



Report

Meditation, Geomedicine, and Anticipatory Cities: Emerging Issues and Visions of Futures without Non Communicable Diseases.

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Abstract

This report documents and analyzes the results of a 180-minute online participatory futures workshop on the futures of Non-Communicable Diseases (NCDs) in 2031 that took place on Thursday, 25th November 2021. The objectives of the workshop were to engage global health experts in creating possible, probable, and preferred futures of non-communicable diseases. Using the Six Pillars Approach to futures, participants identified emerging issues, and created alternative scenarios, as well as an action plan to achieve the preferred future. As a result of the workshop, participants recognized that business-as-usual futures could be catastrophic for economic, health and human systems; that long-term strategies and policies to address NCDs must embrace equity from the outset, must be judged on planetary as well as human impact, and proactively pay attention to emerging issues. Finally, partnerships would be absolutely essential if we are to save lives and rid societies of NCDs. This paper features images from an animated video produced following the workshop envisioning a world in 2040 in which NCDs have been eradicated.

Keywords

Non-Communicable Diseases, Health, Scenario Planning, Emerging Issues analysis, Backcasting

Introduction

The Prince Mahidol Award Conference (PMAC) was launched in 2007 as a platform to bring together leading public health leaders and stakeholders worldwide to discuss high priority global health issues, summarize findings, and propose concrete solutions and recommendations. The conference participants include ministers, senior government officials, intergovernmental organizations, international development partners, global health initiatives, health policy and health systems researchers and advocates, civil society organizations, and other high-level stakeholders.

The rise in non-communicable diseases (NCDs) in all countries, regardless of income, has reached pandemic proportions. WHO reports that 71% of all deaths worldwide result from NCDs (WHO, 2021) and the suicide rate of 10.5 per 100 000 population (WHO, 2019). The vectors of NCDs concern social and commercial determinants of health. These include car-dominated cities, unwalkable neighborhoods, marketing and consumption of fast foods and weak social ties, as visualized in Figure 1. While NCDs have been called "lifestyle" diseases, putting the onus for change on individuals, they have deep roots in unhealthy systems. Thus, reducing their impact will require significant system change.

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Fig. 1: NCDs in 2022 are reaching pandemic proportions

PMAC 2019 addressed NCDs as a theme in "The Political Economy of NCDs". This conference suggested various recommendations to tackle NCDs, such as encouraging a paradigm shift beyond health sectors and adopting multi-stakeholder and multisectoral coordination mechanisms to ensure a whole society approach. Moreover, in this pandemic era, NCDs and COVID-19 are a deadly combination; a syndemic made worse by already present socioeconomic inequality. Evidence shows that NCDs are common health problems in aging populations around the world which could have been prevented with effective interventions at earlier stages in life. Thus, there is a need to develop strategies to prepare national responses toward an active aging society through a life course approach.

A Futures Workshop

This workshop, co-hosted by PMAC, Thai Health Promotion Foundation, the International Health Policy Program, the China Medical Board (CMB Foundation), and the United Nation Population Fund (UNFPA), was the first time for PMAC to bring together high-level multi-stakeholders related to NCDs to discuss the future of NCDs. Sohail Inayatullah facilitated an interactive session with a diverse group of participants representing multiple sectors (academia, social activists, policymakers, private sectors, etc.) from low-middle to high-income countries. Participants and their affiliations are included in Figure 2.

Table 1: Participant list

Name	Role & institution
Milin Sakornsin Ruddit	Senior International Relations Officer, Thai Health Promotion Foundation.
Nuttapun Supaka	Director of Partnership and International Affairs Section, Thai Health Promotion Foundation.
Sohail Inayatullah	Director, Metafuture
Sam Cherubin	Digital Solutions Director, Anthem, Inc.
Phuong Le	Executive Director, CMB Foundation.
Adam Sharpe	Director of Learning, Metafuture School.
Kristina Sperkova	President, Movendi International.
YY Teo	Dean for School of Public Health, National University of Singapore.
Jost Wagner	Futurist and Director, The Change Initiative.
Ruediger Krech	Director of Health Promotion, World Health Organisation.
Rintaro Mori	Regional Advisor of Population Ageing and Sustainable Development, UNFPA.
Billie Giles-Corti	Distinguished Professor and VC Professorial Fellow, RMIT University.
Tessa Roseboom	Professor of Early Development and Health, Amsterdam UMC.

