

Healing relationships and clinical guidelines for complex care: *Systems dynamics in person centred health care*

Prof. Luis Salvador-Carulla , MD, PhD

Centre for Mental Health Research ANU

Menzies Centre for Health Policy, University of Sydney

luis.salvador-carulla@anu.edu.au

A/Prof J Gillespie and Dr S Lukersmith

Menzies Centre for Health Policy, University of Sydney

Prof Carlos Garcia-Alonso & Dr JA Salinas

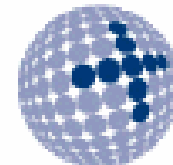
Loyola University Andalucia (Spain)



THE UNIVERSITY OF
SYDNEY



Australian
National
University



UNIVERSIDAD
LOYOLA
ANDALUCÍA

DISCERNEMENT AND COMPLEXITY IN HEALTH CARE

Ontology



Complexity

DOCAHS

Menzies Centre for Health Policy

Person-centered care

ICPCM



ICPCM

The International College of Person-Centered Medicine

Medicine of the person, for the person, by the person, and with the person.



Implementation

IFIC

BADIN



DISCERNEMENT AND COMPLEXITY IN HEALTH CARE

Ontology

Philosophy of Science
Classification
Taxonomy

Complexity

Definition
Typology
Components

Person-centered care

Definition
Components
Integrated care

Implementation

Practice guidelines
Integrated care
Bridging



DISCERNEMENT AND COMPLEX HEALTH CARE

Ontology

Philosophy of Science
Classification
Taxonomy

What scientific knowledge
do we need to inform policy
in the era of complexity?

Complexity

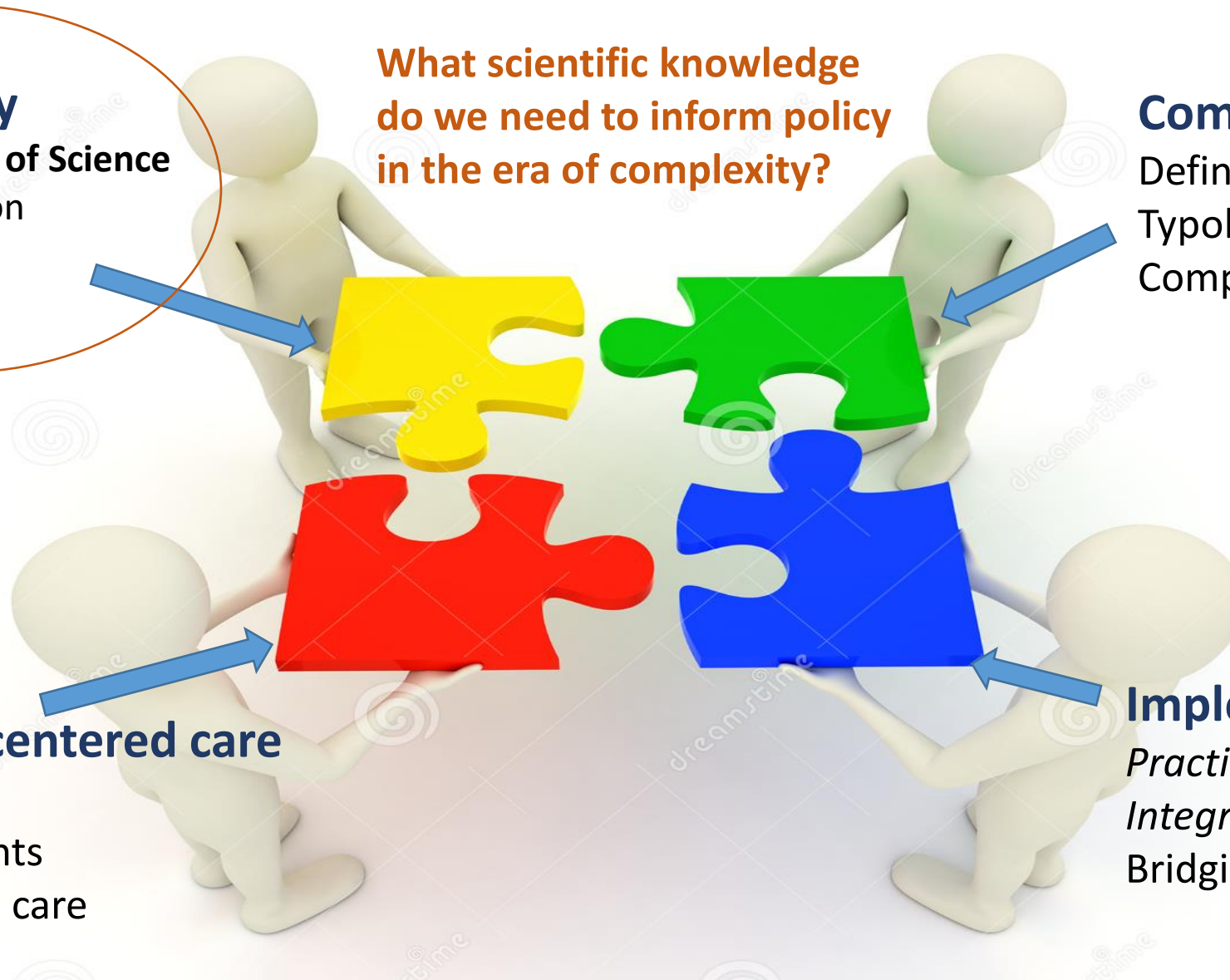
Definition
Typology
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Practice guidelines
Integrated care
Bridging



