

HEALTH AND WELLBEING IN THE CHANGING URBAN ENVIRONMENT: A SYSTEMS ANALYSIS APPROACH



Xiamen Expert Workshop

8-10 DECEMBER 2014

XIAMEN, CHINA

DRAFT REPORT

Background

While aggregate global health status has improved substantially in recent decades, this improvement has not been evenly distributed and there is rising international concern about global epidemics of non-communicable diseases, mental health problems and emerging infectious diseases. Urban environments are important determinants of human health.

Cities are now the dominant human habitat and for the foreseeable future most population growth will be in urban areas. During the next 20-30 years, the UN estimates 2-3 billion more people need to be housed in cities – more than 1 million every week.¹ In future, protecting and promoting health will increasingly depend on decisions made within and about urban systems. While urbanization has contributed to overall declines in poverty, emerging challenges put the health and wellbeing of people in cities at risk. Therefore, a better understanding of the linkages, dynamics and complexities of urban environments is needed.

The new ICSU interdisciplinary programme, co-sponsored by IAMP and UNU, on *Health and Wellbeing in the Changing Urban Environment: a Systems Analysis Approach* has taken up that challenge and launched a decade-long effort whose vision is “...to generate policy-relevant knowledge that will improve health status, reduce health inequalities and enhance the wellbeing of populations living in urban environments—which are undergoing continual change”²

Objectives of the Xiamen Expert Workshop

- 1) bring together leading global researchers working in disciplines related to urban health and wellbeing to define the **strategic and thematic priorities** and the medium- and long-term **outcomes** and **activities** of the programme.
- 2) prepare an outlook statement on Urban Health and Wellbeing: a Systems Approach
- 3) launch the international programme office (IPO) at IUE

¹ UN DESA (2014).

² ICSU (2011). Report of the ICSU Planning Group on Health and Wellbeing in the Changing Urban Environment: a Systems Analysis Approach. International Council for Science, Paris

Summary

- 22 ignition talks
- 5 plenary sessions
- 4 breakout work groups
- 1 plenary workgroup (research priorities)

Between 40 and 50 people participated at all times.

China's new "people-centered approach to urbanization" policy provided an excellent background of the workshop.

Goals of the Workshop

1. Provide an opportunity to exchange ideas and experiences, resolve challenges and identify opportunities under the new programme.
2. Bring together experts in urban health and systems research as a nucleus of the first stage of the implementation of the science plan.
3. Multiplier effect. Establishing new networks of collaboration.
4. Assist the scientific committee to make more informed decisions.
5. Attract attention in China and the World, from public decision makers and the media.

Lessons learned

- Increasing preoccupation with health and wellbeing related issues in cities.
 - Driven by a true desire to improve the quality of life in cities
 - Driven by the growing recognition of downstream costs, associated with a failure to mitigate health impacts from urbanization
 - Driven by both aforementioned, because they are not mutually exclusive.

Identification of unifiers:

- Potentiating resilience
 - This addresses the positive effects of urbanization and mitigating the risks.
- Climate and environmental factors impacting health in cities.
- Value base of the programme is anchored in equity and addressing disparities.
- Interdisciplinarity
- Multiple frameworks of different systems approaches
- Learning from history, e.g. comparative analysis of urban development
- Attend to health and wellbeing in cities at multiple scales, with emphasis on local/regional.
- Co-design and co-production: relevance of policy impact was undisputed; approaches of how to achieve co-production were contested. Active involvement of decision makers will be part of the programme. Research will be driven by policy relevance, creating an evidence base for informed decision making.
- Culture should play a role in research under the programme.

Implementation components (working groups)

- Co-production (WG1)
 - Need for a framework for co-design
 - Level at which a peer community (of stakeholders) is to be involved in the process of co-designing, -producing and -delivering knowledge needs to be

identified. Subsidiarity principle. Depending on the problem areas. Local level engagement committees might be more feasible. Global representatives difficult to identify.