The objectives of the workshop were as follows:

- Summarize the current situation of NCDs and envision the future, taking into account the COVID-19 pandemic context, including scenarios of the world post-pandemic, particularly on learnings in the management and control of NCDs (i.e., those most vulnerable for severe morbidity and mortality of COVID-19 are people with NCDs underlying diseases; and strategies and best practices to reduce NCD risk factors have successfully interface with ongoing COVID-19 programs)
- Discuss how social and commercial determinants of health play a crucial role in NCDs and the innovative approaches to address them to create a better future
- Explore what the world needs to do in the present to tackle NCDs in the future
- Identify potential cross-sector collaborations for the future
- The format of the workshop was a questioning process where the facilitator introduces futures concepts, methods and tools included in the Six Pillars approach to participants, creating alternative futures in real time. The workshop lasted approximately 180 minutes.

An Introduction to Futures Thinking

Futures thinking does not attempt to predict the future, but asserts that a range of futures are possible. Knowing this, the future can be actively shaped by the decisions we make in the present in the context of macrohistorical forces and structures. Foresight work is mostly about anticipating how the world is changing, and using those anticipations to create alternative futures. The focus is on using the future to change the present.

While futures thinking offers a range of techniques, methods, and tools to help you think about the future in a structured way, the Six Pillars model enquires into alternative and preferred futures and the worldviews and myths that underlie them (Inayatullah, 2005). This approach is linear and sequential, with goals to map the future, anticipate emerging issues, understand deeper patterns, dive deeper into core narratives, creative alternative scenarios, and conclude with a vision and strategic pathways to realize the vision.

Each pillar has a series of tools and methodologies one can use. One does not, however, need to use all the pillars and methods. Indeed, the workshop focused on certain pillars and methods over others. The purpose of using futures thinking is to essentially rethink strategy and planning around how to address NCDs. The Six Pillars approach was modified for an online audience.

There are multiple benefits to using futures thinking to address NCDs. Futures can:

- Create flexibility in decision-making.
- Move us from the management of reality to the creation of possibilities.
- Move us from narrow problem-solving approaches to broader and deeper systemic and trans-

disciplinarian perspectives and solutions.

- Help us anticipate emerging issues and weak signals that may derail strategic plans and policies.
- Help us articulate the first and second order - the long term - consequences of NCDs through logic and creative thinking.
- Ensure the inner stories of organizations, institutions and nations are linked to systemic strategies.
- Reduce risk by understanding worldviews of multiple stakeholders.
- Move us from risk avoidance to risk management to opportunity and innovation creation.

Futures of Health

Our imagination of the futures of health changes as time passes. It was not long ago that Coca-Cola and Camel cigarettes were portrayed, oftentimes by both doctors and advertisers, as good for our health.

This is important to bear in mind for two reasons. Firstly, if giving Coca-Cola to babies seems ridiculous today, we should be open to the possibility that our approach to healthcare may seem ridiculous to future generations. Secondly, we acknowledge that our whole notion of health and how to address it can completely change in a matter of decades. Therefore, challenging assumptions, particularly our tendency to imagine the future as a linear continuation of the present, is critical.

Indeed, the weight of importance placed on NCDs has transformed in recent decades. When the Millennium Development Goals were established in 2000, not one specific mention of NCDs or NCD indicators was made (Ralston & Keeling, 2012). This meant securing donor funding to address NCDs was extremely challenging for 15 years, until the Sustainable Development Goals made amends. Failure to challenge our assumptions and think long-term can have considerable consequences on policy, and in turn, humanity.

Today, in healthcare systems across the globe, seeds of transformation are sprouting that may have seemed ridiculous 10-20 years ago:

Meditation is increasingly being prescribed to patients thanks to a growing evidence-base that suggests it can reduce cardiovascular diseases, mental disorders, and hospitalization rates. It is also effective as adjunct treatment of cancers and infectious diseases. Recent studies indicate mindfulness interventions reduce blood pressure in patients with NCDs (Intarakamhang, Macaskill, & Prassittichok, 2020). As the evidence mounts, can we imagine compulsory meditation in education and healthcare systems around the world?

Research on Geomedicine exploring the effect of geography on disease is also on the rise. As evidence suggests proximity to fast food restaurants increases the rates of strokes, it forces us to question whether individual behavior or geography are the defining factors in health outcomes, and how city design, food system innovation, and increasingly personalized medicine may change the game.

Big data is becoming increasingly prevalent in health policy. In Japan for example, the city of Otsu has begun using big data and artificial intelligence (AI) to predict youth suicides (Houser, 2019). By feeding data such as age, gender, absenteeism records, and the academic achievements collected from 9,000 suspected bullying cases, AI will enable the school to properly respond to bullying cases, preventing the worst-case scenario before it happens. Can big data make our cities become anticipatory? (See Figure 2).



Fig. 2: A vision of an anticipatory city, powered by big data, health drones, and smart devices

By identifying seeds of change that can transform the future, futures thinking can bring back agency, empower us to create futures we wish for, and make a difference. Creating better positive futures is crucial, particularly in health futures. By thinking through these and other emerging issues, challenging our assumptions, and using creativity and logic, we can better anticipate the alternative futures of health and NCDs.

