

## **FUTURISTIC TRENDS IN PHARMACY & NURSING**

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**TITLE: SUSTAINABILITY IN HEALTH AND HEALTH CARE PROVISION**

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### **INTRODUCTION:**

Health is central to the three dimensions of sustainable development. Health is a beneficiary of and a contributor to development. It is also a key indicator of what people-centred, rights-based, inclusive, and equitable development seeks to achieve. Health is important as an end in itself and as an integral part of human well-being, which includes material, psychological, social, cultural, educational, work, environmental, political, and personal security dimensions. These dimensions of well-being are interrelated and interdependent. Investments in health, particularly prevention of ill health, enhance a country's economic output through their effects on educational achievement and skills acquisition, labour productivity and decent employment, increased savings and investment, the demographic transition and impacts on the earth's ecosystem. Health care system leaders now need to set clear and compelling sustainability goals, invest in internationally comparable metrics by which to measure them in their core business.

Health care sustainability reporting aims to build a safe, low carbon health system through the use of effective metrics. We consider the growing need for better reporting of the environmental impacts of health care like quality improvement and performance reporting.

### **SUSTAINABILITY:**

Sustainability means meeting our own needs without compromising the ability of future generation to meet their own needs. (1987 UN conference)

It involves accountability, planning and foresight and it must take place in every industry, at every level and by every industry at every level and it must take place in every industry at every level, and by every individual. In fact many hospitals began their green movement with the ambition of only a few employees, who begins recycling to reduce waste

The WHO defines a sustainable health care system as a system that improves, maintains or restores health, while minimizing negative impacts on the environment and leveraging opportunities to restore and improve it to the benefit of the health and well – being of current and future generations.

Sustainability is a key concern for many hospital administrators but implementing green practices while still running an efficient, patient focused facility is a challenge. It is important for more than what it does to help the environment. It can also help hospitals run more efficiently. Hospitals and health networks say that sustainability can reduce costs, reduce risks, and promote a positive public perception.

Sustainability is not just environmentalism. Embedded in most definitions of sustainability we also find concerns for social equality and economic development.

Sustainability is a relatively new idea, the movement as a whole has roots in social justice, conservationism, internationalism and other past movements with rich histories.

A 2019 estimate places health care's global carbon foot print at 4.4 percent of the world's total greenhouse gas emissions, whereas health expenditure accounts for some 10 percent of global economic output.

Sustainability is the process of living within the limit of available physical, natural and social resources in ways that allow the living systems in which humans are embedded to thrive in perpetuity.

#### **NEED OF SUSTAINABILITY:**

The motivations behind sustainability are often complex, personal and diverse. It is unrealistic to create a list of reasons why so many individuals, groups and communities are working towards this goal. Yet for most people, sustainability comes down to the kind of future we are leaving for the next generation. Sustainability as a value is shared by many individuals and organizations who demonstrate this value in their policies, every day activities and behaviours. Individuals have played a major role in developing our current environmental and social circumstances. The people of today along with future generations must create solutions and adapt.

Sustainability is a holistic approach that considers ecological, social and economic dimensions, recognizing that all must be considered together to find lasting prosperity.

Sustainability refers to the ability to maintain or support a process continuously over time in business and policy contexts; sustainability seeks to prevent the depletion of natural or physical resources, so that they will remain available for the longterm.

Sustainability is important for many reasons including: Environmental quality – In order to have healthy communities, we need clean air, natural resources and a nontoxic environment.

#### **PILLARS OF SUSTAINABILITY:**

- Environment
- Society
- Economy

**Environment:** Ecological integrity is maintained all of earth's environmental systems are kept in balance while natural resources within the are consumed by humans at a rate where they are able to replenish themselves.

**Economic :** Human communities across the globe are able to maintain their independence and have access to the resources that they require, financial and other, to meet their needs. Economic systems are intact and activities are available to everyone such as secure sources of livelihood.

**Social :** Universal human rights and basic necessities are attainable by all people, who have access to enough resources in order to keep their families and communities healthy and secure. Healthy communities have just leaders who ensure personal, labour and cultural rights are respected and all people are protected from discrimination.

## IMPORTANCE OF SUSTAINABILITY

Sustainability is important because it helps to improve the health and quality of life. Sustainability supports that mission by striving to improve the environmental health and quality of life as well as contribution to the community welfare.

