

Sustainability, Infection Prevention & Control and climate change challenges in Egypt

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What is climate change?

- Climate change is caused by greenhouse gases released from fossil fuels becoming trapped in the Earth's atmosphere. This is causing Earth's average temperature to rise
- The effects of climate change are already harming human health, both globally and in Egypt and making us less resilient to diseases
- These effects can be seen by extreme weather events, an increase in vector-borne diseases and changes to natural eco-systems that threatens the quality of food and fresh water

Our **Risk** for
Infectious Diseases
is **Increasing**
because of
Climate Change



What does climate change have to do with infectious diseases?

- ▶ Changes in climate lead to changes in the environment, which may increase the incidence and distribution of some diseases.
- ▶ Climatic variables (temperature and precipitation) impact the replication, interaction, and survival of disease agents in animals, disease vectors, and the environment.
- ▶ Climatic disturbances (severe storms and droughts) affect disease occurrence patterns, drive disease outbreaks, and damage critical infrastructure.

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Air Pollution & Increasing Allergens

Asthma, allergies, cardiovascular and respiratory diseases

Extreme Heat

Heat-related illness and death, cardiovascular failure

Drought

Water supply impacts, dust storms, Valley Fever

Environmental Degradation

Forced migration, civil conflict, loss of jobs and income

Wildfires & Wildfire Smoke

Injuries, fatalities, loss of homes, cardiovascular and respiratory diseases

Degraded Living Conditions & Social Inequities

Exacerbation of racial and health inequities and vulnerabilities, loss of employment

Changes in Vector Ecology

Lyme disease, West Nile Virus, hantavirus, malaria, encephalitis

Food System Impacts

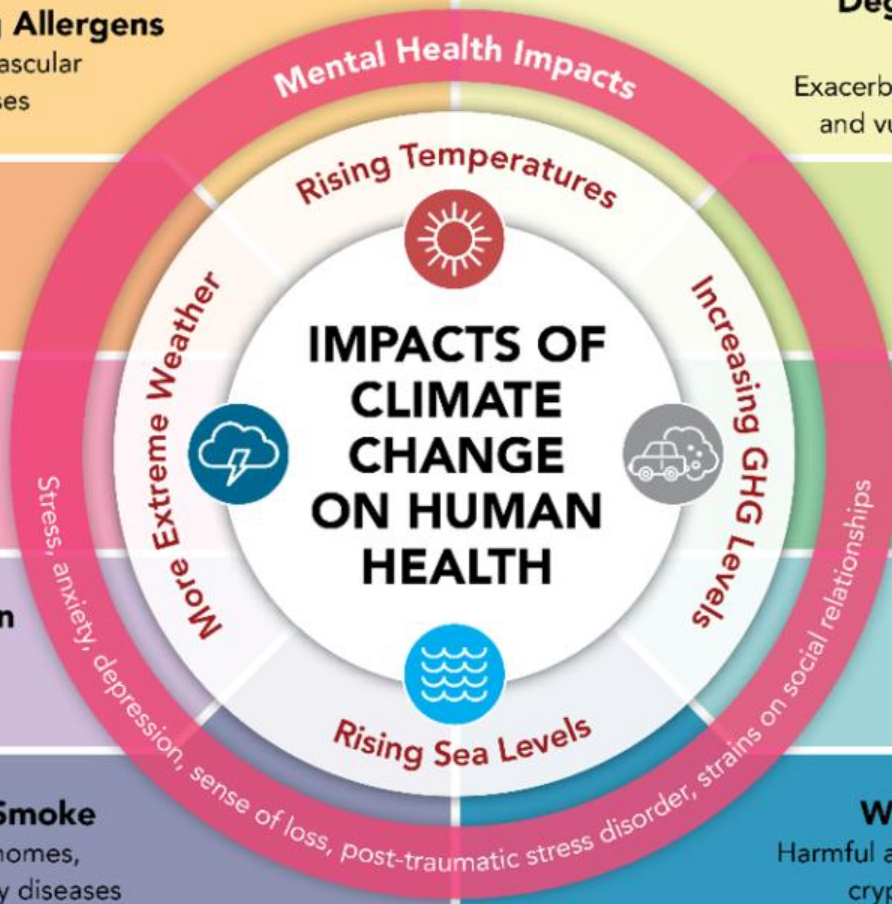
Malnutrition, food insecurity, higher food prices, foodborne illness

Severe Weather & Floods

Injuries, fatalities, loss of homes, indoor fungi and mold

Water Quality Impacts

Harmful algal blooms, campylobacteriosis, cryptosporidiosis, leptospirosis





What do health service organisation's (HSO) have to do with climate change?