What if the Impossible became Possible?

To kickstart this process and get workshop participants into the required futures mindset, the following question was asked: What is impossible today, but if possible, changes everything (within the context of NCDs in 2031)?

The answers were as follows:

- Creating “15-minute cities” that encourage active transportation. What if we all lived at arm’s reach from everything we need? Eradicating spatial inequalities and pedestrianizing our communities could cause a dramatic shift towards healthy active lifestyles, as envisioned in Figure 3.
- Giving everyone an e-bike rather than a focus on e-vehicles. If 2 wheels were the norm instead of 4, how might that shift traffic congestion, lifestyles, and mindsets?
- Giving every child the best start in life to develop to its full potential. If equity in child development was not only enshrined in law but fully funded and realized, how would they change the world as children and as adults, and how indeed would health change?
- Adopting and implementing alcohol policies that save lives. Regulating a traditionally unregulated industry responsible for millions of deaths each year could be transformative.
- Control overeating, stop eating meat on a global scale. With advances in in vitro meat and rising awareness of the tremendous ecological, economic, and health costs of the animal protein industry, this shift would be a game-changer.
- Men giving birth to children. This will likely take longer than 10 years but has been in our minds since the creation of the artificial womb. Perhaps in 20 years, this could be possible.
- Getting people to work together for the well-being of all instead of one group against another. That collaboration is seen as impossible today by some stakeholders is insight in itself.

These statements are only the initial stage of the futures journey before participants begin the Six Pillars process. They prime the group for a learning experience that will demand as much out-of-the-box creative thinking as logic.

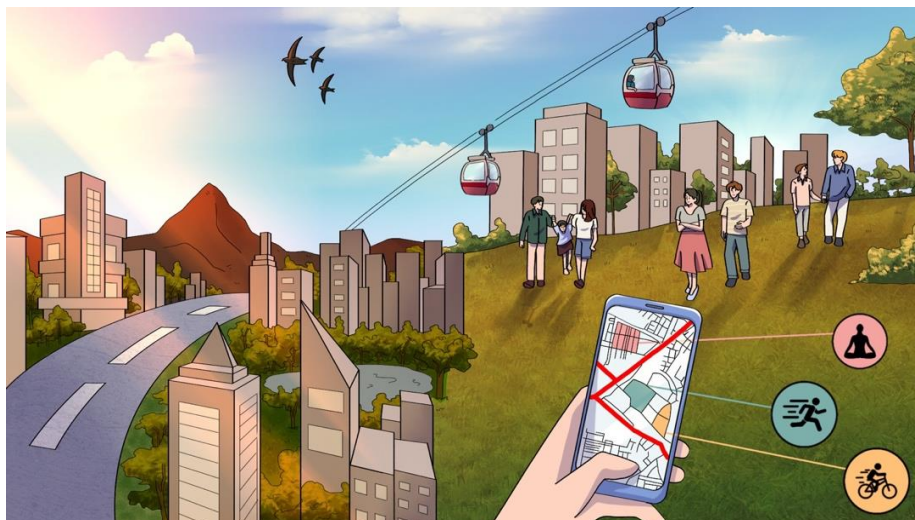


Fig. 3: Cities of the future could work with you to create your optimum health, where traffic jams are a thing of the past, and devices advise best places for a bike ride or meditation

The Used Future

To move forward, it is critical to identify and transform the Used Future. In order to create a new or preferred future, while there are things we need to carry forward, there are similarly things we need to let go of. The Used Future are practices we keep doing, out of convenience or reflex, even though it is no longer linked to the broader vision or strategy or the changing world (Inayatullah, 2008). For example, when we consider COVID-19 pandemic responses globally, countries wherein politicians make decisions about public health over scientists is a used future. Yet, in some countries, this used future which we know does not work, continues, much to our chagrin.

When asked what is a Used Future in your area, some participants suggested blaming the patient for ill-health and addictions. “Instead of looking at the whole problem”, remarked Phuong Le, “we all too often take the convenient route saying he has diabetes, it’s his fault for eating too much, for not exercising enough, rather than looking at the whole issue.” Tessa Roseboom expands: “Every living creature is shaped by the environment in which it grew and developed... so much of our healthcare is about making the individual responsible for their entire lives.”

Others focused on programs for programs’ sake, that simply organizing health promotion activities will suffice. YY Teo shared: “There is a tendency that many countries claim to have many health promoting programs or activities”, the assumption being that “something is being done to change the trajectory of NCDs. Many of these activities may not be effective. We need to change our mindset to understand whether what we do ultimately has an impact to achieve the objectives we have.”

