

SUSTAINABLE FOOD **IN HOSPITALS**

A guide to inspire, empower and transform



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CLIMATE CHANGE AND HEALTH IMPACTS

Environmental concerns have become common for most people in different cultures and countries¹⁻³. Over the past 10 years, a lot of research has been carried out in the field of environmental changes, especially in relation to climate change, which has become the greatest threat to global health in the XXI century⁴.

Climate change has brought profound changes to the health and well-being of all people around the world. However many causes of climate change are related to human actions (anthropogenic), e.g. an exacerbated consumerism, unsustainable lifestyles and unsustainable exploitation of resources⁵⁻⁷.

It is known that environment degradation increases morbidity and quickens the mortality of the population. The World Health Organization (WHO) has noticed that since 2002, nearly a quarter of all diseases (24%) are associated with environmental and occupational factors, factors that could potentially be avoided⁸.

The impacts of climate change on health are varied and, based on the systematic study by Nichols et al⁹, 2009, they include:

-  **waterborne and vector borne diseases:** with the temperature rise there could be a higher risk of diseases such as cholera and vector-borne diseases, especially in developing countries.
-  **food borne diseases:** there will be greater incidence of diarrhea and food poisoning due to water floodings which could end up contaminating food or due to heat which may affect conditions of storage and preparation.
-  **higher incidence of climate related deaths:** heat waves and heat stress leading to higher mortality of vulnerable people such as the elderly.
-  **skin cancer and cataracts:** increased exposure to UV rays and the ozone depletion leading to higher incidence of skin cancer and cataracts.
-  **increased levels of starvation and malnutrition:** climate change has directly affected the food production, e.g. staple crops and the impact on the sea level has harmed the local agriculture infrastructure, goods and transport, contributing to increased malnutrition and disorders in child growth and development.
-  **increased incidence of respiratory disorders/death due to pollution/particulate matter:** climate change will lead to a higher level of ozone in the soil and air pollution, as well as to an increase in particles from diesel and its by products.
-  **increased migration and armed conflict:** caused by the fight for better land, food supply and access to water.
-  **injury and death due to flooding/storms/psychological effects:** the effects of floods, droughts, environmental degradation and population displacement affects the mental health of the population.

It's evident that environmental degradation negatively impacts on the health vs. disease process of the whole community.

Postponing the final decision in favour of a genuinely sustainable development has generated a harsh reality: the loss of both health and quality of life.

In the health service and in particular in hospitals, healthcare providers end up adopting unsustainable practices contributing directly or indirectly to environmental degradation and increasing risk factors for diseases in the population. In healthcare or even in higher education health institutions, this problem is little discussed and is not formally embedded¹⁰.

One way to mitigate the effects of climate change is to raise awareness in the community, adopting more sustainable actions, as well as having health professionals trained to deal with the conditions associated with it. We must strive for the health services to become more sustainable while remaining effective, working towards a more sustainable future.



SUSTAINABILITY IN HEALTHCARE: NEW PATHWAYS

WHAT DOES SUSTAINABILITY MEAN?

There are many discussions about what sustainability means, but according to what the Brundtland Treaty defined: Sustainability should meet human's present needs without compromising the ability of future generations to meet their own needs. It should also consider the social, economical and environmental issues on an intersectoral way¹¹.

According to Moris¹², 2010 (pag 110-11), in order to develop sustainable health we need to follow four key objectives:

1) Disease prevention and health promotion: all doctors should be involved with prevention, valuing and facing other causes associated with the diseases beyond the biological, such as social, economic and environmental. Interventions should always encourage healthier lifestyles.

2) Patient education and empowerment: better informed patients would help healthcare professionals in having the means to better explain their symptoms and concerns clearly, thereby reducing misunderstandings and the unnecessary duplication of work. Also, this way patients could have greater autonomy over their own health.

3) Lean service delivery: more efficient and sustainable use of resources, reasonably based on scientific evidence, providing clear and straight forward information to patients. Better integration between services decreases the number of appointments needed, as well as minimising unnecessary or duplicated tests.

4) Preferential use of treatment options and medical technologies, with lower environmental impact: selection of treatment or medical technologies with less environmental impact.