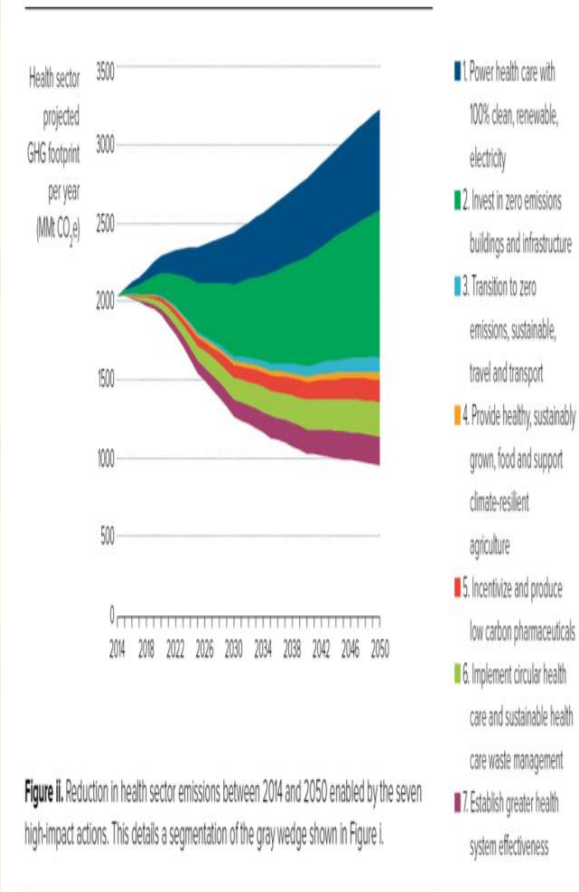
- The healthcare industry has a significant impact on the environment, with worldwide healthcare being responsible for an estimated 4.4% of global net emissions
- Healthcare carbon footprint is attributed to approximately 7% of the nation's total emissions, with hospitals and the pharmaceutical industry being the major contributors



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Sustainability and healthcare

- **HSO's use immense amounts of resources, particularly in the use of electricity and generate vast amounts of physical waste in delivering care to their patients**
- **A significant proportion of hospital waste is generated from the need for strict infection control including the use of single-use clinical equipment, energy intensive reprocessing methods, disposable linen, excessive packaging for medical items and materials contaminated by patient fluids or contact**



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There are choices in healthcare that can be made now to help reduce the environmental impact of the sector (Wemmers, 2020). A green and healthy hospital is one that actively supports population health by continuously reducing its environmental impact and mitigating any adverse effects on the population's illness burden, according to the group Health Care Without Harm (HCWH) (Campbell, 2023).



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Quality Improvement of Hospitals in Egypt

The health system in Egypt has been dramatically changing recently. The Universal Health Insurance System Law by Act No. 2 was promulgated in 2018, which has led high attention to the quality and safety of hospitals among not only hospital staff but also general public in Egypt.



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Why is a Sustainable Healthcare System is a vital issue?



A healthy population is essential for economic development. The poorest people on the planet tend to suffer most from the health effects from exposures to environmental hazards like air pollution and impure water. In turn, disease and disability related to polluted environments slows and blocks economic development.



Why is a Sustainable Healthcare System is a vital issue?

The 2030 Agenda for Sustainable Development highlights the responsibility of every sector to contribute to the Sustainable Development Goals (SDGs). For health systems, this entails not only working towards health-related SDGs, but also making a contribution to the achievement of other SDGs.

أكواد الاستدامة ذات الصلة

الدليل الإرشادي لتصميم المستشفيات والمنشآت الصحية الخضراء

- صادر بقرار وزير الإسكان والمرافق والمجتمعات العمرانية، رقم ١٠٨٧ لسنة ٢٠١٨، ويلتزم الدليل بالمعايير التصميمية للمستشفيات والمنشآت الصحية، والأكواد المتعلقة بسلامة تصميم المباني والمنشآت، وتتناول المرحلة الأولى من الدليل نظام تقييم المستشفيات الخضراء، والمرحلة الثانية تتناول كيفية تطبيق التصميم المستدام خلال المراحل المختلفة لإنشاء وتشغيل المباني.



الجهات المسؤولة:
وزارة الصحة، وزارة التعليم العالي.

نوعية المشروعات والأنشطة ذات الأولوية في التمويل

مؤشرات قياس الأداء

- المستشفيات والوحدات الصحية الخضراء.
- معالجة النفايات الصحية.
- البرامج الصحية الوقائية (مكافحة الحشرات وناقلات الأمراض).
- الحجر الصحي.
- محطات المعالجة المركزية للنفايات الطبية.