2010

Gibert et al. *Health Research Policy and Systems* 2010, **8**:28
<http://www.health-policy-systems.com/content/8/1/28>



HEALTH RESEARCH POLICY
AND SYSTEMS

REVIEW

Open Access

Integrating clinicians, knowledge and data: expert-based cooperative analysis in healthcare decision support

Evidence-informed medicine should also incorporate expert knowledge. Complexity analysis requires the collaboration of data analysts & clinicians (experts) in an iterative way (EbCA)

2014

Journal of **Evaluation in Clinical Practice**
International Journal of Public Health Policy and Health Services Research



Journal of Evaluation in Clinical Practice ISSN 1365-2753

Framing of scientific knowledge as a new category of health care research

FSK is a group of studies mainly based in PEK aimed at generating formal specific frames to understand and to represent complex phenomena & to guide decision making under conditions of uncertainty

2015

Fernandez et al. *Health Research Policy and Systems* (2015) 13:66
DOI 10.1186/s12961-015-0057-0



HEALTH RESEARCH POLICY
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Evidence-based medicine: is it a bridge too far?



EBM did not considered philosophy of science to guide its assumptions such as equating “corroboration” of scientific knowledge (metanalysis of evidence) to “implementation” without taking into account context or complexity

2017

Epidemiology and Psychiatric Sciences (2017), **26**, 105–114. © Cambridge University Press 2017
doi:10.1017/S2045796016000767

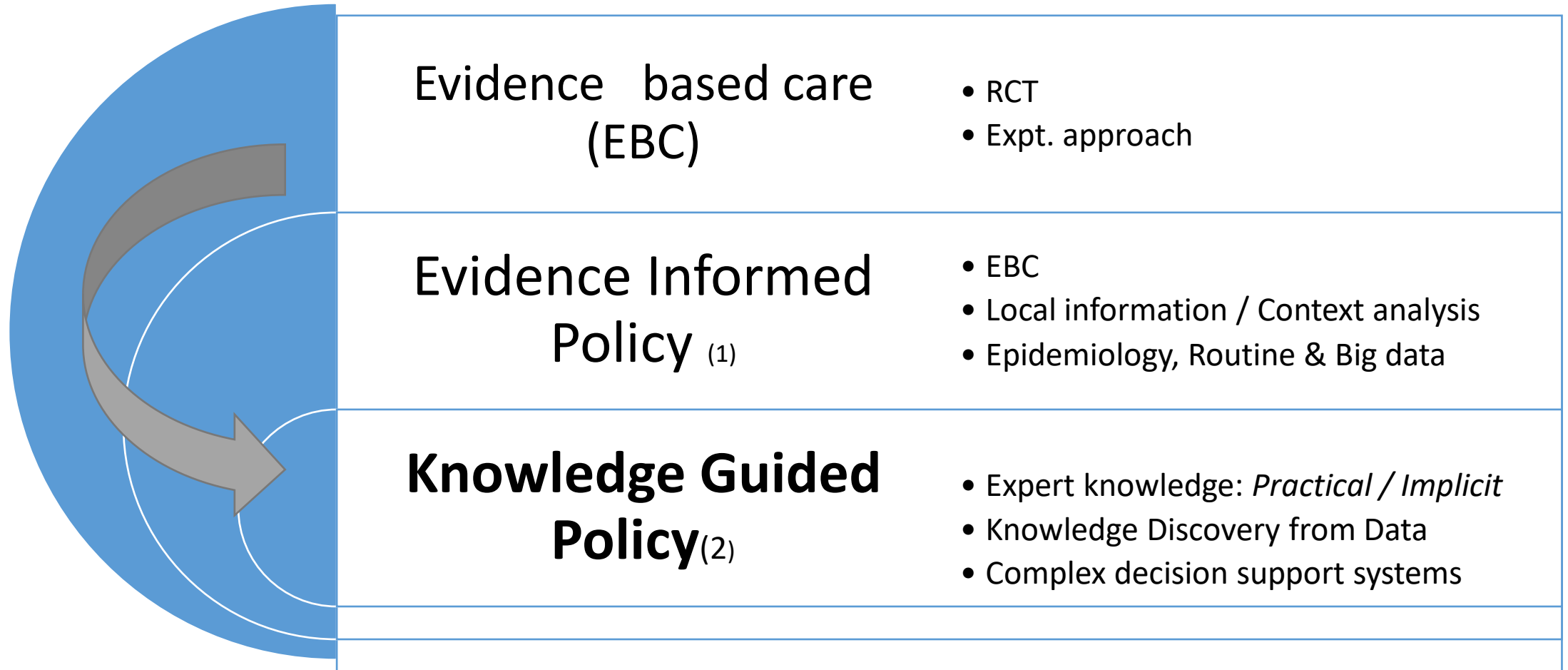
EDITORIAL

From the EBM pyramid to the Greek temple: a new conceptual approach to Guidelines as implementation tools in mental health