Other Used Futures included assuming that everyone loves alcohol and that it belongs everywhere; or assuming technology alone will solve climate change.

Emerging Issues Analysis

Emerging issues are those that have low supporting data today but have the potential to be highly disruptive in the future. 10 years ago, the consumer shift to wellness and the market for vitro meat were emerging issues. Today, they are almost certainly trends. Organizations who focus on weak signals today are often rewarded tomorrow.

To identify emerging issues, the S-curve was used (Molitor, 2003). On the right-hand side of the S-Curve are the problems, where we usually focus. In the middle are trends where we have some quantitative data. On the left,

we have emerging issues: highly unlikely and high-impact events that could disrupt or change our trajectory. Molitor suggested let's spend some time focusing on the unknowns.

Participants were asked which emerging issues they anticipate will become important over the next ten years.

Metaverse: A virtual-reality space in which users can interact with a computer-generated environment and other users, sounds like a crazy idea, but it is fast becoming a reality. Could a medical doctor's first place of diagnosis be in the metaverse? This could become dominant in 10 years, impacting health in positive and negative ways.

Clean and drinkable water: What now seems abundant, depending on where you are in the world, could in 10 years become scarce. This, too, could transform health.

Air, water, and food as medical benefits: By medical benefits, we mean drugs that are injected or infused in the office, out-patient clinic, or infusion center, of a healthcare professional by a healthcare professional. Might air, water and food one day need to be administered in this way?

World dominance of antibiotics resistance: In a world where antibiotic resistance is widespread and a growing number of infections such as pneumonia, tuberculosis, gonorrhea, and salmonellosis become harder to treat, how will this impact hospitalization rates, medical costs, and mortality?

Shift to more spirituality: In a world where joy and pleasure have different meanings, where consciousness is elevated to collective and mental spiritual work, my wellbeing becomes our wellbeing; my pollution becomes your pollution. This changes the paradigm to a world where we are all connected. How will this change the game? Kristina Sperkova shares: "We already see that understanding is moving more towards the collective and to mental and spiritual work or connection already. I think in 2030 [spiritual health] will be more normal and appreciated."

Spatial inequities in access to amenities not accepted: If access to amenities is seen as a human right no matter your location, how does that impact service provision, transportation, etc. and how does this impact socioeconomic development, and health? "We find that there are incredible spatial inequities in access to amenities that encourage people to be physically active" shares Billie Giles-Corti, "and somehow we think that's acceptable."

Human rights of future generations: our rights to safety, health, wellbeing, education and protection are enshrined.

Having identified a number of emerging issues, participants were asked to map out the emerging issue using the Futures Wheel. The group decided to focus on a move towards a well-being society.

Well-Being Society

In the discussion using the Futures Wheel (Figure 4), it quickly became clear that a well-being society needs well-being economies, shifting beyond GDP. Society starts to completely rethink wealth. How we see risk and responsibility may change, creating a paradigm shift. The creators of products take responsibility for health, not the consumer. The notion of buyer beware dies. Our perception of inequality shifts, we no longer tolerate unhealthy products, and certainly not at a cheaper price point than healthier ones. Unhealthy companies go bust one by one. This leads to a healthier society with greater prevention, and health costs inevitably go down. However, in an environment where unhealthy products are seemingly taken away, there is an inevitable pushback on wellness. The public wants their red meat and ice cream, and they will not be dictated to. Policymakers and producers will seek to encourage more participation of citizens in health choices.