- **Improve the environment the environmental quality:** Healthy communities – air, natural resources and a nontoxic environment.
- **Improve the growth:** We need the energy, water and space. Sustainability aims to use our resources efficiently to benefit our campus and community.
- **Improve the health care:** Sustainability and health care are intricately related since the quality of our environment affects public health. For example many health issues are directly related to air and water quality.

Sustainability improves the quality of our lives, protects our eco system and preserves natural resources for future generation. In the corporate world sustainability is associated with an organizations holistic approach, taking into account everything from manufacturing to logistics to customer service. Going green and sustainable is not only beneficial for the company; it also maximizes the benefits from an environmental focus in the long term.

- Ensures a future for all
- Reduced energy usage
- A healthy habitat for all
- Societal impact

### 1. Ensures a future to all:

Regardless of who we are, where we live and what we do we all have a moral obligation to each other our future generations and other species to sustain the planet. Our present choices and actions have huge long – term impactson future generation.

Practicing sustainability ensures that we make ethical choices that bring a sage and livable future to everyone. If we deplete the resources of the earch, future generation will be depletedl

### 2. Reduced energy usage:

Sustainable business practices lead to a significant reduction in long term energy costs. Some quick initiatives, like switching to energy efficient lighting, according to production schedule, reduce long – term electrical costs. Sing solar and wind energy along with energy efficient equipment, reduces monthly utility bills. Reducing energy consumption is actually a positive thing for business, it helps them become more efficient overall.

### 3. A Healhty habitat for all

In the long term, our society benefits from improved water and air quality, reduced benefits and increased renewable energy sources. Sustainable actions help make a real difference in society. Being committed to sustainability will reduce your carbon footprint and the amount of toxins released into the environment, making it safe. When we focus on sustainability, the entire world benefits and get to live in clean, healthier living conditions.

#### **4. Societal impact:**

Encouraging the conservation natural resources deeply penetrates not only your company standards and brand, but also employees and their families, if you make sustainability important in your business; you are bridging a deeply important conversions to the forefront of consumerism. The societal impact can reach far and wide.

#### **HOW TO BE SUSTAINABLE:**

Making a lot simple choices, you can easily make your life more stable and still enjoyable. Here is the list of easy changes to live sustainably every day. Choosing to live a sustainable lifestyle does not mean you will have to give things up or reduce your quality of life at all. In fact you will feel more fulfilled and happy knowing your contributing to a better world.

#### **Choose sustainable billing options:**

Every person and business on the planet has bills that need to be paid. This is a simple way all of use can make a difference, sort through your bills and try to go paperless as much as possible. Encourage business you associate with to go paperless if they are not already. Regular billing statements can be sent to your email, making them more accessible, organized and secure. E-billing make your life easier and is better for the environment.

#### **Use sustainable products:**

It is actually very ease to option for sustainable products these days. From clothing to beauty brands, to food and energy companies. There are so many sustainable options to choose from. So choose brands that make sustainability to top priority. Choose brands that use recycled plastic or materials rather than brands continuously add to the landfills. If you are a business owner yourself careful planning across your business processes can help you stop sending waste to landfills. Business can take a lot of simple steps to achieve more sustainable practices, such as using bamboo instead of disposable plastic cutlery, replacing fluorescent tubes with LED bulbs and hiring waste treatment contractors etc.,

#### **Make transportation adjustments:**

Try to avoid automobiles as much as possible, at least for short distances. It will help reduce carbon emissions, thus saving the environment, you can opt for an electric car, bike or run or walk if you live in walkable city. It's a great way to get exercise and reduce how much you need to rely on gasoline powered transportation.

If you cannot walk or use public transportation, option to carpool, you can offer to drive coworkers and friends rather than ride together Small consistent actions really add up over the long run.

### **Choose sustainable food and beverages:**

Most importantly vote with your money. Choose sustainable food manufacturers. You can shop at local farmers markets to get tasty farm – fresh produce from local providers. Shopping at farmers markets helps reduce carbon emissions from transportation. You can also just choose brands that have committed to sustainable practices. For instance at blugalacier, we are fully committed to maintaining sustainable agriculture. This is something we are super proud of and will always maintain.

### **Choose reusable products:**

A little change in your habits can have a big sustainable effect. Options for reusable bottles on the go. Choose reusable dishcloths over paper towels, reusable grocery bags over paper or plastic bags. Also use reusable food storage containers to pack your food safely while reducing waste.