L. Salvador-Carulla^{1*}, S. Lukersmith¹ and W. Sullivan²

To take into account complexity a new approach to scientific knowledge is needed in addition to EBM that incorporates expert knowledge, experiential knowledge and context, as well as other types of logical inferences

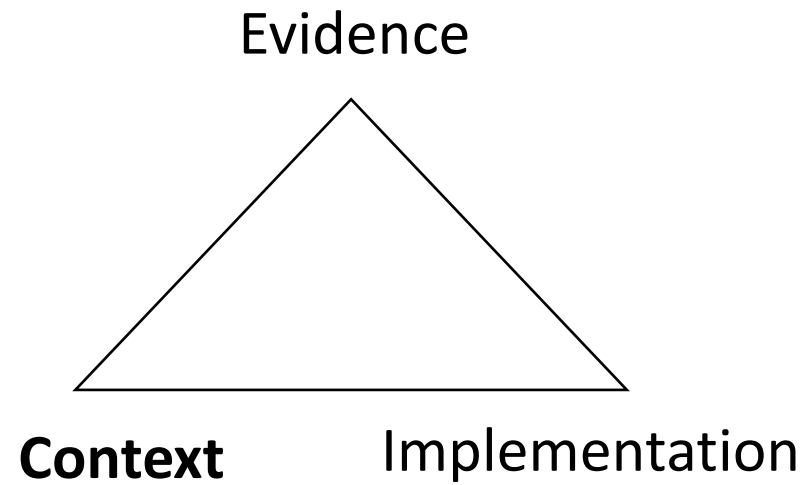
Paradigm shift to Systems thinking



1. Lavis et al, Health Research Policy and Systems 2009 (SUPPORT MODEL)

2. Gibert et al, Health Research Policy and Systems 2010 (EbCA MODEL)

Context Analysis



Expert Knowledge



2010

Gibert et al. *Health Research Policy and Systems* 2010, **8**:28
<http://www.health-policy-systems.com/content/8/1/28>



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Framing of Scientific Knowledge (FSK)

Studies of FSK are explicit, specific, standardized, innovative, based on the available evidence and agreed upon by a group of experts (ideally the scientific community on the specific area) following a method that can be reproduced by other groups

Scientific declarations and frameworks

Scientific position papers

Expert-based clinical recommendations (as opposed to clearly defined evidence base guidelines)

Scientific conceptual maps

Classifications

Framing health atlases (as opposed to ecological atlases)

Framing Col and Bol as opposed to Col and Bol studies using ecological and population-based approaches)

LOGICAL INFERENCES AND DISCERNEMENT

INFERENCE	Process of deriving logical conclusions from premises known or assumed to be true.	
INDUCTIVE	Inferences from specific instances to general conclusion or explanation.	Observational and ecological
DEDUCTIVE	Inferences from general instances to a specific conclusion. Deduction is necessary inference as the certainty of the explanation can be derived from the certainty of the premises.	Experimental studies
ABDUCTIVE	Inference to the best explanation. It needs a prior knowledge base to select the best or the most plausible explanation.	Clinical diagnosis, knowledge discovery from data
MEANS-END INFERENCE	Relates fundamental norms to the means to achieve a predetermined end. This requires experts to decide which is the best or most optimal mean from a set of alternatives to achieve the final goal.	Artificial intelligence and implementation