IN FACT SUSTAINABLE HEALTHCARE MUST BECOME A NEW WAY OF THINKING, WORKING,
FEELING, VALUING THE RESOURCES AND PEOPLE.

Therefore, we call on all health professionals to rethink their practices so that together we can find ways to achieve sustainability in healthcare, ensuring a better quality of life for all. Health professionals can lead this movement, promoting sustainability in healthcare, making it a model for sustainable practices, providing environmental, economic and social benefits to the whole community. Let us together support the sustainability of life!

DO HOSPITALS IMPROVE OR WORSEN SUSTAINABILITY?

On the one hand health services seek to take care of people who have become sick also as a result of environmental problems, but on the other hand it is aggravating these problems. In view of the products and technologies it uses, the waste it generates and the types of buildings it constructs, hospitals become a major source of pollution, eventually exacerbating the environmental problems, even if unintentionally¹³.

As an example, in England the National Health Service (NHS), emits around 18 million tones of CO₂ a year, equivalent to 3% of UK's and 25% of UK public sector's total emissions. It's known that 4.06 million tones of CO₂ were associated with the procurement of pharmaceuticals⁸. Brazilian hospitals consume a lot of energy, accounting for over 10% of total commercial energy consumption in the country. In the United States, health services are the main consumers of chemicals, including many containing substances known to have carcinogenic effects.

Therefore, it is necessary to rethink the practices currently adopted within the health service system and plan for the construction or adaptation of greener hospitals, which on average cost 10% more, but may have 15% lower operating costs¹³.

TO THINK ABOUT

So you health worker may be wondering: I already have so much work to do, so many concerns in saving lives or cure / treat diseases that are affecting people. Now I also have to worry about the sustainability of my actions? Why? Our current development path is unsustainable for present and future generations. Are we just going to watch everything falling apart? Is it not also the responsibility of the health sector to lead this necessary transformation? So we invite you to reflect a little bit more about the impacts of our actions in the short and medium term.

WHAT IS A GREEN AND HEALTHY HOSPITAL?

"A green and healthy hospital is one that promotes public health by continuously reducing its environmental impact and ultimately eliminating its contribution in the promotion of diseases. A green and healthy hospital recognizes the connection between health and the environment and shows that understanding through its governance, strategies and operations. It connects local needs with environmental action and practices primary prevention by actively engaging in the community's efforts to foster environmental health, health equity and a green economy". (pag 8)¹³.

GLOBAL NETWORK OF GREEN AND HEALTHY HOSPITAL'S GOALS

Based on these concerns, the the Global Network of Green and Healthy Hospitals was launched in October 2011, a Health Without Harm's project (SSD) - <https://saudesemdano.org/>

The purpose of this network is to offer support for initiatives around the world, to promote greater sustainability and environmental health in the health sector thus strengthening health systems globally.

For more information on green and healthy hospitals around the globe, have a look at the National Network of Healthy Hospitals - <http://www.hospitaissaudaveis.org/default.asp>

This Network aims to promote environmental and public health, and reduce the ecological footprint of healthcare. This is an initiative based on the commitment of healthcare institutions with interrelated and integrated goals, addressing the main areas of focus to improve the environmental performance and greater sustainability in the health sector.

The project has a Global Agenda (<http://greenhospitals.net/wp-content/uploads/2012/03/GG-HHA-Portugese.pdf>). Hospitals which are interested in joining this network need to comply with at least two items in the agenda and develop projects in these areas.

The items are as follows:

1 LEADERSHIP

Show leadership support to green and healthy hospitals creating a long-term organizational shift; achieve a broad participation of workers in the health sector and the community; and practice public policies that promote environmental health.

2 CHEMICALS

Improve health and safety for patients, workers, community and the environment by using safer chemicals, materials, products and processes, going beyond the requirements of basic environmental compliance.

3 WASTE

Protect public health by reducing the volume and toxicity of waste generated by the health sector, while implementing more environmentally appropriate options for waste management and disposal.

4 ENERGY

Reduce energy from fossil fuels consumption in order to improve and protect public health; promote energy efficiency and the use of renewable sources, with a long term aim to obtain 100% of the energy needs from renewable sources generated by the hospital or in the local community.

5 WATER

Implement a number of conservation, recycling and treatment measures that can reduce water consumption at hospitals and sewage pollution by water residue. To establish the relationship between the availability of drinking water and the resilience of health services to deal with physical, natural, economic and social problems. To promote environmental and public health by providing the community with drinking water.

