ISSN 2382-1019

Importance of social perceptions and the role of feedback effect

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Human health or ill health is a dynamic process. The main reason why, over and above disparity in funding, preventative plans do not work is because research and policy development ignores dynamics of a process. Policy development itself is a dynamic process. The fable of the physician on the river bank describes the unchanging culture in which policies are developed, retold by McKinlay (McKinlay, 1975), though attributed by him to Irving Zola:

> "you know", he said, "sometimes it feels like this. There I am standing by the shore of a swiftly flowing river and I hear the cry of a drowning man. So I jump into the river, put my arms around him, pull him to the shore and apply artificial respiration. Just when he begins to breathe, there is another cry for help. So I jump into the river, reach him, pull him to shore, apply artificial respiration, and then just as he begins to breathe, another cry for help. So back in the river again, reaching, pulling, applying, breathing and then another yell. Again and again, without end, goes the sequence. You know, I am so busy jumping in, pulling them to shore, applying artificial respiration, that I have no time to see who the hell is upstream pushing them all in."

Without knowledge of what is going on upstream our efforts to prevent ill health inevitably translate into intervention, and intervention is not prevention. However, having said that, due to the dynamism in the process, it is expected that intervention will have some effect on prevention, i.e. lessons learnt. But on the other hand, successful interventions could have the reverse effect of undoing the effects of lessons learnt through individuals' sense of complacency. So, even at the point of intervention (delivering health care) dynamism can be observed.

One of the main features of a dynamic process is the feedback effect. When a process is influenced by its own outcome, i.e. temporal dependencies of a process influence the process outcome which in turn influence the process, is called the feedback effect. This effect is observable in every aspect of our daily life, such as the apparent inverse relationship between high levels of investment in intervention and morbidity/mortality rates.
For example, most Western Governments have declared war on major diseases such as coronary heart disease, cancers, and suicide yet, despite decades of efforts and massive investments, and pharmaceutical, medical and technological advancement these are still quoted as leading causes of mortality (e.g. see http://www.who.int/mediacentre/factsheets/fs310/en/ and http://www.who.int/mediacentre/factsheets/fs398/en/)! However, the medical and technological advancements have enabled more intervention with the increased propensity of adding years to the life of a patient, i.e. for intervention to be applied one must become ill first. In other words, the advancements have not had an impact on prevention and lowering the incidence of these diseases. The question that arises is whether increasing the amount of investment for prevention would lower the incidence and prevalence of diseases?

The answer is probably 'not', especially if we continue within the current culture of ignoring the dynamics of a process and the feedback effect. The net effects of feedback effect is the loss of freedom (http://journalofhealth.co.nz/wp-content/uploads/2014/07/Editorial-June-2014.pdf). For example, with advancements in medicine and medical technology organ

transplantation is now routine and saves lives. However, in order to save a patient's life another person has to die and be a willing donor. On the other hand, such outcomes influence the process through affecting economic parameters by providing a source of income for people living in poverty selling human organs they can spare on a flourishing black market (e.g. see https://en.wikipedia.org/wiki/Organ_trade).

Although, ample anecdotal evidence, e.g. in the form of audiovisual archives, shows changes in social perceptions, through public health campaigns leading to policy changes and legislations, have led to changes in social attitudes which have led to commensurate changes in individuals' behaviour. The reduction in smoking rates since the 1960s is a good example (e.g. see http://www.cdc.gov/tobacco/data_statistics/tables/trends/cig_smoking/). Conversely, social perceptions and attitudes can influence individuals' behaviour leading to increase in morbidity/mortality rates.

A more subtle feedback adversely affecting the process is the perception of acting on epidemiological and statistical information. In other words, the practice of over exposing society to disadvantageous statistics to force a change in perception can have the reverse effect. In New Zealand, the Maori population is over represented in almost every adverse outcome: morbidly obese, smoking and drinking, suicide, heart disease, and so on, and they are continually reminded of these statistics by health professionals and politicians. But it did not used to be like this. However, unsympathetic over exposure of Maori to such unfavourable statistics, instead of using information to intervene and prevent adverse outcomes, promotes these statistics as acceptable.

Similarly, suicide prevention has been adversely affected by the portrayal of suicide as a solution to a problem. For example, most reporting of suicide whether in the media or art and entertainment implies a connotation that associates suicide with one or a pool of problems, e.g. the suicide case X had recently experienced financial problems, X had gone through a divorce, X had broken up with his partner, etc. Even when there isn't an obvious problem one is strongly implied such as the comment to the coronial court by a GP about an adolescent suicide case who was reported as a happy and popular person with no sign of any health problems and no evidence of mental ill-health: "I am desperately sad we had no insight into his mental health problem and so were not able to prevent this tragedy" (Shahtahmasebi, 2005).

Such reporting, in essence where an anecdote is associated an outcome by a position of authority, in effect legitimises suicide. It provides confirmation, approval, and affirmation of a non-existence link thus making suicide a feasible 'off the "shelf"' option to solve problems. Therefore, social perception of, and attitudes to suicide are important in preventing or promoting suicide. With good intentions some individuals make an effort through the media to raise the public awareness of suicide by telling their stories reaffirming the problem-suicide link but then they offer nothing to break this link. At the end of every article or mention of suicide a list of services is offered to those who may be feeling suicidal. To access services is a battle in its own right, and it is said that the only way to see a psychiatrist when you need one is to make a suicide attempt (Shahtahmasebi & Smith, 2013).
Politicians must depoliticise service provision whether it is health, education, environment, economy, or social services. It is not sufficient to claim credit for allocating resources by having extra teachers, or police, doctors, nurses, or hospital beds and then relinquish responsibility beyond how these extra resources will be developed and deployed. There are many examples of wasted resources adversely influencing social perceptions. For example, in

order to reduce fatal accidents, every holiday the police in New Zealand runs a campaign aimed at creating the perception that they are out in force, enforcing speed restrictions. Every year a large number of speeding tickets are issued but the police yet to provide statistical evidence to show their policy has significantly reduced road tolls. Perceptions are, of course, dynamic and policies that focus on changing a single risk factor will fail. One is reminded of a comedy sketch by the Two Ronnies (a very popular 70s & 80s BBC Programme), it went like this: "since most accidents occur at home, the Royal Society for the Prevention of Accidents advise you to move!"

The point is, of course, to influence social perceptions and attitudes positively towards or against the governments. Politicians, therefore acknowledge the importance of social perceptions/attitudes, and continually attempt to engineer favourable perceptions of the government. Why can't we do the same for suicide prevention, i.e. change perceptions and talk about it, demystify it rather than glorifying it by not talking about suicide. A recent study provides some empirical evidence to hypothesis that current social perceptions of suicide could influence suicide rates (Pridmore et al., 2016).

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