2010

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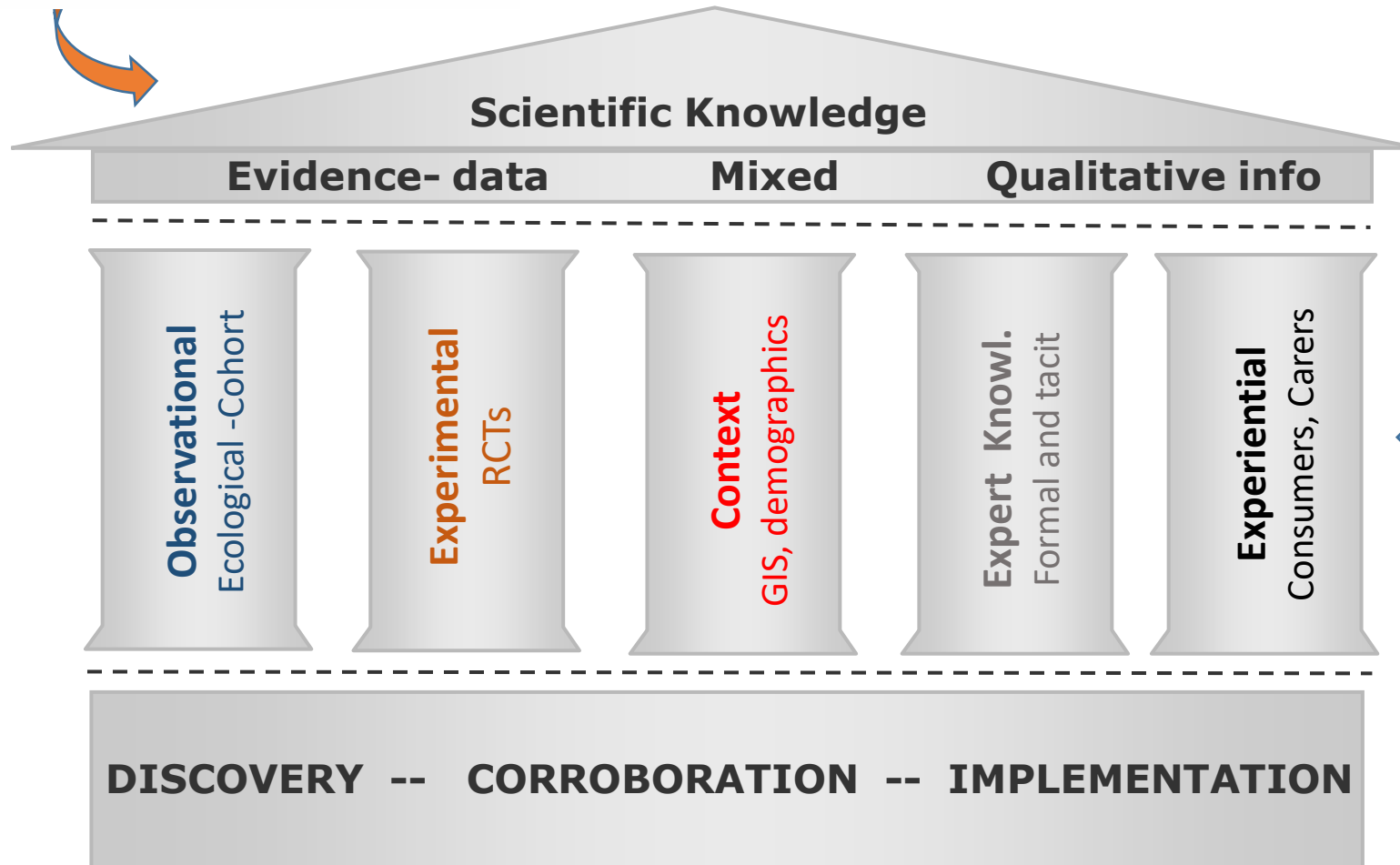
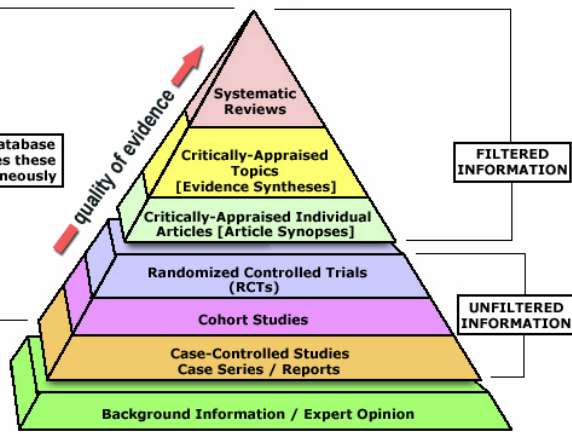
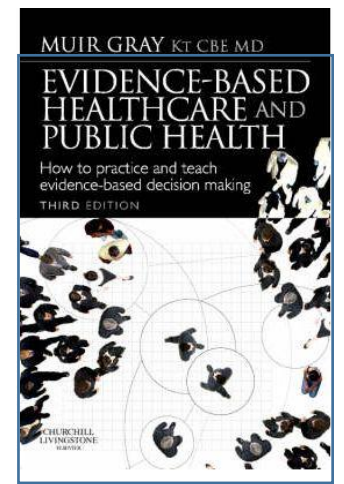
L. Salvador-Carulla^{1*}, S. Lukersmith¹ and W. Sullivan²

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From EBM to System thinking :

The Greek Temple

Salvador-Carulla et al, Epid Psych Sciences, 2016



2010

Gibert et al. *Health Research Policy and Systems* 2010, **8**:28
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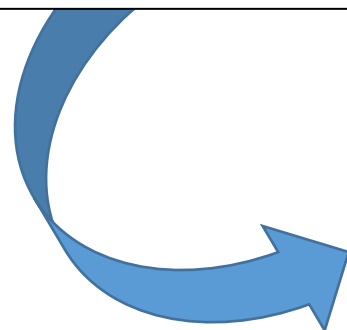
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Primary care of adults with developmental disabilities