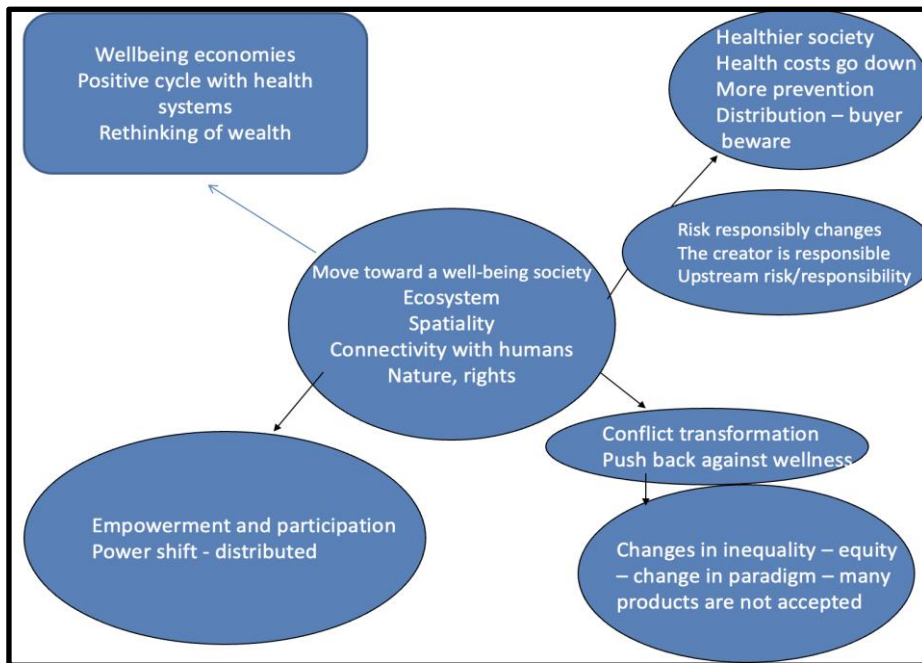


Fig. 4: The Futures wheel mapping the first and second order impacts of the wellbeing society

Scenario Planning

Futures can create flexibility in decision-making by moving from a focus on one future to an analysis of alternative futures. Scenario Planning methods empower us to make complex information more coherent, to assess and prepare for what might go wrong, and to create new opportunities (Inayatullah, 2015). For participants, they can help clarify hidden assumptions about the future and enhance organizational learning capacity.

While there are many scenario planning methods to choose from, we focused on degrees of change: from business as usual, to marginal change, to adaptive change, and finally to radical change.

No change - Crippled Futures: There is a massive increase in NCDs. Illness expands, greatly impacting the health workforce and weakening health systems. No healthcare system in the world can pay for this aging society. This leads to an economic crisis as treatment costs overwhelm prevention costs. There is a dire loss in productivity, and government debt increases exponentially.

Marginal change - Limping along: Digital healthcare is a reality, with doctors diagnosing in virtual reality, and the availability of telemedicine and e-health apps, but we are burdened with the same health system that seeks to reduce disease rather than prevention. Gaps and burdens increase.

Adaptive change - Active movement: All NCD policy best buys are in place. Every human being gets a chance to develop to their full potential. Sporting facilities are everywhere, not just in major cities. Meditation teaching is widespread. Wellness of the whole person is the goal. There is a reduction of illness, growth of health, more shifts in individual behavior, holistic view of wellbeing, a fountain of youth, reversing illness. Tech facilitates health rather than recreating the health care system in the Metaverse. Tech is a co-partner and facilitator in people's health, not an escape (See Figure 5). A healthy youth population in 2040 becomes a national goal, and not just physical health: mental health and emotional intelligence.

Radical change - Local Living in a healthy planet: In a world where local living is the norm, everything is near. The car goes extinct and biking to the moon becomes optional, if one can afford it. The point here is fitness and health is the norm, and NCDs disappear. The vast majority of medical care is provided at home. Various digital platforms support personal and organizational health literacy. The hospital is for acute only, not for everything. 50% of hospitals are converted to free gyms, meditation centers, and indoor green food courts. They become holistic

Table 2: Key aspects of preferred future with quotes attributed

Aspect	Quotes
Nutrition & health promotion	“Nutrition has become the most important medicine.” Jost Wagner “Institutionalize health promotion organizations in every country to prevent and protect against NCDs.” Milin Sakornsin
Equity	“Every human being gets to develop their talents and their potential in a safe, nurturing, healthy, stimulating and fair society, built on human connection.” Tessa Roseboom “Well-being societies provide the foundations for current and future generations to thrive on a healthy planet, no matter where they are born or where they live. Such societies apply bold policies and transformative approaches that are underpinned by human rights, solidarity, gender equality, peace and security.” Ruediger Krech “All people have capability and live in a society and environment conducive to good health and well-being.” Nuttapun Supaka
In harmony with the planet	“A healthy earth is good for humanity.” Phuong Le “Healthy body in a healthy world.” Sam Cherubin
Partnerships	“All sectors unite and work together for an NCD free world.” Kristina Sperkova “People working together for common goals of well-being for all.” Phuong Le “Cross sector transformation for a healthy sustainable future.” Billie Giles-Corti

Backcasting

Having created the preferred future, it is time to make the vision real. Oftentimes, identifying the preferred future can lead to a loss of hope, for the path to a better future feels long, winding and intangible. Simply put, if the future is too far away, people can’t get there. We use Backcasting to bring the preferred future within reach, co-creating a timeline of events by working backwards from a preferred future that is assumed to have already been achieved to the present. Participants are asked to list the events that took place from 2040 to the present day, which illustrated looks something like Figure 6. Some backcast events are included in the animated video and are represented in the images below.

