

Crisis in Primary Care: Financing and Funding

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Context:

- Despite the use of innovative technologies in health care it remains and is likely to remain a **labour-intensive sector** (implications for rate of gains -William Baumol)
- Expenditures on health human resources constitutes a large proportion of health care expenditures- so any discussion about financing or funding must contend with this reality
- Insufficient supply of primary care providers across Canada to meet current and expected growth in patient care needs
- Pressure to make better use of the health human resource skills embodied in each primary care provider already engaged in delivering care e.g. Scope of Proactice changes
- Yet, more limited use of alternate providers e.g. Nurse Practitioners-either on their own or as part of primary care teams than evidence suggests is desirable to support high quality more efficient delivery of care

Labour productivity-what is it?

- ▶ Formal definition: The amount of service output produced per employee (i.e. RN, NP, GP/FP, PSW, surgeon etc.) hour of labour.
- ▶ In health services and policy circles there is the tendency to think of “the” productivity of a labour input.
- ▶ In economics, though, the productivity and in particular, the marginal productivity, of an input (i.e. how much the addition of another hour of labour will add to service output) depends on how much of that labour input is being used along with some given quantity of the other inputs.
- ▶ For example, how productive an ER physician will be will depend on the availability of RNs and other staff and ER beds.

Untapped savings in healthcare?

- ▶ One of the continuing themes in health policy sphere is the possibility of reducing health care costs by substituting one type of health care professional for another type that is paid less.
- ▶ Let's take as an example the case of substituting NPs for GPs/FPs
- ▶ The argument is, broadly speaking, that because NPs cost less to train than do GPs, and earn less, expanding the use of NPs is a lower cost way of increasing the supply of primary care services than is expanding the use of GPs.
- ▶ The issue of the use of NPs in Canada is an interesting one, since some of the earliest experiments, with NPs took place in Canada, yet Canada lagged well behind the US in the introduction of NP services.
- ▶ It is only in recent years that they have come into general acceptance in Canada, whereas NPs and Physician Assistants (PAs) have played an important role in US health care for many years.

Why the more limited uptake of NPs in primary care in Canada?

- ▶ It is also worth noting that there is a counterpart case– the role of hygienists and dental assistants in dental practice.
- ▶ These non-dentist providers are integral elements of Canadian primary care dental practices, and have been for many years, whereas NPs do not play anything like the same role in primary care physicians' offices.
- ▶ The apparent under use of NPs in Canadian medicine is often ascribed to opposition from prejudiced GPs to a greater role for NPs.
- ▶ This argument requires that we accept that not only are primary care dentists more open minded than Canadian GPs, so too are American GPs.
- ▶ The truth of the matter lies in the fact that dentists can bill insurers for services provided by their assistants, whereas GPs have not been able to bill Medicare for services provided by NPs.
- ▶ It might well be that NPs would have had significant positive marginal productivity in GP practices, but the GP would have to pay for that additional output out of her/his/their own pocket and not recover any revenue for them.

- ▶ The recent introduction of NPs to Canadian medical care has not been due to any change in that structure, rather, NPs generally work on contract to provincial health departments, either directly, providing care in outlying areas, or as employees of health clinics and health teams.
- ▶ It was often argued that NPs would fall easily into the role of low-cost suppliers of care in outlying areas: in fact, they are not low cost, since they seem no more inclined to working in those areas than GPs- and have to be compensated accordingly.
- ▶ The argument about lower cost of training is something of a red herring: the price that will be paid for a service depends on the **quality of the service**, not on whether the supplier was trained at high or low cost.
- ▶ If that mattered, a doctor from an expensive American medical school should automatically be paid more per service than an equally skilled doctor who trained at a less expensive Canadian medical school.
- ▶ Cost of training enters the picture only in as far as it affects the supply of providers and affects the cost of providers that way: increasing the supply of NPs would eventually drive the wages for NPs down.

An example: NP Scope of practice

► When we are thinking about the role of NPs in medical care, we need to make a couple of distinctions:

- First, the set of primary care services which NPs can provide is more limited than that which GPs can provide – there are some services which it takes seven years of medical school training to supply.
- The argument in favour of NPs is generally expressed along the lines that NPs can deal with 60-70% of the cases which walk into a GP's office. (The earlier nursing literature often said 90%).
- It is important to remember, too, that what matters is the relative productivity of the two types of supplier, measured, say, services per hour.
- While it is generally accepted that, in that set of services which NPs and GPs can both produce, by the output/ hr de NPs are less productive than GPs because they tend to spend longer per patient visit and provide fewer visits (holding of care constant).

NP versus GP compensation

- ▶ In Canada, the use of NPs has increased as have their wages although, as a result of contract negotiations with provincial health ministries rather than through market forces.
 - ▶ In BC in 2009 NPs on average earned \$120,000 whereas GPs grossed \$250,000. (median salary in Ontario for NPs in 2022 about \$130,000)
- Since about 60% of a GP's gross in Canada goes to pay office expenses, the BC GP would have netted about \$150,000; part of which would be for performing services which NPs can't provide.
- Thus, expansion of primary care services by increased use of NPs is not likely to be cost saving relative to expansion through increased use of GPs, even though NPs annual salaries are lower than the annual net incomes of GPs.