- Problem-oriented approach; then decide the stakeholders and the disciplines to be involved; identify the type of problems which require co-production; caution with whom co-production is exercised.
- Different models of coproduction and different types of outputs need to be produced (multiple methods)
- Joint workshop on risk assessment with IRDR
- Capacity building (WG2)
 - should support the type of research envisioned by the programme.
 - Learn from decision makers about what works for them. Enabling DM to use evidence by science to make more informed decisions.
 - Increase the understanding of systems methods and the use of pertinent data.
- Systems methods (WG3)
 - Balancing complexity and simplicity
 - Involve stakeholders in systems modelling
 - Data gaps can be identified and overcome by system approaches
 - Standardization of nomenclature in systems thinking
 - Need for good modelling practice
- Data matters (WG4)
 - Identifying, accessing, understanding and managing data.
 - Visualization of data
 - Inventory of relevant data sets needs to be achieved.
 - Identifying new sources of data
 - Recognizing that local populations can themselves to data.

Communication challenges

- Need to be able and ready to tell the story of urban health, addressing the different languages, cultures and ideologies – different ways of thinking.
- Potential global product/outcome of the programme: periodic report on urban health index; can be a tool for policy makers.

Partnerships

- Interest of IRDR to carry out joint workshops on risk and uncertainty.
- Collaboration with urban components of Future Earth

Immediate opportunity for the research community to link expertise by funding start-up meetings by the IPO. Call will be sent out early 2015

- No pre-determined specific research priorities defined by the SC or the XEW. Rather the programme will respond to strategic targets of opportunity. No single research network will be able to cover all topics.

Need to attend to the **post 2015 SDGs**.

Engage in active collaboration. Tapping into research which is already ongoing or being developed.

- Engage in research collaboration with ICSU's regional offices and the research which is being carried out by them.

Recognition of the XEW about the need to identify criteria, process and terminology for the implementation of the research programme.

AGENDA

Monday, December 8

Field trips ³

13:00

1) Gulangyu Island

2) Xiamen water treatment plant

Meeting point for departures: IUE main entrance

Tuesday, December 9

8:30 – 10:00

Welcome and opening

Chair: Yong-Guan Zhu, Director General, Institute of Urban Environment, CAS

Jinghai Li, Vice President of the Chinese Academy of Sciences (CAS)

Deputy Major of the City of Xiamen

Gordon Mc Bean, President, International Council of Science (ICSU)

Pierre Ritchie, Acting Chair of the Scientific Committee, University of Ottawa, Canada

Inauguration of the

ICSU-IAMP-UNU Urban Health and Wellbeing - International Programme Office (IPO)

Brief remarks:

Yong-Guan Zhu (IUE, Director)

Anthony Capon (UNU-IIGH, Director)

Jo Ivey Boufford (IAMP Representative)

Franz Gatzweiler (IPO Executive director)

Festive unveiling of the IPO plaque at IUE main entrance

Group photo

Chair: Pierre Ritchie

10:00-10:30

Keynote 1: Urban Resilience on a Changing Earth

Gordon Mc Bean, President, International Council for Science (ICSU)

10:30-11:30

Press conference ⁴

Chair: Yong-Guan Zhu

Health break

³ Details annexed

⁴ Details annexed

11:30-13:00

Session I:

Regional and thematic priorities in urban health and wellbeing

Chair: Pierre Ritchie

Ignition talks

(5 min., 3 slides)

African Regional thematic priorities in urban health and wellbeing from the ICSU ROA perspective

Edith Madea-Mntla

Urbanization trends and health challenges in Africa

Blaise Nguendo-Yongsi

Urban health co-benefits from climate change mitigation policy

Jonathan Patz

Asthma, allergy and urbanization in Latin America

Mauricio Baretto

Describing health impacts of urban heat at local scale

Chiho Watanabe

Acute Health Effects of Urban Traffic: Observations from London and Beijing

Junfeng (Jim) Zhang

Healthy and sustainable urban food systems

Mark Wahlqvist

The Belo Horizonte Observatory for urban health: addressing inequities at the city level

Waleska T.Caiaffa

European Urban Health Indicators System Parts 1 and 2

Arpana Verma

Urban Living - The Good, The Bad or The Ugly for Health

Tak Sun Ignatius Yu

Risk Interpretation and Action: an agency oriented approach and its possible link to Urban Health and Wellbeing

Rüdiger Klein

13:00-14:00

Lunch (IUE dining hall)

14:00-14:30

Proposed architecture and activities of the Urban Health and Wellbeing Programme, Franz Gatzweiler

