in the near future (4).

Conclusions

Adherence to prescribed medical therapy is an enduring problem in achieving optimal, evidence-based care and outcomes in Canada. It also remains a relative orphan for innovative systemic interventions to make things better.

Its causation remains unclear. Money, or the lack of it; does not seem an issue, nor do specificity of disease, number of medications, their negative side effects or complications. It is not driven by a lack of knowledge translation among patients and health professionals. And, it persists despite increasing awareness and adoption of patient-centred care philosophy and principles in Canada.

An outstanding question is whether adoption of regular measurement and feedback of practice patterns into modern patient-centred care (13), by patients and professional care providers, can close the adherence gap, similar to its impact in clinical trials? It may also be an outstanding opportunity. The time is right to find out.

Things can be better.

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Data Access

Health Care in Canada raw data are overseen by McGill University, Montreal, QC. HCIC data can be accessed via request to: info@hcic-sssc.com or hcic@mcgill.ca

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