Does that mean we shouldn't use NPs in primary care alongside GPs? **Absolute versus comparative advantage**

- ▶ A discussion of NPs and GPs allows us to bring another piece of economic theory into the medical market: the concept of **comparative advantage**.
- ▶ This is the concept which is implicitly being used when people argue (correctly) that increased use of NPs would free GPs to perform services which do require seven years of medical school to produce.
- ▶ We can see it operating, though, even in the case where either a GP or an NP could perform the service.

- ▶ To see this, consider a very simplified example.
 - Let there be two types of services, H-services and L-services.
 - Assume that it takes an NP sixty minutes to perform an H service and 7.5 minutes to perform an L service, so that in one hour s/he/they could either perform one H service or 8 L services.
 - Assume it takes a GP 30 minutes to perform an H-service, so s/he/they could perform 2 in an hour and takes 5 minutes to perform an L-service, so s/he/they could perform 12 in an hour.

► In one hour:

- GP could perform either twice as many H services as the NP or 50% more L services: we say that the GP has an **absolute advantage** in the production of both services.

► What matters in economics, though, is comparative advantage – **relative opportunity cost**.

► Consider what it costs, **in opportunity terms**, for a GP to perform 1 H service:

- It takes him/her/them 30 minutes, in which time s/he/they could have produced 6 L- services, so the opportunity cost of his/her/their producing one H service is 6 L services.

- An NP takes an hour to perform one H service, in which time s/he/they could have produced 8 L services, so the opportunity cost of him/her/their producing an H service is 8 L services.

- ▶ Now consider instead the case of a GP producing 8 L services:
 - That will take him/her/them 40 minutes. In that time, s/he/they could have produced 1.33 H services.
 - So, whereas the opportunity cost of an NP producing 8 L-services is 1 H service, the opportunity cost of the GP producing 8 L services is 1.33 H services.
 - The opportunity cost of 8 L services is 1 H service if supplied by an NP and 1.33 if supplied by an GP, so the **opportunity cost of 8 L services is lower if they are provided by the NP** than if they are provided by an GP.
 - In economic terms, the **GP has a comparative advantage in the production of H services** and the **NP has a comparative advantage in the production of L services**.

- ▶ To see what this means from another perspective, suppose that in the practice's waiting room there is one H patient and more than 12 L patients, and think about what the practice can do in the next hour.
- The objective is to treat the H patient and as many L patients as possible.
- This opens two possibilities: One is that the NP treats the H patient. If s/he does, that will take up the entire hour and s/he will be able to treat no L patients.
- But since the H patient is being seen to, the GP could devote his/her/their entire hour to L patients and treat 12 of them.
- This gives us one possible use of the next hour in terms of patients treated:

	H	L
GP	0	12
NP	<u>1</u>	<u>0</u>
Total:	1	12

- ▶ Alternatively, the GP could take half an hour to treat the H patient and then spend the rest of the hour treating 6 L patients, and the NP could, since s/he was not treating the H patient, spend the hour treating 8 L patients.
- ▶ That gives us:

	H	L
GP	1	6
NP	0	8
Total	1	14

- Note that simply by allocating duties the second way we still get 1 H patient treated but now get 14 rather than 12 L patients treated.
- The **total output of the practice has increased with no change in the inputs used** simply as a result of good practice management: allocating tasks to the practitioner **with the lowest opportunity cost of time**— i.e. to the practitioner with the comparative advantage in the treatment of that type of patient.

Implications

- ▶ Still spending on one GP and one NP so at first blush looks like expenditure on human resources has not declined but the cost per primary care visit has declined
- ▶ Scope of Practice expansions in primary care have the potential to yield significant returns to both the health care system and public
- ▶ But there will be limited uptake unless practitioners are compensated on the basis of the value of their labour irrespective of which provider type delivers the service
- ▶ The use of teams comprised of a range of providers in primary care can be supported by allowing practices to direct bill for services provided by all the practitioners within it
- ▶ Focus should be on measuring outcomes of practices and enabling practices to assemble the mix of providers necessary to best serve their patient population

ROI

- ▶ Also, economists do not think in terms of costs rather they think of health care expenditure as an investment
- ▶ That forces an analysis of costs in light of the benefits they yield in the short and longer term
- ▶ In terms of primary care spending, we ought not then to consider spending on GP or NP or pharmacist salaries as too high or too low - independent of what the return is in the form of health system savings such as reduced ER visits as well as the value of the additional health that was preserved or added.
- ▶ Should be thinking in terms of **Return on Investment** -for every dollar spent to introduce a policy change how many dollars does it yield to the public system in the form of reduced health services and to the public in improved health
- ▶ This also sharpens the focus on equity in health outcomes since those in worse health have the capacity to benefit more at the margin from an improvement in health