Statistical research: lost in translation?

If you want to get doctors onside, speak their language

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Language is, without question, the most effective way to communicate. It is also the most effective way to miscommunicate. So when we depend on others to accomplish our goals, we had better understand what words and phrases mean to them and know exactly how to explain what we need in their terms—or we risk offending them and losing any goodwill we started with.

Case in point: primary care researchers and family doctors. Without the support and engagement of family doctors, we researchers might as well pack up our statistics and go home. And yet, after years of working together, we can still be stymied by definitions. Words, with varying meanings to each party, can get in the way of successful collaboration.

For example, just try informing some family doctors that, according to our current *health services research* definition, they are not independent practitioners or they do not run independent practices. See how far you get. These doctors will likely explain—slowly and carefully to ensure you understand—that they are indeed independent. And by their definition they are. By our definition they are not. The term *independent practice* is defined entirely differently by statisticians and doctors.

Independent practice, in researchers' terms

Doctors in Canada are given provincial permits for "independent medical practice." In Alberta, for example, a physician in independent practice

- is authorized to practise medicine within his/her scope of practice
- is responsible and accountable for his/her medical practice
- does not require another physician to be responsible for or oversee any aspect of their medical practice.[1]

That describes almost all doctors in Canada. So for doctors, even those in clinic settings where the office and staff are shared, they run what they understand to be their own independent practices. Even if the doctors in that clinic occasionally cover for one another, they still run their own independent practices. Indeed, even if the doctors share a patient list, they run their own independent practices.

For the sake of research, however, only doctors in single-doctor practices are considered statistically independent. By that we mean each is in a full "stand-alone" operation with independent space, independent staff, independent records, and independent finances, and does not interact in the regular day-to-day work with others doing the same type of work. All the others are defined as *clustered*—that is, they influence each other, however minimally—and have to be considered in that light to ensure the most accurate results. This clustering is a statistical effect known to occur "just by association" with one another. How doctors behave is influenced by how those around them behave. It is a known statistical fact.[2]

But too often we do not stop to define or rephrase *independent practice* for our clinical colleagues because we do not notice that there is a difference in those interpretations. That has to stop. As researchers, we need to pay more attention to clarifying what we need—in practising doctors' terms.

Let's clarify

How? Do not try to teach doctors what you know. Doctors do not want to learn the statistical concept of clustering or the 5 criteria of statistical independence—they could not care less. They just want to be helpful. It is up to us to make our work relevant to practice. That means that when you get out of the laboratory and into the field, be ready to speak about the concepts differently. Do not talk to practitioners like you talk to other researchers; translate your language to theirs.

Before you even meet with the doctors, get your language as straight for clinicians as possible; if you try to explain statistical concepts in a meeting, people are already misunderstanding. Such concepts are just not that easy to explain.

If you ask for 40 independent practices, chances are you will be offered 40 doctors, many of whom work in the same group clinics. That is not what you want. Instead, ask for 40 locations where doctors practise (individual or group practices). Then you can ask how many physicians practise at each location and how the practices operate together. Then you can choose those you think meet the independence criteria you need.

So if you are prepared, you can avoid complications that can affect your research and cause you grief.

Why does it matter? Because together primary care researchers and family doctors can create new knowledge to move delivery of medical services forward across Canada. But we cannot do it without clear and accurate communication. Starting now.

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Competing interests
None declared

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