Chair: Saroj Jayasinghe

- 14:30-16:00 Working Groups (in parallel):
WG 1: Co-production of knowledge
 Chair: Tony Capon and Susan Parnell
WG 2: Capacity building
 Chair: Jo Ivey Boufford
- Health break as required during WG*
- 16:00-17:00 **Reports to plenary** from working groups 1 & 2 and discussion
 Chair: Franz Gatzweiler
- 18:00 **Banquet Dinner** (*Jingmin North Bay Hotel*)

Wednesday, December 10

- Chair:** Anthony Capon
- 8:30-9:00 **Plenary address**
 Bojie FU, Vice chairman, Chinese National Committee for Future Earth (CNC-FE)
- 9:00-9:30 **Keynote 2: Resilient cities and health**
 Philippa Howden-Chapman, University of Otago, New Zealand
- 9:30-10:00 **Keynote 3: Harnessing health benefits from urban sector policies in transport, housing, energy land use planning. A proposed urban health initiative.**
 Carlos Dora, World Health Organization, Switzerland
- 10:00-10:30 *Health break*
- 10:30-12:00 **Session II: Methodological issues in systems thinking and data for urban health and wellbeing**
 Chair: Susan Parnell
- Ignition talks:** (5 min., 3 slides)
Preliminary results from a systematic review of systems approaches in urban health
 Jose Gabriel Siri
- Beyond Systems Science for Healthy & Equitable Cities**
 Jason Corburn
- New approaches to public health surveillance and early warning systems in large urban areas (using syndromic surveillance concepts)**
 Thomas Krafft
- Urbanization and health in China. Thinking at the global, local and individual scale**
 Xihu Li

Escaping the Complexity Dilemma: A role for low-order system dynamics models?

Barry Newell

Innovation, Urban Development and Health Co-benefits: Research, Concepts and Tools

Puppim de Oliveira

Innovation in urban health and wellbeing in India: the role of traditional healthcare and geospatial technology for community resilience building

R.B. Singh

Consequences of urban planning and management to wellbeing

Keisuke Hanaki

Sustainable place-making and the health and well being agenda

Terry Marsden

Donor priorities in research and innovation

Landis McKellar

Energy Consumption and Metal Contamination in China

Shen Yu

Food sourced CNP metabolism in Xiamen City

Tao Lin

12:00-13:00

Lunch (IUE dining hall)

13:00-14:00

Working Groups (in parallel):

WG 3: State of the art in systems thinking for urban health and wellbeing

Chair: Landis McKellar

WG 4: Data needs, management and visualization

Chair: Ilene Speizer

14:00-14:30

Reports to the plenary from the working groups 3 & 4 and discussion

Chair: Franz Gatzweiler

14:30-15:00

Health break

15:00-16:30

Working group:

WG 5: Research priorities (in plenary)

Chair: Ana Diez-Roux and Yong-Guan Zhu

16:30-17:00

Session V: Concluding discussion

Chair: Pierre Ritchie

17:00

Closure, Yongguan Zhu

18:00

Dinner (IUE dining hall)