6 TRANSPORTATION

Develop transport and health care strategies to reduce the carbon footprint of hospitals and their share of contribution to local pollution.

7 FOOD

Reduce hospitals's environmental footprint while fostering healthy eating habits among patients and staff. Facilitate easier access to food produced locally and sustainably by the community.

8 PHARMACEUTICALS

Reduce pollution by pharmaceuticals by reducing unnecessary prescriptions, minimizing improper disposal of pharmaceutical waste, promoting their return to the manufacturers and putting an end to the potentially disastrous effects of dumping drugs

9 BUILDINGS

Reduce the environmental footprint of the health sector and transform hospitals into a healthier place for staff, patients and visitors by incorporating principles and practices of ecological buildings in the design and construction of health facilities.

10 SHOPPING

Buying materials produced sustainably, environmentally responsible and through social supply chains.

SOME EXAMPLES OF SUSTAINABLE HEALTHCARE:

1) THE CENTRE FOR SUSTAINABLE HEALTHCARE – OXFORD – ENGLAND

The Centre for Sustainable Healthcare (CSH) (<http://sustainablehealthcare.org.uk/>) is a non-profit organization working with key partners to involve health professionals, patients and the community overall in understanding the connections between health and the environment, and to reduce the wasting of resources in healthcare. It began its activities in 2008 in order to help the National Health Service of UK (NHS) fulfil its legal obligation to reduce carbon footprint by 80% by 2050. It is now one of the most important institutions in the world, working with research and practice in sustainable healthcare. CHS has done this in several ways:

- by exploring methodologies and metrics that can help to transform models of care;
- by developing a range of programmes that will inspire, empower and support people to change;
- by working with key partners to engage healthcare professionals, patients and the wider community in understanding the connections between health and environment;
- by researching and highlighting better healthcare practices which reduce the wastage of resources while also improving health outcomes.

The CSH also develops a sustainability program focused on clinical specialties, ranging from a clinical approach, to service organization and care deliverance (<http://sustainablehealthcare.org.uk/-clinical-transformation>).

In addition, they developed several actions and materials for sustainable education (<http://sustainablehealthcare.org.uk/education>); also in the research field, CSH has developed partnerships with various institutions and universities.

The innovative NHS FORESTS project (<http://nhsforest.org/>) has also been developed by them. It allows patients and the community to have better access to green spaces at National Health Service (NHS) sites.

To learn more about the CSH, view the full prospectus at:

http://sustainablehealthcare.org.uk/sites/default/files/csh_brochure_webversion.pdf

2) CLINICAL HOSPITAL AT THE FACULTY OF MEDICINE IN BOTUCATU UNESP - BOTUCATU-SP - BRAZIL

Based on these concerns, the Global Network of Green and Healthy Hospitals in Brazil, a Health Without Harm's project (SSD) - <https://saudesemdano.org/> was launched in October 2011.

Our Clinical Hospital at the Faculty of Medicine (HC), began working in October 2013, establishing a working committee and planning actions (http://www.hcfmb.unesp.br/?page_id=4079).

The first project included four items of the Global Network Agenda. Its motto, released in May 2014, was "Transforming waste into agroecological food baskets". This project was structured against a backdrop of environmental degradation, over-production of solid waste, lack of a recycling programs and high consumption of food with pesticides. The aim was is to offer the University's community agroecological food baskets, free of pesticides, which are being produced by local farmers and their families, using composted organic food and garden waste provided by the University Campus in Rubião Junior, it's Hospital and the city of Botucatu, seeking social and environmental sustainability.



HOW CAN HEALTH PROFESSIONALS BENEFIT AND GET INVOLVED

Although health professionals, in general, do not learn about sustainable healthcare during their training, they still have to face the problems arising from these environmental issues and the effects of climate change on a daily basis. Due to these changes we are facing, drastic temperature shifts, periods of intense heat or cold, which, especially in places with high levels of air pollution can severely impact on children and the elderly, increasing the morbidity and mortality rates associated with cardio-respiratory problems. High levels of air pollution increase the risk of mortality associated with cardiorespiratory and lung cancers, and the deaths in children under 5 years^{14,15}.