### **Cut down on plastic:**

Every year, thousands of sea turtles, seabirds and other marine mammals die because of plastic. So cut down on your plastic waste by using reusable bags when and avoiding plastic made products. Plastic is not biodegradable, so it ends up in landfills unless reused by a brand committed to sustainability.

### **Recycle:**

Recycling is the very least everyone should be doing at this point. It is so easy and convenient to recycle. Simply make sure you have a recycle bin in your home, business etc., all waste companies now offer recycling pick up with trash pick up so there is really no excuse.

### **GOALS OF SUSTAINABILITY:**

- Providing healthier environments for creatures that inhabit earth's landmasses
- Providing healthier environments for creatures that live in our water ways and oceans.
- Ensuring better quality of air.
- Tackling climate change
- Reducing poverty and world hunger.
- Bettering education standards and economic growth.

### **BUILDING A SUSTAINABLE FUTURE:**

While much environmental damage has already been done, change is still possible. The root of that positive change lies in understanding what we must do from now on and striving for sustainability. We can make these changes in our homes, communities, ecosystems and globally. It is the responsibility of each generation to responsibly use natural resources, ensuring that the planet is left as untouched and undamaged as possible and what is changed is done in harmony with the environment.

### **EXAMPLE OF SUSTAINABILITY:**

Renewable energy: wind, solar and geothermal energy are becoming increasingly common across the country and now individuals and corporations are choosing renewable energy. Renewable energy sources are sustainable, environmentally friendly, better for public health and usually offer more stable prices. Renewables provide an inexhaustible energy supply unlike fossil fuels that are not only damaging but finite.

### **Green Spaces:**

Green spaces help to regulate and improve air quality, particularly in urban areas. When done properly landscaping can reduce nitrate leaching from the soil into the water, keeping pollutants out of city water supplies, an abundance of plants keeps soil in place ensuring that sediment does not enter roads, drains, lakes and streams.

### **Water Treatment:**

Because water is a natural resource, we often take it for granted. But water treatment takes hazardous oily water, water – based acids and other water – based industrial wastes and converts them into clean water. This treated water can then serve our industrial and residential water needs. By processing this type of waste in our operations, we can keep this waste out of landfills, eliminating our need to purchase clean water,

### **Crop Rotation:**

It helps several different crop types on the same plot of land over successive seasons. Farmers do this because when the same plant is grown on the same land for several years, the soil loses certain nutrients. Crop rotation reduces the risk of nitrate, improves soil structure and reduces greenhouse gas emissions, soil erosion and water pollution.

## **WHAT WILL HAPPEN IF WE DON'T LIVE SUSTAINABLY:**

We have improved our quality of life or earth ecosystems unless we acknowledge and reduce the damage we do to the planet each day. If we don't learn to live sustainably, some of the effects will be:

- More landfills popping up everywhere
- More animals going extinct due to deforestation and pollution
- An increase in respiratory diseases.
- Harsher weather (drier and hotter summers, colder and harsher winters more tropical storms)
- Rising sea levels.
- Worsening living conditions for lower – income communities, as there is more trash, worse air and so on.
- Declining soil quality and likely the reduced nutritional quality of our food
- Fewer green spaces to enjoy in cities and across the world.

## **HOW CAN SUSTAINABILITY IMPROVE HEALTH:**

Most importantly sustainable healthcare systems improves public health by contributing to healthier, more resilient communities and combating poor institutional practices that yield pollution, waste and resource exhaustion.

Sustainable living is based on four main pillars namely minimizing waste, limiting the use of earth's namey minimizing waste, limiting the use of earth's natural resources, the wise use of the environment and ensuring quality working/living environments.

Sustainability in healthcare is the new trend all across the globe. In fact, there is now a LEED certification being developed

## **HEALTH CARE PERFORMANCE AND QUALITY IMPROVEMENT:**

Although performance measurement and reporting in health care may cover various aspects of health services. Recent decades there has been an explosion in the use and reporting of measures of clinical and service quality. Two principal approaches to the use of performance and quality measures in improving health care have been identified using quality indicators as summative measures of performance for purposes of external accountability or using them as formative mechanisms to support internal processes of quality improvement.

### **TWO GOALS:**

Promoting accountability and improving health system performance

**Performance** and quality measurement serves many stakeholders with different needs: government, regulators, funders, purchasing organizations, provider organizations, physicians, patients and citizens.