Canadian consensus guidelines

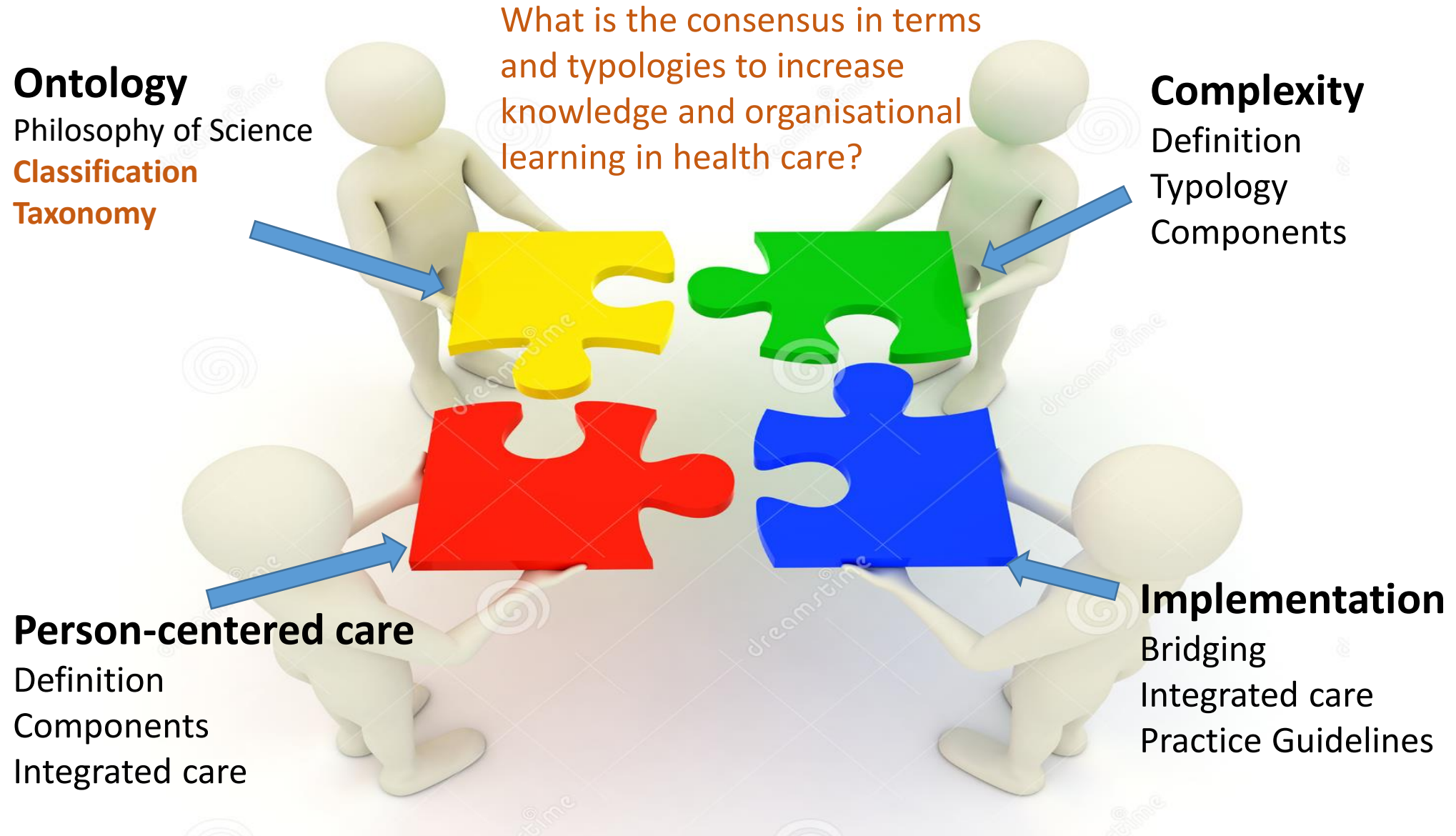
William F. Sullivan MD CCFP PhD Joseph M. Berg MBBCh MSc FRCPsych FCCMG Elspeth
Tom Cheetham MD CCFP Richard Denton MD CCFP FCFP FRRMS John Heng MA Brianna
David Joyce MD CCFP Maureen Kelly RN MPA Marika Korossy Yona Lunskey PhD

3rd Version



- (1) 'Recommend': always apply. The primary care provider should regard the guideline as a basic standard of care in Canada.
- (2) 'Consider': indicated to primary care providers that it should be applied at the physician's discretion. The professional would need to take into account factors specific to each patient and context before deciding to implement the guideline.
- (3) 'Aspire': authors endorsed the action as an ideal/future standard of care that should be applied if possible but acknowledged that advocacy and changes to contexts and systems of care might be necessary for clinicians to have the capacity and resources to apply such a guideline routinely.

