The Five P Health Model
The Emerging Health Paradigm

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Emerging Issue

By 2040, the Five P health model becomes the dominant model of health. Its key messages are:

- The current health model does not match or meet the changing needs of patients, the health system, and dramatic changes in science and technology
- An alternative more holistic model is required
- The 5P model could possible be the innovation that creates far more inclusive, robust, and resilience
- It develops on Hood's 4 P health model

Policy Brief

There are weak signals in a shift to a new model of health. This is the 5p health model. Earlier signs of this have been the work of Leroy Hood, who has suggested a change from the current reactive (the doctor enters when the disease has appeared) system to the four P model. This is defined as preventive, personalized, predictive, and participatory (Hood, 2013; Cornell Tech, 2016). This is the convergence of systems medicine and the digital revolution along with the rights of the patient. To this we can add the fifth P, which is partnership (Inayatullah, 2020: 538).

The 5p model consists of:

1. Prevention (exercise, meditation, early check-ups, environmental design, health equity);
2. Precision/personalized medicine (tailored medicine);
3. Predictive health (anticipatory systems);
4. Participation (patients designing their health journey); and
5. Partnership (all agencies working together).

Done well, this vision would dramatically reduce costs. It would do so by focusing on individuals in the context of their communities, use advanced genomics medicine to tailor health solutions for the individual, predict an individual's health pathway, work with patients so they could participate in their health decisions, and create health systems that work in partnership with each other. This challenges the generic, silo based, reactive, problem-solving hospital health model.

This approach moves us from (Hood, 2013):

- Reactive to Proactive
- Past based to Anticipatory
- Disease treatment to Wellness maintenance and creation
- Population-based to individual-based
- Records fragmented to records on the cloud and linked
- Large scale diffusion to the Peer-to-peer health – social health
- Physical space (cities and neighbourhoods as inert to geography as smart and active)
- Single systems to Whole-of-Society solution

Prevention – the first P

The health system in the short (3-5 years) and medium (6-12 years) term is likely to experience higher demand as the population ages (Inayatullah, 2009). With more expensive medical technology available to prolong life we can expect costs to continue increasing. Wage demands (quite justifiable) by nurses and allied health workers are likely to also increase the overall costs to the health system. Citizen demands are not just in expensive new medical technologies but in a rethinking of the hospital itself, making it far greener, smarter, and patient friendly and with revolutions in ehealth, home based (Sheraz, Inayatullah, and Ali, 2013). As health continues to take on a higher percentage of GDP throughout the world, cost containment pressures are likely to increase, even as an ageing population changes the intergenerational electoral balance. But where can cost savings come from?

One way to reduce costs is to enhance the Prevention health model. This entails creating a healthier society so the pressures on the health system, particular the hospital system, are reduced. Prevention as a new health worldview stems partly from sage advice of the past – a stitch in time saves nine, an apple a day keeps the doctor away, wash

Partnership
(all agencies working together)

Participation
(patients designing their health journey)

Prevention
Exercise, meditation, early check-ups, environmental design, health equity)

Precision/personalised
medicine (tailored medicine)

Predictive health
(anticipatory systems)

your hands, and look both ways before crossing the street – and from public health pressures that understand that reckless individual behavior leads to overall cost increases for all. Empirical evidence suggests that prevention does work. In Australia anti-smoking public education and legislation has prevented more than 17000 premature deaths; and the 176$ million that Australian governments have invested in tobacco control over the past 30 years has delivered 8.6 billion in economic returns (The Weekend Australia, 2007; Tobaccoinaustralia.org. au, N.D.).

Personalized – the second P

Conventional research, medical research, argue critics is group focused, and more than that, assumes

a norm – often a Caucasian male. They have far too little diversity (Scientific American, 2018). Personalized medicine both as research and practice takes a different tack instead of the one size fits all. It is tailored. Personalized medicine is focused on everyone's unique make up. This means an understanding of (WEHI, N.D.)