The objectives for reporting on health care performance and quality have included accountability and transparency ( to the public, health care funders and regulators) supporting improvement within organizations, aligning the objectives of stakeholders and norming desired behaviours and priorities supporting and spurring improvement through provision of comparative or benchmarking data across organizations and incentivizing improvement and value through linking payment to performance.

Reporting performance measures may lead to change and improvement through four different pathways:

1. Change - in which providers use information to improve their own performance
2. Selection – where users or purchasers switch providers based on information
3. Pay – for performance where providers are financially rewarded for superior measured performance.
4. Reputational damage – or naming and shaming poor performers.

Measurement and reporting are two distinct activities: not everything that is measured should necessarily be reported.

Performance and quality information is a public good that will not evolve spontaneously without active stewardship and guidance by governments and that requires careful investment and attention

System level performance measurement requires a clear conceptual framework that not only covers all major domains of the health system but also aligns with its objectives, integrates with its information technology systems and data collection infrastructure captures high – priority but hard to measure areas and is designed for international comparability.

Carbon footprint of different aspects of health services ranging from global and national health systems hospitals and hospital services and anesthetic gases to individual devices and consumables. More broadly a recent study of the global environmental footprint of health care for the first time estimated world wide greenhouse gas emissions, particulate matter, NO<sub>2</sub> and SO<sub>2</sub> emissions, malaria risk nitrogen to water pollution and the use of scarce water by national health systems.

The availability of technical measures should not be confused with their suitability for use as performance reporting metrics. A health care sustainability metric needs to fulfill functions analogous to those laid out above for health care quality measures if it is to be useful, which many technically exact measures might not be capable of supporting meaningfully..

#### **HEALTH CARE SUSTAINABILITY REPORTING :**

**Consistency and comparability :** The largely public health care systems show great promise, not least because common and consistent standards for data and reporting can be enforced centrally. Yet nonmandatory approaches ( such as corporate social responsibility reporting or healthier hospital) can also deliver substantial benefits, especially if stakeholders come together to work toward using consistent and comparable standards and measures. The world health organization has played an important role in harmonizing data standards and classifications in key measurement infrastructure, most notably the international classification of diseases and the system of national health accounts.

**Measurement challenges:** The rapid growth in health care quality and performance measurement has been possible because of burgeoning digital health care data. Vast quantities of data from health care records, patient administration systems, and clinical data registries are now available. Life cycle assessment techniques ( the mainstay for undertaking detailed assessment of environmental impacts at the service or product level) are demanding in terms of expertise and are relatively expensive. Building management systems, and pharmacy systems all represent sources for automated environmental reporting data but their full use will require careful, systematic investment in design, standardization and verification. System leaders and policy makers need to work together to achieve and invest in this standardization.

#### **Avoiding perverse outcomes:**

Health care systems have proved themselves more than capable of hitting the target but missing the point. The potential for unintended consequences exists in all aspects of health care improvement.



It is important to include hard to measure health care priority areas, ensuring that measurement focuses on greenhouse gas emissions and on other environmental impacts such as pharmaceutical pollutants.

**Political context:** Constraints of ideology, climate denialism and obfuscation affect many nation's public policies. Despite significant achievements by several states and territories the authors encountered unwillingness at the federal level to incorporate sustainability during the design and negotiation of the current health performance.

## **PRINCIPLES :**

To reduce demand for health services: Factors such as aging and population growth have created an enormous demand and this has slowed progress toward mitigating the carbon footprint emanating from health care.

- Match supply and demand:
- Ensure care is appropriate and avoid any unnecessary investigations or treatments
- Reduce emissions from the supply of healthcare services
- According to Henscher et al(2020) health care leaders should now look to focus on the following:
- Clear strategic goals for healthcare sustainability – perhaps by following: the NHS Net zero approach.
- Devise, adopt and implement internationally standardized metrics
- Aim for quality improvements, performance and accountability.

## **HEALTH CARE PROVISION:**

To create sustainable health systems, many countries are introducing ways to prioritize health services underpinned by a process of health services underpinned by a process of health technology assessment. This requires technical judgement of clinical effectiveness and cost effectiveness these are embedded in a wider set of social value judgements, including fairness, responsiveness to need, non – discrimination and obligations of accountability and transparency. Implementing controversial decisions faces legal, political and public challenge. To help generate acceptance for the need for health prioritization and the resulting decisions, the purpose of this paper is to develop a novel way of encouraging key stakeholders, especially patients and the public to become involved in the prioritization process.