Urban air pollution causes about 1.2 million deaths every year¹⁶.

Health professionals play a crucial role in society as recognized authorities and holders of knowledge, so their actions can be inspirational and have a positive effect on the world. If we use this health channel as a model of how we can work sustainably, certainly the population would feel encouraged to act more sustainably too. In fact, this chain of changes could bring many benefits, ensuring a better quality of life to the planet.

Furthermore, in daily clinical practice health professionals may review how they are using and often wasting resources, which might also impact negatively on patient safety¹². By prescribing unnecessary medication or diagnostic tests, clinicians can overload the system economically, socially and environmentally, continually increasing the carbon footprint of the health service.

Health professionals should become more involved in issues related to the mitigation of climate change and environmental degradation in order to promote and protect the health of the most vulnerable, and of their future patients¹⁷.

We are more accustomed to adopting sustainable habits at home, but can easily forget that this should be implemented in our workspaces. To ensure the future of our planet we need to improve the sustainability in all areas: schools, homes, work, and public spaces, such as parks, gardens, community associations, etc.

4

WHAT IS SUSTAINABLE FOOD AND AND FACTORS INVOLVED

This guide starts by discussing sustainable food, including its interrelationship with health, the environment and society.

Over the last decade, much has been discussed about the importance of healthy food, and its benefits in promoting health and preventing diseases such as hypertension, diabetes or obesity. However, so far little thought has gone into the sustainability of food.

Just as the definition of what is sustainability in healthcare, the concept of sustainable food is founded on three dimensions: environmental, economic and social (incorporating health and ethics).

As defined by the FAO, sustainable food is:

"A diet with low environmental impact, contributing to food and nutrition security and a healthy life for present and future generations. Sustainable diets should protect and respect biodiversity and ecosystems, be culturally acceptable and available, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources"¹⁸.

Figure 1: Issues to consider when defining a sustainable diet



Source: apud Garnett T. What is a sustainable healthy diet? A discussion paper. Food Climate Research Network, April 2014, pag 5.

In addition to these factors, it is crucial to consider how these products are produced. Brazil is the world's six-time champion in the use of pesticides. Brazilians ingest around 5.2 litres of pesticides annually. About 20% of all insecticides, fungicides, herbicides, nematicides, acaricides, pesticides and other agricultural chemicals produced worldwide are applied in Brazil. Of the 50 most commonly used substances, 24 have already been banned in the United States, Canada, Europe and some Asian countries¹⁹.

Other production issues to be considered are if the farmers are getting properly remunerated and if people are able to access these sustainable foods. A production and consumption system that does not pay producers properly or is not accessible will exacerbate income inequality, which is one of the main determinants of health. Thus, it is important to stimulate local production which is more organic and make it accessible to all²⁰.

Moreover, we cannot ignore the food sectors' other risk factors to environmental health (eg. water and air pollution), infectious diseases (eg. zoonotic and vector-borne) and work related accidents. The health sector can assist in proper planning to mitigate these risks²⁰.

Unfortunately, the adopted form of food production has contributed significantly to environmental degradation. Although technologies introduced during the "green revolution" have resulted in higher rates of profitability and efficiency, they also had major, and generally negative, environmental and social impacts. The food supply chain accounts for about 20-30% of global green house gases (GHG) emissions and it is the main cause of deforestation, changes in land use and loss of biodiversity. Studies show that the loss of biodiversity is being rapidly increased, up to 1,000 times quicker than its natural rate²¹.

The agricultural sector consumes 70% of water intended for human consumption, in addition to being a major source of water pollution²⁰.