Participating experts

1. Arpana Verma, Manchester Urban Collaboration on Health, University of Manchester, UK
2. Barry Newell, Fenner School of Environment and Society, ANU, Australia
3. Blaise Nguendo-Yongsi, Intergovernmental Inst. of Population Studies, University of Yaoundé, Cameroon
4. Bojie Fu, Chinese National Committee for Future Earth, Beijing, China
5. Changping Yu, Institute of Urban Environment, Chinese Academy of Science, Xiamen, China
6. Chiho Watanabe, Department of Human Ecology, University of Tokyo, Japan
7. Christopher N. H. Doll, United Nations University Institute for the Advanced Study of Sustainability, Japan
8. Donatien Beguy, African Population and Health Research Center, Kenya
9. Edith N. Mandela-Mntla, ICSU Regional Office for Africa, South Africa
10. Gordon McBean, International Council of Science (ICSU), Paris, France
11. Hang Xiao, Institute of Urban Environment, Chinese Academy of Science, Xiamen, China
12. Heqing Shen, Institute of Urban Environment, Chinese Academy of Science, Xiamen, China
13. Ignatius Tak-sun Yu, Hong Kong Occupational and Environmental Health Academy, China
14. Janet Cen, Nature Publishing Group for China, Shanghai, China
15. Jason Corburn, Center for Global Healthy Cities, University of California, Berkeley, USA
16. Jinghai Li, Chinese Academy of Sciences, Beijing, China
17. Jonathan Patz, Global Health Institute, University of Wisconsin-Madison, USA
18. José Puppim de Oliveira, UNU Institute for the Advanced Study of Sustainability, Japan
19. Judy Bai, Nature Publishing Group for China, Shanghai, China
20. Junfeng Zhang, Duke Global Health Institute, Duke University, USA
21. Kaisong Zhang, Institute of Urban Environment, Chinese Academy of Science, Xiamen, China
22. Landis MacKellar, Population and Development Review, USA
23. Mark L. Wahlquist, Institute of Population Health Sciences, Fuli Institute of Food Science Zhejiang University, Hangzhou, China
24. Mauricio Barreto, Instituto de Saúde Coletiva, Universidade Federal da Bahia, Brasil
25. Nick Campbell, Nature Publishing Group for China, Shanghai, China
26. Paul Wilkinson, London School of Hygiene and Tropical Medicine, UK
27. Phillippa Howden-Chapman, New Zealand Centre for Sustainable Cities, New Zealand
28. Ran Wang, Institute for Urban and Environmental Studies, Chinese Academy of Social Sciences, Beijing, China
29. R.B. Singh, University of Delhi, India
30. Rice Song, Nature Publishing Group for China, Shanghai, China
31. Rüdiger Klein, Integrated Research on Disaster Risk IPO, Beijing, China
32. Shen Yu, Institute of Urban Environment, Chinese Academy of Science, Xiamen, China

33. Stella Yan, Nature Publishing Group for China, Shanghai, China
34. Tao Lin, Institute of Urban Environment, Chinese Academy of Science, Xiamen, China
35. Tengku-Sharizad Tengku-Dahlan, ICSU Regional Office for Asia and the Pacific, Kuala Lumpur, Malaysia
36. Terry Marsden, Sustainable Places Research Institute, UK
37. Thomas Krafft, Department of International Health, Maastricht University, The Netherlands
38. Waleska Caiaffa, Observatório de Saúde Urbana de Belo Horizonte, Brasil
39. Wuyi Wang, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China
40. Xiaowei Wang, Bureau of International Cooperation, Chinese Academy of Sciences, China
41. Xinbiao Guo, Department of Occupational & Environmental Health Sciences, Peking University, China
42. Xinhua Li, Institute of Urban Environment, Chinese Academy of Science, China
43. Yan Zhuang, Bureau of International Cooperation, Chinese Academy of Sciences, China
44. Zhenyu Wang, Bureau of International Cooperation, Chinese Academy of Sciences, China
45. Zhixiao Ma, United Nations University Institute for the Advanced Study of Sustainability, Japan

Scientific committee

1. Indira Nath, (Chair), National Institute of Pathology, India
2. Pierre Ritchie, (Interim Chair), School of Psychology, University of Ottawa, Canada
3. Ana Diez-Roux, School of Public Health, Drexel University, USA
4. Anthony Capon, United Nations University, Malaysia
5. Christl Donnelly, Department of Infectious Disease, Imperial College London, UK
6. Gerard Salem, Université Paris Ouest Nanterre La Défense, France
7. Hany Ayad, Faculty of Engineering, Alexandria University, Egypt
8. Ilene Speizer, Carolina Population Center, University of North Carolina – Chapel Hill, USA
9. Jo Ivey Boufford, InterAcademy Medical Panel, Italy (*co-sponsor representative*)
10. Keisuke Hanaki, Department of Urban Engineering, University of Tokyo, Japan
11. Luuk Rietveld, Delft University of Technology, The Netherlands
12. Saroj Jayasinghe, Faculty of Medicine, University of Colombo, Sri Lanka
13. Susan Parnell, Department of Environmental and Geographical Science, UCT, South Africa
14. Yong Guan Zhu, Institute for Urban Environment (IUE), Chinese Academy of Sciences, China
15. Carlos Dora, World Health Organization, Switzerland (*Observer*)
16. Peter McGrath, IAP/IAMP Coordinator, IAMP Secretariat, Italy (*Cosponsor; Observer*)
17. Franz Gatzweiler, (Executive Director) UHWP International Programme Office, IUE, CAS, China (*ex officio*)
18. Jose Siri, United Nations University, Malaysia (*Consultant*)