DISCERNEMENT AND COMPLEXITY IN HEALTH CARE



2010

Salvador-Carulla et al. *International Journal of Mental Health Systems* 2010, 4:29
<http://www.ijmhs.com/content/4/1/29>



INTERNATIONAL JOURNAL OF
MENTAL HEALTH SYSTEMS

RESEARCH

Open Access

A preliminary taxonomy and a standard knowledge base for mental-health system indicators in Spain

Classification of mental Health Indicators for monitoring health systems

2013

Salvador-Carulla et al. *BMC Health Services Research* 2013, 13:218
<http://www.biomedcentral.com/1472-6963/13/218>



BMC
Health Services Research

RESEARCH ARTICLE

Open Access

Evaluation of an integrated system for classification, assessment and comparison of services for long-term care in Europe: the eDESDE-LTC study

Classification of health services to improve the description of the service delivery systems provided by SHA 2.0 (WHO/OECD, 2012)

2013

Article

Int. J. Environ. Res. Public Health 2013, 10, 1963-1976;

Basic Concepts in the Taxonomy of Health-Related Behaviors, Habits and Lifestyle

Luis Salvador-Carulla ^{1,2,*}, Federico Alonso ², Rafael Gomez ², Carolyn O. Walsh ³, José Almenara ⁴, Mencia Ruiz ⁵, Maria José Abellán ⁴ and eVITAL group ⁶

Typology and definition of health related habits and life styles for improving the description of personal factors in the WHO International Classification of Functioning (ICF)

2016



The brain injury case management taxonomy (BICM-T);

Lukersmith, Sue; Fernandez, Ana; Millington, Michael; Disability and Health Journal, 04/2016, Volume 9, Issue 2

Typology and definition of a group of complex clinical interventions not previously defined: Case management to contribute to the International Classification of Health Interventions (ICHI)

Main Problems when Assessing Services

MH Atlas Solutions



- **Commensurability:** Diff. units of analysis, lack of comparison like with like .
We cannot merge:



- Service Providers
- Clinical teams
- Interventions
- Activities



1st We identify the minimal unit of production or care (Basic Stable inputs of Care- **BSIC**) or **TEAMS**



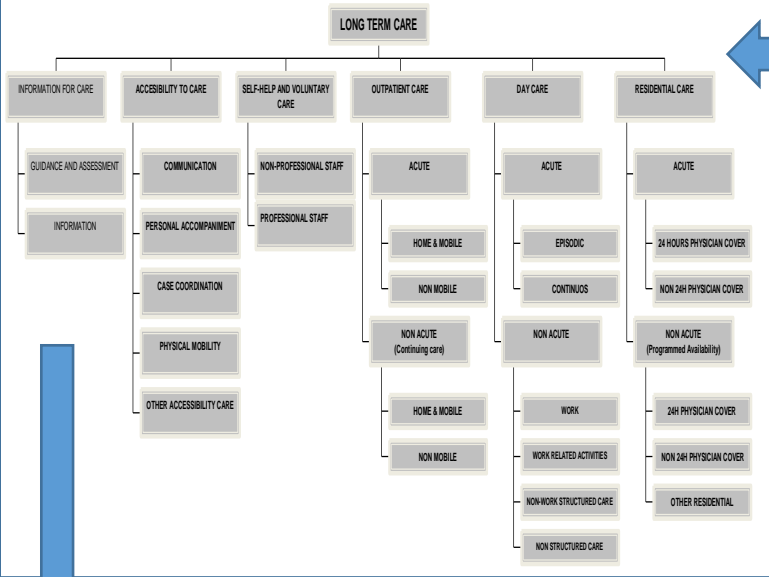
Transferability and terminological variability:



- Names of the services do not always reflect their main activity (Hospital – Outreach services- Crisis houses-medical homes)
- Names of same services vary across jurisdictions (Day care)