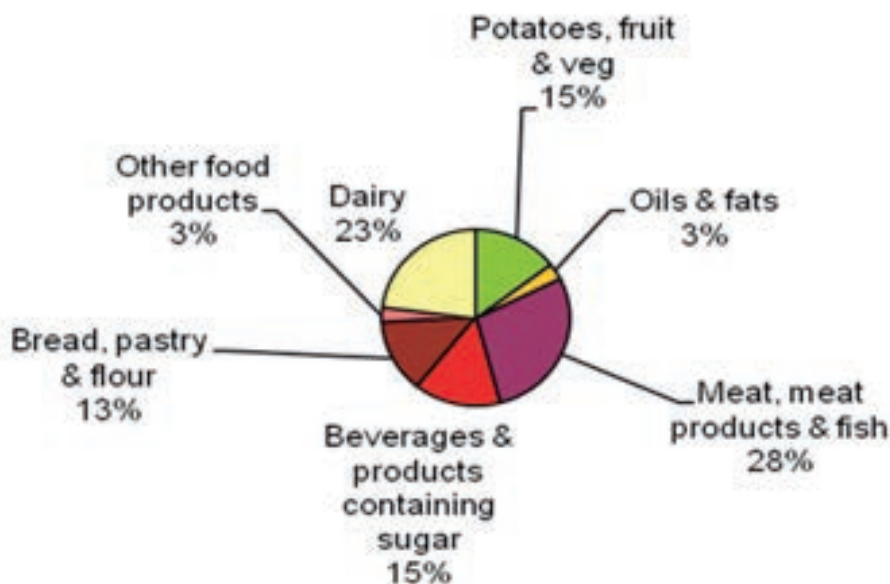
On the other hand food production suffers intensely from the impacts of climate and environmental change, aggravating serious social, economic, institutional, demographic and even technological problems. This is a great and serious challenge for the population around the world²⁰.

Furthermore, world population is expected to increase significantly in the coming decades, with current estimations indicating that it will reach 9,160 million in 2050¹⁷. The food production system would be able to supply the entire world's population, but about half that population has improper access to food, leading to oversupply (obesity) or lack thereof (malnutrition)^{20,23}.

In addition, around 1.3 billion small farmers and agricultural workers are living below the poverty line²⁰.

Although the entire food chain - from farm to fork - contribute to environmental degradation, it is the agricultural production where the greatest impacts occur. Livestock rearing has attracted much attention, generating around 14.5% of total greenhouse gas emissions and using up to 70% of agricultural land on the planet²⁴. It ends up being the main contributor to deforestation, loss of biodiversity and land degradation²⁰.

Figure 2: Contribution of food groups to Dutch GHG emissions kg/CO₂e_q



Source: apud Garnett T. Cooking up a storm Food, greenhouse gas emissions and our changing climate. Food Climate Research Network, Centre for Environmental Strategy, University of Surrey, September 2008, pag 53.

Therefore, we are facing a controversial issue. We need more and more food, in proportion to population growth, but at the same time we need to preserve the environment. What can we do? Which way should we turn?

Just as we do not think about how much food waste we are generating, we often forget what happens to it. Who has payed a visit to the landfill in their towns? Who knows who their garbage collector is? We are living on an alienated, individualistic, immediatist and disposable society. Hospitals and health service providers, especially hospital schools, have a duty to deal with this matter since they are the main promoters of health.

Many studies indicate that improvements in technological efficiency will be insufficient to avoid absolute increases in greenhouse gas emissions or deforestation^{20,25}.

First of all, we need to make sure that access to food is more equitable, especially for the most vulnerable groups, ensuring adequate food security to all population groups.

Second, there needs to be financial and technological support for farmers, encouraging the adoption of more sustainable techniques, for example, more effective irrigation, and avoiding the use of transgenic seeds and overuse of pesticides whenever possible, ensuring fairer trade for those who are adopting sustainable practices.

Third, promoting local production and consumption brings many benefits. Reducing food miles will have economic and social benefits in terms of reducing traffic congestion and accidents, along with the improvement of air quality²⁶.

Fourth we must reduce the amount of food that is lost or wasted throughout the supply chain. It is estimated around 30-50% food is wasted. This not only undermines food security, but it also means a waste of land, water and other inputs, and generates unnecessary emissions²⁴.

And finally we need to think about what, how much, and how we are eating. It is important that we consider how the food we consume is produced. What is the environmental impact of the supply chain, but also the social impact. Who were the people who planted, harvested and processed the food we consume, etc. Our eating decisions/habits can influence what food and to what amount it is produced, where and under which working conditions.

Therefore, to achieve sustainable food we have to take into account several interconnected factors, from production, processing to marketing and consumption, in addition to:

- stimulating local production (farmers and other local producers) and assist them economically and socially in improving their food production and reducing their environmental impact.
- avoid damaging natural resources, adopting more sustainable practices of production, e.g. agroecological or organic, to reduce environmental impact and its contribution to climate change.
- Promoting discussions within the community about the importance of sustainable food, involving local farmers, health workers and consumers²¹.