- نسبة المستشفيات المزودة بأجهزة للتخلص الآمن من المخلفات الطبية من إجمالي عدد المستشفيات (تشمل المستشفيات التي يتم خدمتها من خلال محطات المعالجة المركزية للنفايات الطبية) (%).
- معدل النمو السنوي في كمية النفايات الصحية التي تم التخلص منها بطرق آمنة (%).
- معدل النمو السنوي في عدد المستشفيات والوحدات الصحية الخضراء (%).

هيئة الاعتماد والرقابة الصحية تعلن عن أول شهادة تميز بيئي للمنشآت الصحية الخضراء والمستدامة

1. القيادة الفعالة والتخطيط لبيئة خضراء مستدامة لدعم ممارسات الاستدامة البيئية ونشر الوعي بالممارسات الصديقة للبيئة.

2. كفاءة استخدام الطاقة والتحول إلى الطاقة النظيفة والمتجددة وقياس الأحمال، والتحول إلى مصادر الطاقة النظيفة والمتجددة مثل الطاقة الشمسية وطاقة الرياح والبيو جاز والهيدروجين الأخضر.

3. الاستخدام الأمثل للموارد المائية بما يضمن استدامتها ووفرة المياه النظيفة.

4. الإدارة الآمنة للمواد الكيميائية: المواد ذات التأثيرات الخطيرة على الصحة والبيئة مثل الزئبق الأحمر.

5. إدارة مخلفات الرعاية الصحية: تعزيز الممارسات السليمة لإدارة وتداول المخلفات الطبية، واستخدام التكنولوجيا في عملية المعالجة.

6. اتباع الممارسات السليمة في استخدام العداء الصحي واتباع الأنظمة الغذائية الصحية



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- Improving the environmental sustainability of HSO's is an opportunity to improve the safety and quality of care, reduce low-value care, eliminate unwarranted variation in care, and reduce healthcare waste
- The Project for Quality Improvement of Hospitals in Egypt (EH-QIPS) requires HSO's to apply quality improvement systems that support and monitor the safe and sustainable use of IPC resources



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Using the 5 Rs to guide to good practice

- The fundamental principles of decreasing waste in health services are the same as those used at home; reduce, reuse, and recycle
- The addition of 2 extra Rs — rethink and research can improve the applicability of this approach to clinical practice
- ‘The 5 Rs’ approach reflects five sustainable themes which encapsulate a variety of practices aimed to help lower the carbon footprint of HSO’s
- The 5 R’s can be demonstrated through reducing the volume of waste, improving waste segregation, reusing certain items, recycling, rethinking outdated practices and low value care and dedicating time to research



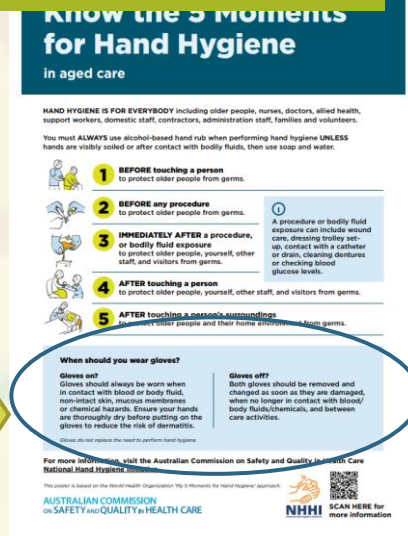
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Back to the fundamentals

- To effectively mitigate and adapt to delivering sustainable healthcare, HSO's need to plan for foreseeable climatic events and focus on correctly implementing and educating staff on the fundamental principles of IPC
- Educating staff about the basics of hand hygiene and appropriate glove use are simple, practical ways that a fundamental principle of IPC can be used to support sustainable healthcare



When should you wear gloves?

Gloves on?

Gloves should always be worn when in contact with blood or body fluid, non-intact skin, mucous membranes or chemical hazards. Ensure your hands are thoroughly dry before putting on the gloves to reduce the risk of dermatitis.

Gloves off?

Both gloves should be removed and changed as soon as they are damaged, when no longer in contact with blood/body fluids/chemicals, and between care activities.

Gloves do not replace the need to perform hand hygiene.