- Genomics to link changes in DNA sequences with responses to treatment.
- Proteomics, to determine treatment responsiveness influences changes in proteins
- Systems biology, that incorporates many types of information about samples to understand how they may respond to disease.
- Bioinformatics, to develop powerful methods to analysis complex data

Personalized medicine, because it is based on each patient's unique genetic makeup, is beginning to overcome the limitations of traditional medicine.

Argue proponents of the Jackson laboratory, it is increasingly allowing health care providers to:

- shift the emphasis in medicine from reaction to prevention
- predict susceptibility to disease
- mprove disease detection
- pre-empt disease progression
- customize disease-prevention strategies
- prescribe more effective drugs
- avoid prescribing drugs with predictable side effects
- reduce the time, cost, and failure rate of pharmaceutical clinical trials
- eliminate trial-and-error inefficiencies that inflate health care costs and undermine patient care

Personalized medicine is often also referred to as precision medicine (Marson, Bertuzzo, and Ribeiro, 2017).

Prediction – the third P

Prediction in this approach is used in multiple ways. First, for example, using AI and modelling to understand likely health problems for individuals if they do not change behaviour (Roy, Nikolitch, McGinn, Jinah, Klement, and Kaminsky, 2020). Second, prediction is used at the environmental level for early identification of disease. Third, prediction can be used to identify changes in the environment – pollution, congestion – that can lead to potential illnesses (Oni and Maulida, 2021). Fourth, prediction can be used for individuals to develop health pathways based on their genome or biome. Prediction can be used as well as systemic level, for workforce planning, for pandemic alerts and preparedness. It can also be used to anticipate emergency department visits, daily hospital attendance and admissions (Soyiri and Reidpath, 2013). Prediction thus can be individual based, systems/organizational based (hospitals/workforce), and the larger environment that health systems find themselves in.

Participatory – the fourth P

This approach as signalled by Clem Bezold and others over the decades is a shift from the "Doctor will see you now, "to the Patient will now see you." (Hancock and Bezold, 1994). Instead of the doctor knows best, solutions from conversations with the patient. The patient thus moves away from the factory model of medicine, which albeit efficient, is not as effective as a patient centred participatory

model. Indeed, Bezold goes as far to call it the "I am my own medical home" approach, where the patient is truly first. This pendulum shift of course is extreme given that medical systems have been expert based first with the patient the problem. However, as many argue new digital technologies make participatory medicine far more likely. In the emerging future, we could thus see the model shift toward "well-being and wellness, convenience, flexibility, self-direction, and personalized experiences. This goes beyond 'sick care' to 'healthfulness' inspiring, encouraging, and teaching individuals to make positive care and lifestyle choices and be engaged in and accountable for lifelong health." (Coughlin, Roberts, O'Neill, and Brooks, 2018).

Partnership – the fifth P

The fifth and last aspect of the 5p model is partnership. Complex or wicked problems are not solvable but one aspect of government, community, business, or individuals. This is where the partnership model comes in. As a weak signal, in a workshop for a leading Australian mental health foundation, participants asserted that problems of suicide and other health issues could not be solved by the Foundation itself. They needed to partner with google, Meta, and other AI companies to help develop predictive models of illness. They also needed to ensure that states and the Federal government worked together. As well, in the workshop they wished to ensure that "everyone was in the room." To this end, along with social workers, persons with lived experience, corporate leaders, government representatives and others were all present. Similarly in a series of conferences on disability, the future, and strategy, government representatives ensured that as much as possible, all parties were engaged and present at the conference. Partnership, they rightly understood developed from inclusion.

Partnership of patient, business, the medical system, doctors and nurses, leading edge AI companies, innovation labs, the government, allows implementation to occur. Without partnership – a whole of interests approach – then the 5 model would fall apart.

While the traditional model of medicine is not likely to disappear as reactive medicine is built into the system, we are seeing weak signals of another approach, the 5P emerging.

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