HOW CAN HOSPITALS ACHIEVE SUSTAINABLE FOOD

As discussed in previous chapters, sustainable food refers to a complex network of environmental, social and economic factors, ranging from how the food was grown to how it was harvested, transported, processed and stored until it reaches the consumer. In the special case of hospitals, sustainable food provides an excellent opportunity to bring benefits for patients and staff¹¹.

By paying attention to sustainable development, we can begin to balance the impacts of economic activity and its effects on society and the environment.

WHAT CAN HOSPITALS DO?

Perhaps the most important element of any sustainable food strategy is the menu, which should provide adequate nutritional value. It should be appetizing to patients and staff, but at the same time hospitals should care about the sustainability of products, reducing the use of ingredients that have negative environmental, social or health impact¹¹.

We discuss below some key aspects that hospitals may take into account when purchasing their food:

- **a) seasonal food** - seek to purchase food produced and harvested at its proper season. This will help reduce emissions of greenhouse gases.
- **b) foods produced locally** - this will help to reduce the environmental footprint of the hospital. It will also promote local economy, which can generate additional employment and income to the more vulnerable population in the surrounding areas.
- **c) agroecological or organic food** - promoting a healthier diet with pesticide-free food that values its production through social, ethical, environmental and other broader qualitative aspects. In addition, these production models provide environmental benefits, particularly for biodiversity, contribute to the quality of our landscapes, the beauty of the countryside and to a more sustainable rural economy. A research by the University of Essex and the Soil Association, 2006 showed that organic farming in the UK promotes 32% more jobs than conventional farming and concluded that "If all farming in the UK became organic over 93,000 new job opportunities would be created"²⁰
- **d) equipment** - hospitals must use the most energy efficient kitchen equipment. They can install water and energy consumption meters in the kitchen to monitor and inform the necessary measures for reducing consumption.
- **e) waste** - make it easier for patients and staff to separate compostable from recyclable items by placing appropriate and accessible disposal collectors. Only two different containers are needed, the organic waste (wet) and recyclable (dry). Too many bins with different colors can confuse people. Where food safety is not compromised, implement reusable cutlery, plates and cups. Water, juices, milk, condiments and sauces should be served in reusable containers too. Avoid packing the cutlery into individual plastic bags where there is no need.

Hospitals are places that generate a lot of rubbish (solid waste from health services). Contrary to popular belief, most of this waste is similar to the city's. Around 80% can be treated as household waste, the rest is clinical waste which needs special treatment such as incineration or autoclaving. A hospital of around 400 beds, generates an average of 2 tonnes of rubbish a day, a massive amount that needs to be dealt with. There are ways to reduce this amount by reusing and recycling what is possible. Organic waste can be used for composting (for gardening or even to provide local producers with compost) or indeed to generate power for the hospital.
- **f) environmental footprint** - is the total sum of the environmental impact, considering every stage of its life cycle (with techniques used to calculate an environmental footprint). To provide food, we have to consider a variety of factors: production, processing, packaging, transportation, preparation, cooking, consumption, disposal.

CASE STUDY: A practical example

- **Location:** Clinical Hospital at the Faculty of Medicine in Botucatu - UNESP (FMB)
- **Our Team:** Green and Healthy Hospitals of HC-UNESP committee; farmers from the Chaparral community; medicine and nursing students, health professionals and employees at the Hospital and Faculty and FMB's Professors.
- **Aim:** To reduce and reuse organic waste produced by the Hospital's kitchen, composting them, along with garden waste from the FMB Campus and the city of Botucatu, which was then used for the cultivation of agroecological food baskets produced by local farmers and offered to employees of the Hospital. Thus, we expected to reach the agreed items in the Global Network for Green and Healthy Hospitals: leadership, waste, shopping and food; in order to promote environmental health and a better quality of life, towards environmental sustainability.
- **Adopted strategies:** Partnership with farmers / establishing a flowchart for the collection of organic waste produced at the employee's refectory in the Hospital- farmers collect the material and transport it to the field for composting / training and awareness of public on the proper separation of waste in the refectory or cafeteria / dissemination of the project through official launch with the presence of local and national authorities / media for dissemination: social networks, newspapers, television, folders / purchase of returnable boxes for the vegetables and legumes for consumers / sale of products by the Hospital's website and through FMB / Distribution of products on the UNESP Campus for staff and students.
- **Results:** In 3 months we had 204 entries from people interested in purchasing the baskets; 1.074 baskets were sold, corresponding to 6.500 kg of pesticide free food. In two months we managed to collect and compost 6.030 kg of organic waste, which was prevented from going to landfill.