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Greenhouse gases

Climate change:

- Floods,
- Droughts,
- Wildfires,
- Storms,
- Temperature extremes,
- Sea-level rise
- Climate sensitive disease outbreaks

Health care facilities

Health workforce

Water, sanitation and health care waste

Sustainable energy

Infrastructure, technologies and products

Environmental impacts:

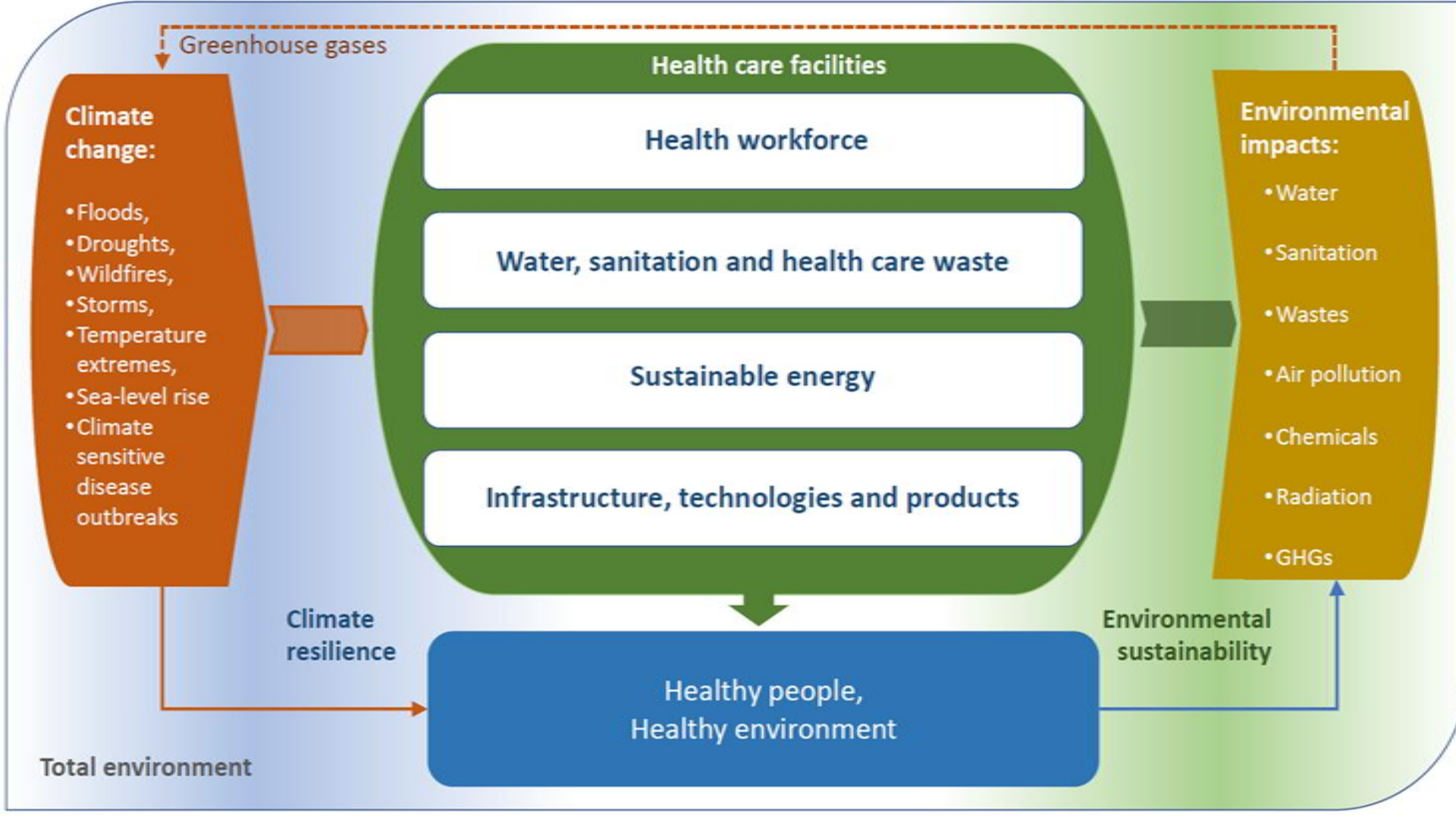
- Water
- Sanitation
- Wastes
- Air pollution
- Chemicals
- Radiation
- GHGs

Climate resilience

Environmental sustainability

**Healthy people,
Healthy environment**

Total environment



Home message



Change in Mindset

- Build a culture of sustainability in labs
- Rethink how things have always been done
- Healthier materials for colleagues



Collaboration

- Provide model for other labs throughout the organization
- Work with other functions
- Inspire customers



Resource Savings

- Save energy and water
- Reduce waste
- Reduce greenhouse gas emissions



Innovation

- Explore new processes, technologies, methods, and ideas



Slide	Reference
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