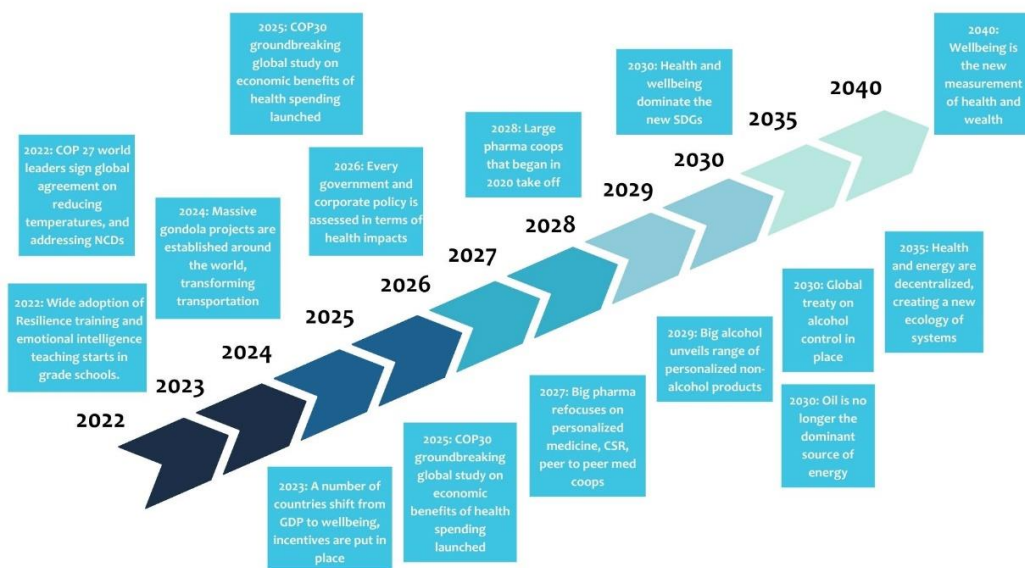


Fig. 6: Backcasting from today to 2040

- 2022 - COVID forced a health revolution towards health first.
- 2022 - COP 27 in Egypt achieves global agreement on reducing global temperatures by 3 degrees (See figure 9).
- 2022 - Wide adoption of Resilience training and emotional intelligence teaching starts in grade schools.
- 2022 - Global action plan on health promotion by WHO, and an international charter on well being is put in place
- 2023 - Futures thinking and thinking about intergenerational justice and wellbeing is becoming a core part of policymaking (See Figure 7).
- 2023: A number of countries shift from GDP to wellbeing, incentives are put in place



Fig. 7: Policymakers make the shift from GDP to wellbeing, completely changing the game

- 2025 – At COP30 a groundbreaking global study on the economic benefits of health spending is launched.
- 2025 - Global treaty on alcohol control (See Figure 8).
- 2026 - Government plans and every policy is assessed in terms of their impact on health and wellbeing of future generations.
- 2027 – Big pharma refocuses on personalized medicine, corporate responsibility and peer-to-peer medical cooperatives.
- 2028 – Large pharma cooperatives that began in 2020 start to take off.
- 2029 – Big alcohol unveils a range of personalized alcohol-free products promising the best possible time with the least possible harm.
- 2030 – Health and wellbeing form the backbone of the new Sustainable Development Goals, a global treaty on alcohol is in place.
- 2030 – Oil is no longer the dominant source of energy (See Figure 9).

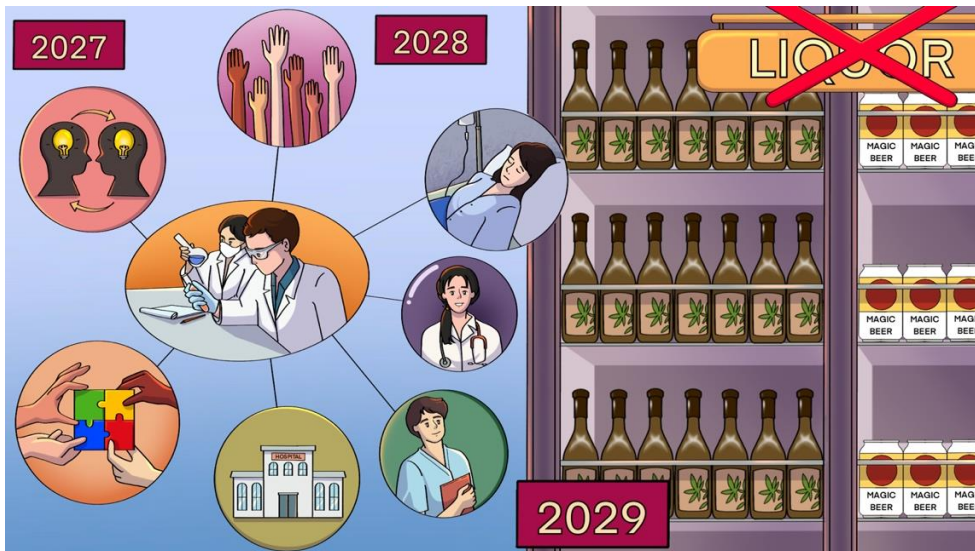


Fig. 8: Big alcohol, incentivized by policy and cultural shifts, focus attention on non-alcoholic drink innovations

2035 – health like energy is now decentralized, creating a new ecology of health systems all linked via the anticipatory city.