The families of the 5 farmers involved stopped using pesticides, and began to receive agronomic training to work with an agroecology model. 15 medicine and 5 nursing students are working on this project; many members of staff and students have changed their habits for more food sustainable ones.
- **Expectations:** This Project intends to improve the life quality of UNESP employees, and the consumers's of these pesticide-free food baskets, as well as the lives of farmers's families involved in the project. It is also aiming to promote a change in these people's habits, inviting them to rethink their practices and adopt more sustainable lifestyles both at home and in the workplace, promoting sustainable healthcare and mitigating effects of climate change.

STEPS FOR HOSPITALS TO INTRODUCE SUSTAINABLE FOOD:

- Look for concerned and interested professionals to discuss a more sustainable consumption;
- Try to establish a regular group meeting to plan actions and present them to the hospital management;
- Adopt a balanced menu with more vegetables, fruits, whole grains, reduction of salt, sugar and fat and avoiding artificial additives;
- Reduce the portions of red meat consumed every week;
- Reduce food waste produced (better understanding of the need vs. consumption ratio), and promote campaigns or discussions with health professionals to become more conscious about this matter;
- Promote workshops with professionals, patients, farmers, nutritionists and students to try new food recipes. We can use these workshops to promote sustainable food.
- Map food producers in the region with the help of the agriculture department, locating the agroecological or organic farmers.
- Buy at least 30% of the food consumed in the hospital from local producers, simplifying the contracts for families or small producers;
- Provide space around the hospital to promote agroecological or organic markets for members of staff or patient's relatives;
- When you need to import food from undeveloped countries, ensure they are fair trade;
- Avoid purchasing items individually packaged, or packaged in materials which are difficult to recycle (such as Styrofoam / Polystyrene);
- Organise the collection of recycling and arrange with local cooperatives, to collect oil or other materials which can be recycled.
- Collect organic waste from the kitchen and establish a composting flow for generating compost or power.
- Encourage your patients to eat more sustainable food.

6

REFLECTIONS AND CHANGES REQUIRED

Today, it can be said that the food system is unsustainable, both environmentally and in a global socio-economic dimension.

Moreover, interdisciplinary evidence shows that it is possible to adopt diets which can generate less of an environmental impact. To lower the intake of red meat, fish and dairy products greatly reduces the environmental impact. However there is a complex relationship between nutritional goals, environmental sustainability and social and economic factors, which we are still working towards fully understanding. As Gartner, 2014²⁰, invites us to reflect:

"Food should be accessible, but does it mean that cheap food is good? Do we prefer the small-scale production rather than intensive agriculture? There may well be synergies between nutritional adequacy, environmental sustainability, social and certain economic goals, but there are also likely to be costs, and a decision will have to be made in order to understand how the two should be balanced" (Gartner, 2014; p 31).

It she summarises that some economic benefits will only happen if certain changes are made in the economy, generating significant disagreement over the extent to which this is possible.

If hospitals adopt models of sustainable food, they can play a leading role in the struggle against environmental and social injustices. Furthermore, reducing emissions of greenhouse gases will help mitigate climate change, which threatens the health of our planet, and thus threatens the health of all of us²⁷.

It is true that we are facing a complex issue, but the need to achieve sustainable food is an urgent priority, and the health sector, with its professionals and general staff, is fully capable to lead by example and implement these changes, empowering the population so that we can use sustainability as a tool to ensure a better quality of life for ourselves and future generations.

Also, if we want to build a sustainable health system, education is perhaps the most effective and long-lasting way to make it possible 17. It is essential that health courses, especially medical schools, implement discussions in their curriculum regarding sustainable healthcare, including sustainable food. It is important to work with the continued education of health professionals in order to raise awareness about more sustainable clinical practices, including the adoption of green prescriptions where possible.

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