All health care systems are facing ever greater demands due to aging populations and increasing opportunities to intervene within finite resources. In order to create effective, fair and sustainable health systems many countries are introducing ways to prioritize health services which involves making difficult decisions concerning who gets health care interventions.

Priority setting requires technical judgements of clinical effectiveness and cost effectiveness. But these judgements are embedded in a wider set of social value judgements that underlie justifiable reasoning about priorities including fairness, responsiveness to need and non – discrimination and obligations of accountability and transparency. Even when these decisions are

based on the best available evidence generated by technically sound health technology assessment programmes they frequently face legal, political methodological philosophical, commercial and ethical challenges.

The National Institute for Health and Care Excellence (NICE) has reinforced about there is a need to undertake more research in how to develop approaches to include social values into the prioritization process that were conceptually clear and most importantly, easy to apply on a routine basis in a consistent manner. This is necessary to reassure patients and the public that institutions making tough prioritizations decisions on their behalf were doing so in an acceptable robust manner and reflected societal values.

It suggests that content values such as clinical and cost effectiveness, fairness and quality of care are equally important in bringing about fair prioritisation decisions as process values.

Transparency about the process of making a prioritization decision is meaningless if it does not provide an indication of the arguments, criteria and trade – offs that ultimately led to the final outcome.

Transparency may, in some cases even have the opposite of the intended effect if documents or process descriptions that are made available in the public domain are too long, or too complex to be evaluated by a non – expert audience. Process values provide the lens through which to evaluate the content of the decision – making process.

We need different approaches like first – rights based approach and second – priority setting. So the right to the highest attainable standard of health. Few authors suggested that a right based approach to health embraces the social, political and economic context in which people experience health and all other approaches should fit into this movement.

The priorities approach is underpinned by HTA which is defined by the WHO as the systematic evaluation of properties effects and/or impacts of health technology. This multidisciplinary process to evaluate the social, economic, organizational and ethical issues of a health intervention or health technology. This helps in conducting an assessment is to inform a policy decision making. The supporters of this approach argue that , although at its heart the rights based approach is a noble aspiration , its implementation can actually lead to a diminution in health. Three principles needed first- coverage should be on the basis of need with extra weight given to the underprivileged, Second the aim should be to generate the greatest improvement in health, third contributions should be based on ability to pay and not need.

First responsible for advising on or ensuring a fair allocation of health care resources and those charged with upholding the right to health, need to recognize broader and more recent interpretations of each approach. Priority setting is not only about a utilitarian drive to maximize health benefits across the population, nor is the right to health about securing every individuals access to health care regardless of cost.

Second, when substantive and procedural principles for ensuring fair allocation of resources devoted to health have been decided through a transparent and participatory process, states should institutionalise priority setting. This could include an institution for assessment of new and health

technologies an advisory committee for wider questions of allocative efficiency and fairness and action on the social, economic and political determinants of health.

Third, when an acceptable interpretation of the content of the right to health under national law has been clarified finance ministers should review their budgets, considering the state's obligations under the right.

#### **WHERE WE WILL BE IN 2023:**

- Baseline environmental metrics will be on a downward trajectory towards the reduction targets that will be established as part of the department's emission reduction pledge.
- Health service chief executive officers will regularly report environmental performance to their boards.
- At least 5% of hospital electricity will be sourced from on-site renewable energy.
- Patients, staff and visitors will understand how they can improve the environmental performance of their hospital.
- New public hospitals and capital upgrades will routinely include sustainability best practice.
- Food waste will be minimized, with residual organic waste diverted from landfill where it is economically feasible to do so.
- More materials will be recycled and waste to landfill per patient treated will have reduced.
- Metropolitan and large regional hospitals will have sustainable travel plans.

#### **CONCLUSION:**

The response of healthcare systems to the COVID – 19 pandemic has demonstrated that rapid transformational change is achievable if the intent is there. Approaching health and sustainability from a duality perspective could alter the roles and responsibilities of everyone. New and innovative solutions may be enhanced by facilitating dialogue with citizens on values, objectives and means. Allowing citizens to engage in and play a role in how to integrate health and sustainability may be a new vehicle for addressing wicked and complex problems.

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