2040 – Wellbeing is the new measurement of health and wealth.

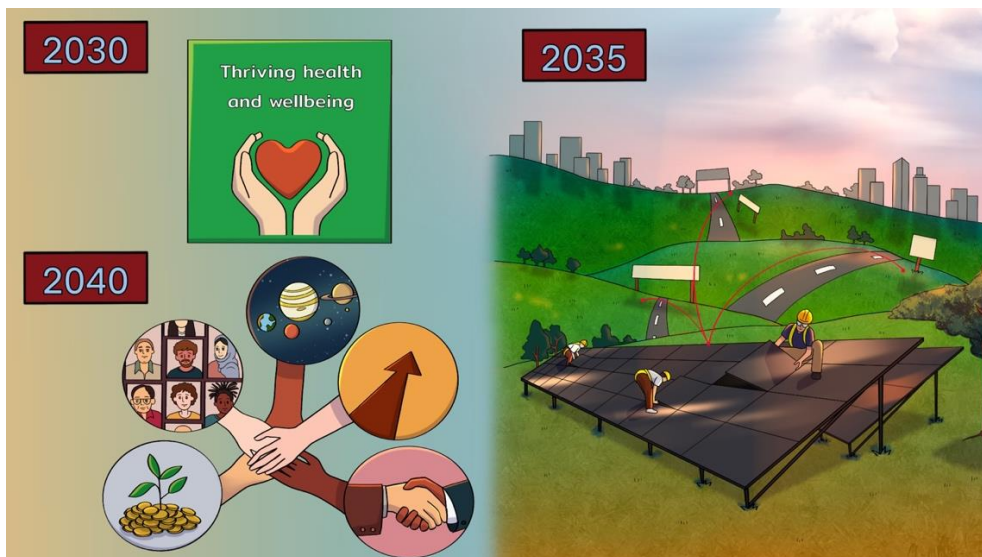


Fig. 9: The world puts health first, oil is no longer the dominant source of energy, and partnership thrives

Their primary focus was on the policy landscape, influencing the education sector, policy making processes, healthcare, and energy.

The Narrative Shift

While we may purport to make decisions based on data, the data in fact tells us that our decision-making is far more based on stories and narratives. Politicians and public relations companies understand this well. In futures thinking, we seek to ensure the inner stories of organizations, institutions and nations are linked to systemic strategies, which all too often fail for a lack of understanding of deep culture. By surfacing our stories, we can consciously transform them.

To encapsulate the story, we use metaphor; a figure of speech that describes an object or action in a way that isn't literally true, but helps explain an idea or make a comparison. While metaphors are neither bad nor good, the key question is whether they get us to where we wish to go. They can be either constructive or destructive. While the framing of NCDs as an 'economic burden' in the Pacific region has been effective in gaining political momentum and development partner support, Ravuvu suggests, for an articulate plan to combat the Blue Pacific Plague, 'bend the cost curve' and put countries on a path to more sustainable financing, metaphors must shift (Ravuvu, 2021). Indeed, there is ample empirical evidence to suggest that our metaphors matter more than data when it comes to decision making (Thibodeau & Boroditsky, 2011). When asked for the narrative shift, answers ranged from descriptors to metaphors (See Table 3):

Table 3: Narrative shifts created by participants

Old (From)	New (To)
Illness economy	Flowering of health, rich soil
Just the way it is, natural law	We create the law
Alcohol consumption	Drinking the water of life
Survival of the fittest	Survival of all

Having created the new narrative, it is critical for participants to ask themselves what their role and new metaphor will be in the new future. It is not just the external world that needs to change, it is the inner world. Some participants suggested that in the rich soil, they would become the gardener, fertilizing and tilling the soil. Another said Captain Marvel, a superhero changing the world for the better. Another, the fitness instructor helping others live a life of health. From children playing in the playground of wellbeing, to the new Darwin, these metaphors can strengthen who you are and who you can be.

Causal Layered Analysis

An initial CLA focused on alcohol was developed. In this CLA exercise, it was very clear that transformation was needed at all four levels of reality to eradicate the three million annual alcohol-induced deaths annually. Weak regulation meant that alcohol was easily accessible and affordable. Effective policies were needed to regulate the industry, to inspire alcohol-free spaces, and other city and social design innovations (Table 4).