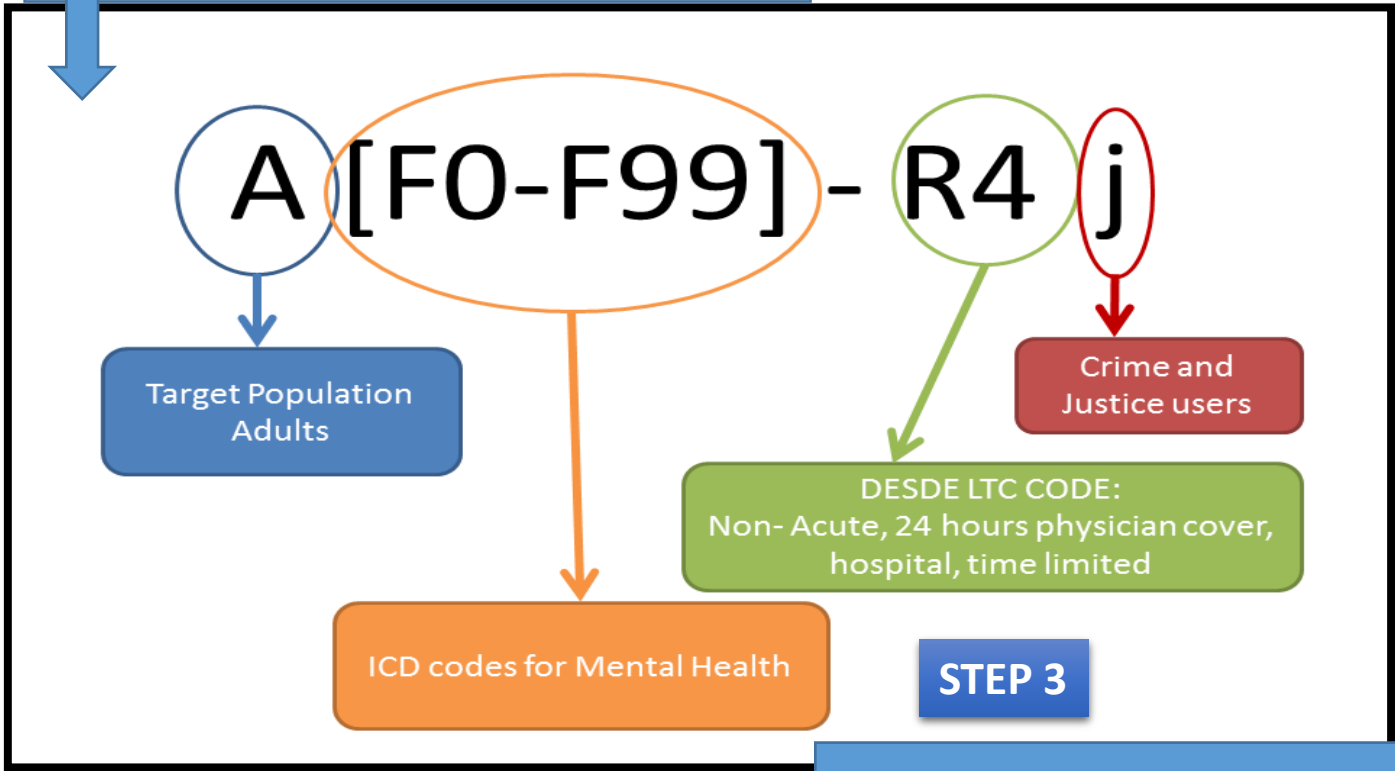
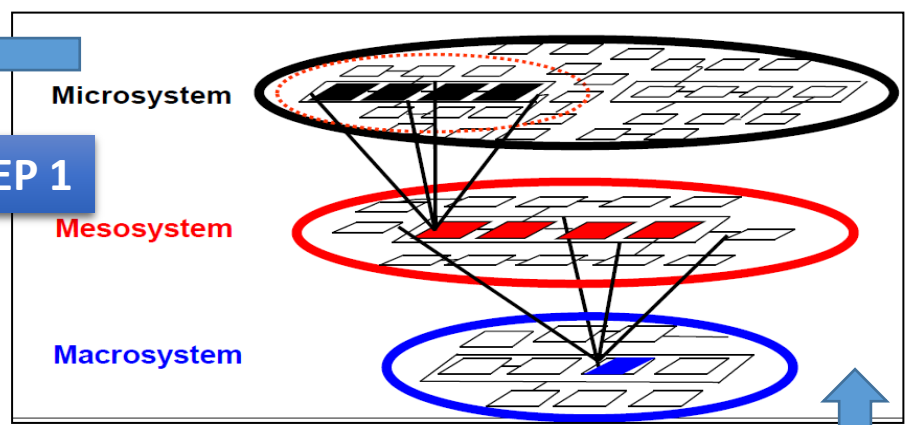
2nd We label them according to their Main Type of Care (**MTC**) they provide





