Urban Greenspace Interventions

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Aging Population
Growing Inequality
Obesity
Health & Social Care Stress
Rethinking Public Health Services
Dorset, Bournemouth and Poole
6,000 ha
5,000 km
Humanity is still rapidly urbanising.
We are more removed from natural microbiomes.
Can the science of microbiomes be used to write a global prescription?
A microbiome is an ecological community of microorganisms and their collective genomes.
Problem, not solution.
Healthy Urban Microbiome Initiative (HUMI)
Causal Pathway

Greenspace Availability → Biodiversity
Greenspace 'Friendly' Policies → Air Cleaning
Pollution → Emerging Infectious Disease
Green Space Demand → Health and Wellbeing

Food Gardens → Physical Activity
Healthy Environmental Microbiome → Immunological Resilience
Healthy Human Microbiome

Thermal Buffering → Social Integration
Calming Environments
Heat Stress → Social Isolation
Physcological Stress
Obesity
Quality of Diet

Immunological Illnesses → Health and Wellbeing

Skelly 2016
Global Challenge

- Loss of Biodiversity
- Degrades Environmental Microbiomes
- Diminishes Population Health

Environmental Degradation

Climate Change

Population Growth
Hygiene Hypothesis
Microbiomes and Human Health

- Human Immune System Disorders
- Human Microbiome

Physical Health
- Obesity
- Diabetes
- Metabolic disorders
- Cardiovascular disease
- Eczema
- Allergic disorders
- Asthma
- Inflammatory bowel disease
- Heart rate
- Blood pressure
- Blood cortisol
- Healing time
- Susceptibility to infection
- Birthweight
3 Pilot Projects
Pilot Project 1: reality check.

Frontiers in Ecology and the Environment

WILEY
FRONTIERS IN ECOLOGY AND THE ENVIRONMENT

Biodiverse green spaces: a prescription for global urban health

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<th>Journal:</th>
<th>Frontiers in Ecology and the Environment</th>
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<tr>
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Pilot Project 2:
International greenspace measurement.
Pilot Project 3: Measuring environmental microbiomes internationally.

4 Cities

5 + 3

Types of greenspace
Replicates
Soil, air, skin and nasal swab sampling
Initiative Governance?

Adelaide

Playford

South Australian Health Department

Bournemouth

Public Health Dorset

Public Health England

Haikou

CDC China

Delhi

Public Health Foundation of India

Other Cities?

Govt Health Org?
Symposia

Environmental Microbiomes and Human Health
My Global Prescription

- Biodiverse urban design
- Microbiome cultivation
- Intervention trials
- Pocket parks

HUMI Team
Research Lead, Professor Weinstein, University of Adelaide

Regional Partners
- CDC China
- Public Health Foundation of India
- Public Health England
- South Australian Department of Health