OPINION

# One simple step toward finding a solution for drug shortages

By JACALYN M. DUFFIN (/AUTHOR/JACALYN-M-DUFFIN) FEB. 3, 2020

Without measuring the nature, duration, and causes of Canada's drug shortages, solutions will be hard to come by. We must first define the problem, writes Jacalyn M. Duffin.

Only Canada and the U.S. measure drug shortages, but not in the same manner. The EU and U.K. are slowly coming around. More collaboration is needed, writes Jacalyn M. Duffin. *Photograph courtesy of Pixabay*

KINGSTON, ONT.—Drug shortages have plagued Canada since at least 2010. I am often asked what we should do about it. Pharmacare will be useless if drugs are not available. Many solutions are possible. We need an essential medicines (https://www-cmaj-ca.proxy.queensu.ca/content/188/17-18/E499) list; others agree (http://cmajopen.ca/content/5/1/E137.full). We need to understand why we don't start manufacturing the missing drugs ourselves. We need to show leadership on an international stage—OECD? WHO? or WTO?—to foster collaboration in understanding the causes. But first, we need to measure it.

Without measuring our drug shortages—their nature, duration, causes—we fail to characterize them. How can we talk about solutions until we define the problem?

Alerted in 2010 by a cancer patient who wanted to quit her chemotherapy because her medicine for nausea control was unavailable, I have been using historical methods to track the shortages hoping to uncover their causes. Now 8.5 years old, my website (http://canadadrugshortage.com/), www.jacalynduffin.ca, lists possible solutions (http://www.canadadrugshortage.com/solutions/) and 17 robust potential causes (http://www.canadadrugshortage.com/causes/), each capable of provoking shortages. Since Canada has little pharmaceutical manufacturing of its own, most causes arise beyond our borders.

Health Canada runs a website (https://www.drugshortagescanada.ca/) with a list of drugs in short supply. At first, from 2012 to March 2017, manufacturers were to report upcoming and actual shortages voluntarily. Voluntary reporting did not work. In March 2017, reporting became mandatory, and the original site was taken down. But, unlike the American Food and Drug Administration (FDA), Canada never analyzes those reports for characteristics or rate, such as annual numbers, generic vs. innovator, pills vs. injections, essential vs. not, most affected products or makers, etc.

That's why, back in 2016-17, our team analyzed shortages from 2012 to the end of 2017, using the only publicly available information: those two websites. Our report (https://www.cdhowe.org/public-policy-research/assessing-canada%E2%80%99s-drug-shortage-problem), "Assessing Canada's Drug Shortage Problem," published in June 2018, showed that shortages were numerous, pervasive, and appeared to increase after the switch to mandatory reporting. Manufacturers complain that the Canadian "bar" is too low, obliging them to report "stock outs," which are less serious. Nevertheless, stock-outs have the same effect on patients.

Right now, Canada reports about 2,000 drugs in short supply. The U.S. reports (https://www.accessdata.fda.gov/scripts/drugshortages/default.cfm) only 200 (see also here (https://www.ashp.org/Drug-Shortages)). So how do we account for an exponentially greater (ten-fold) number of shortages in Canada than in the U.S., the population of which is ten times larger. Per capita that means a 100-fold difference.

Canada reports shortages by DIN (Drug Identification Number). Each dose of each drug made by each company has a separate DIN. The U.S. reports by the generic name of the active ingredient: all companies and all doses are lumped together. A shortage of one ingredient in U.S. might be reflected in Canada by reports of several DINs. Since 2012, the FDA makes annual reports analyzing its shortages (e.g., the 2018 (https://www.fda.gov/media/130561/download) report), but no other country does so in a consistent, credible manner.

There are many problems with the way we measure shortages. Reporting the absence of one DIN of several says nothing about how many others might still be available. Nor does it indicate if it is an essential medicine. Increasingly shortages end in products being discontinued. Should they then be classified as "resolved"? Medical student Jon Pipitone, co-author of our 2018 paper, is examining (https://jon.pipitone.ca/blog/revisiting-canadian-drug-shortages/) these reports and has exposed some interesting if not troubling difficulties.

At least Canada and the U.S. maintain lists, even if their methods of counting are different. Other countries have been slow to establish lists. The United Kingdom admits that it does not keep a public list; numbers for a recent report (https://www.chemistanddruggist.co.uk/feature/uk-medicine-shortages-pharmacies-why-happening-causes-brexit) had to be obtained through an Access-to-Information request. The European Union is now trying to establish a central database (http://www.shortages.eu/). China has just announced (http://www.ecns.cn/news/2020-01-16/detail-ifzsuknk2866124.shtml) it too will start keeping a list, or 'state catalogue.'

About time everyone! It would be a triumph of international cooperation if they could all agree to measure shortages in the same way. That is probably too much to hope for. In any case, some measurement is better than none.

We need an international discussion to find the causes of drug shortages. Each country should be forthcoming about what drugs and what makers are affected, when and why. Measurement must be the first step to identifying causes, and knowing the cause is the only way to build durable solutions.

*Jacalyn M. Duffin is Hannah Professor Emerita of the History of Medicine at Queen's University. Her work on Canadian health policy can be found at www.jacalynduffin.ca.*

*The Hill Times*

**RELATED STORIES**

SEP 11, 2019
**With drug plan, Trump tosses another nasty, disingenuous grenade into U.S.-Canada relations (https://www-hilltimes-com.proxy.queensu.ca/2019/09/11/with-drug-plan-trump-tosses-another-nasty-disingenuous-grenade-into-u-s-canada-relations/214281)**

AUG 15, 2018
**To work toward drug-shortage fix, examine root causes (https://www-hilltimes-com.proxy.queensu.ca/2018/08/15/work-toward-drug-shortage-fix-examine-root-causes/154117)**

MAR 14, 2016
**Philpott should bring in regs to accelerate use of abuse-deterrent formulations for opioid medications (https://www-hilltimes-com.proxy.queensu.ca/2016/03/14/philpott-should-bring-in-regs-to-accelerate-use-of-abuse-deterrent-formulations-for-opioid-medications/53317)**

JAN 31, 2011
**Access to medicines in least developed countries a success without CAMR (https://www-hilltimes-com.proxy.queensu.ca/2011/01/31/access-to-medicines-in-least-developed-countries-a-success-without-camr/15374)**

MAR 6, 2006
**Conservatives should reintroduce Bill C-83, says Grits' science and research critic Fontana (https://www-hilltimes-com.proxy.queensu.ca/2006/03/06/conservatives-should-reintroduce-bill-c-83-says-grits-science-and-research-critic-fontana/159760)**

**EXPLORE, ANALYZE, UNDERSTAND**