Table 4: Alcohol CLA

Dimension	2021	2030
Litany	Three million people die annually from alcohol-induced disease, injury, etc.	Deaths from alcohol induced health issues are rare events.
System	Weak regulation in place, there is data to suggest what works but it is not implemented. Alcohol is everywhere and cheap.	Effective policies in place to tax and regulate alcohol, a ban on marketing, and cannot just be bought in a corner store. More alcohol-free spaces, city and social design.
Worldview	Alcohol = pleasure, part of our social fabric. It is your personal responsibility if you become an alcoholic.	Alcohol is a drug, it's a collective and social responsibility. Industry is held accountable.
Myth / Metaphor	We live to drink.	Drinking is what our parents did. Like smoking a pipe. We drink to die.

Finally, using insights from the workshop and additional research, an animated video of a world without NCDs in 2040 was produced (See Figure 10).



Fig. 10: Animated video depicting a world without NCDs in 2040. Click to view or visit <https://www.youtube.com/watch?v=5lhT1saeUF8&t=2s>

Recommendations

The workshop concluded with a series of recommendations for international health organizations and Ministries of Health to potentially implement.

Long-term strategies to address NCDs must embrace equity from the outset. The old approach of placing responsibility solely on the individual will fail. The data is in - this leads to bad health outcomes. Embracing geomedicine to address and eradicate spatial inequalities for example should be high on the priority list.

Business-as-usual futures will be catastrophic for economic, health and human systems. Governmental and non-governmental organizations must challenge business-as-usual approaches, or Used Futures, placing a focus for example on measuring impact and becoming unsatisfied with tokenistic gestural politics like hollow meetings and conferences. We must challenge ourselves and do things differently if we want different results.

Policies will also be ineffective if they do not ensure a healthy planet, going hand in hand with the health of humanity. Air pollution, inadequate sanitation, and unsafe urban environments, to name but a few, all exacerbate the epidemic of NCDs around the world. Therefore, any policy must be judged based on planetary impact. A healthy planet benefits us all.

It is crucial that we proactively pay attention to weak signals, the emerging issues, that could be disruptive 10-20 years down the track. Technological innovations around virtual reality technology, receiving billions of dollars in investment today; water scarcity; antibiotics resistance; and the shift to the spiritual: could all significantly challenge our assumptions about the futures of health, of NCDs, of societies as a whole. We should seek to understand and address the first and second order implications of these phenomena before they manifest as problems in the future.

We cannot rely on technology to be a silver bullet. Whilst we typically underestimate the speed and scale of disruption that technology will have, we simultaneously overestimate the degree to which it will be a force for good. There are positive and negative consequences to technological innovation. The emerging mental health challenge posed by social media and prevalence of device addiction is testament to this. We should see technology not as a replacement for our health systems, but as a partner, providing good data, providing health literacy, and connecting us to humanity rather than dividing us.

Partnerships across sectors will be absolutely essential if we are to save lives and rid societies of NCDs. Stakeholders from government, non-government, academia, tech, private, and financial sectors must unite to achieve wellbeing societies in the future. In many cases, this will require cross-sectoral transformation, which is easier said than done, but there are many examples of companies identifying the winds of change early and adapting before they lose the market. Future thinking can act as a catalyst for transformation, identifying transdisciplinary solutions, connecting stakeholders, revealing our blindspots, thinking outside of the box, and challenging the status quo. PMAC, THVF, and CMB have demonstrated the leadership and vision required by convening this workshop.

Next Steps

The authors wish to recommend a series of programmatic next steps that may build upon the foundations laid by this session.

We advise that meetings with a larger and more diverse set of stakeholders across the Asia-Pacific region be held, including experts in the fields of health, academia, technology, governance, economics, urban design, and foresight, as well as concerned citizens whose participation in creating these futures is likely essential. Their absence from this workshop was felt.

Design and disseminate surveys around the emerging issues included in this paper to learn if weak signals are widely recognized or idiosyncratic. Conduct further horizon scanning to identify more emerging issues relevant to this field, and to map out the first and second order impacts of those issues already identified.

Influencing health ministries through advocacy and participatory workshops will be crucial in this effort. Again, their absence from this workshop was felt. This work is happening, but it is all too often isolated. Professor Sohail Inayatullah in 2022 has conducted virtual workshops with WHO for health ministries in Mongolia to expand futures literacy. These initiatives must be expanded region wide.

Health ministries in the region must also be engaged in scenario development to add breadth and depth to the scenarios, and potentially to learn what a fifth scenario might be.

A CLA was completed on alcohol. However, we did not have the time to complete one on other health issues, or on NCDs more broadly. Subsequent meetings should expand on the CLA to create pathways forward.

For the Prince Mahidol Award Conference, this can be the beginning of a long-term commitment to making health futures a key component of public policy and thinking around the subject of NCDs. Health futures can be a regular part of the programming calendar, at major conferences as well as smaller meetings.

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