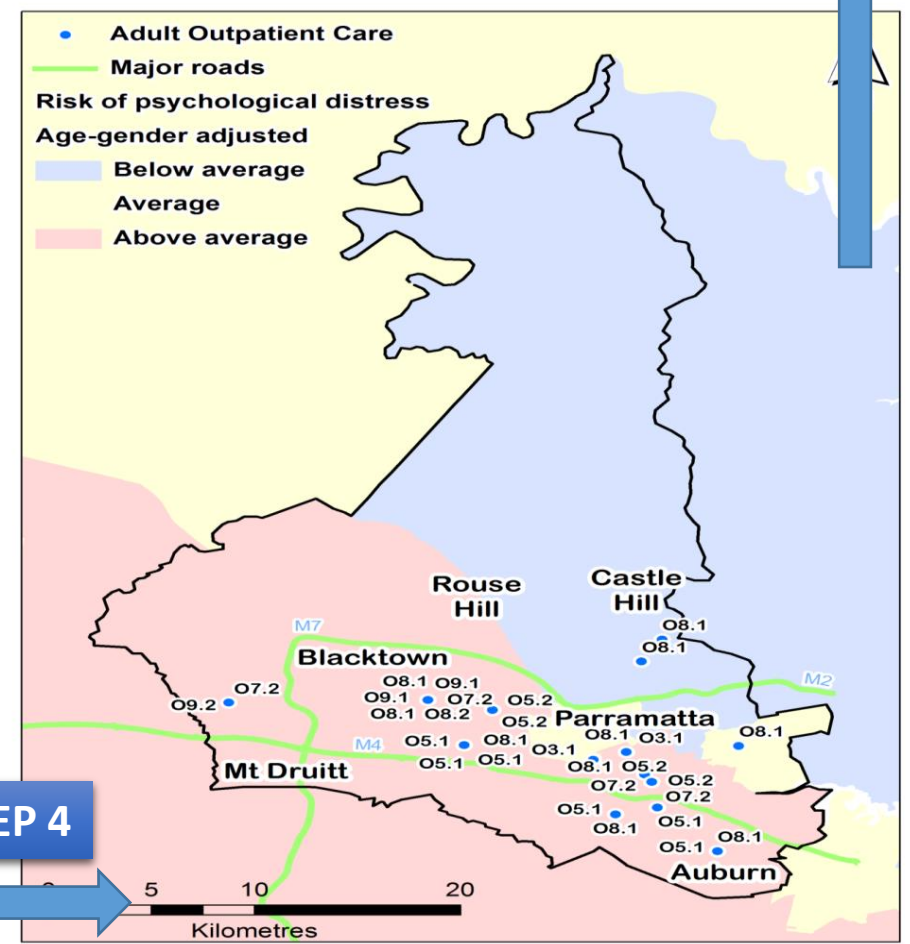
STEP 2

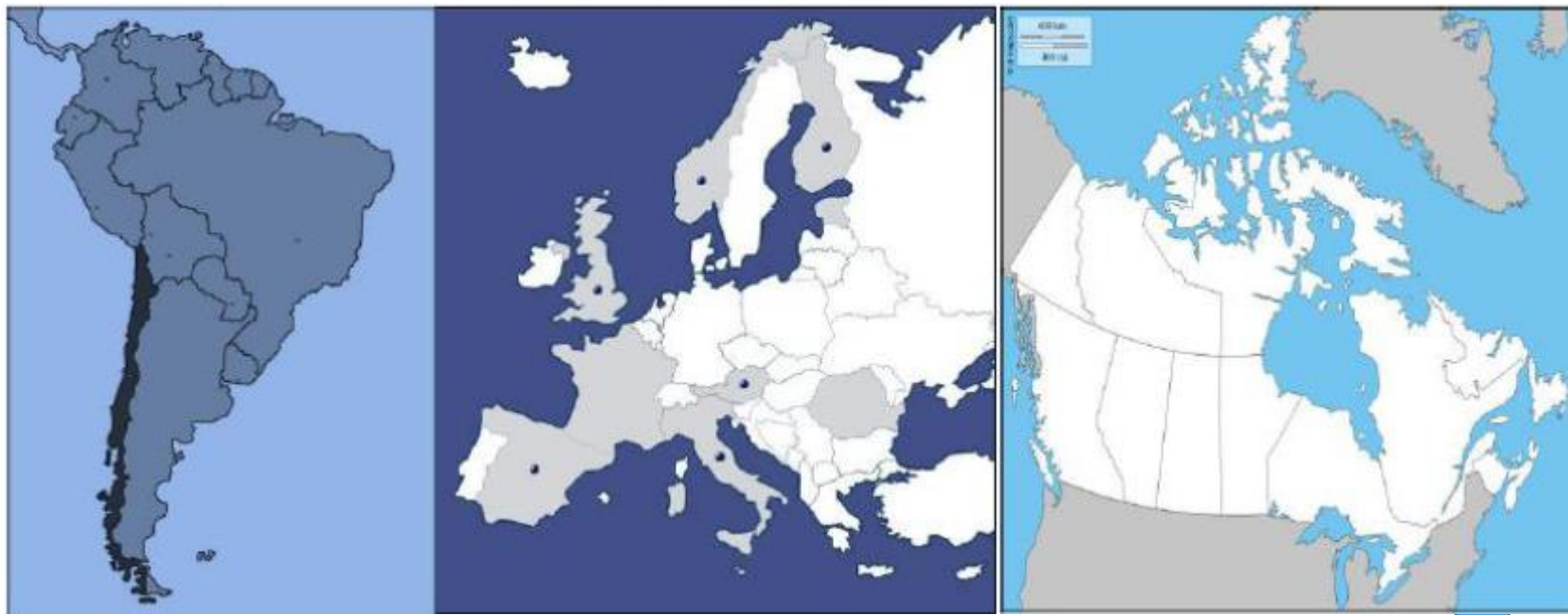
STEP 1



STEP 3

STEP 4





Completed

Far West NSW

Western Sydney

South Western Sydney

Central-Eastern Sydney

Brisbane North

In progress

South East Melbourne

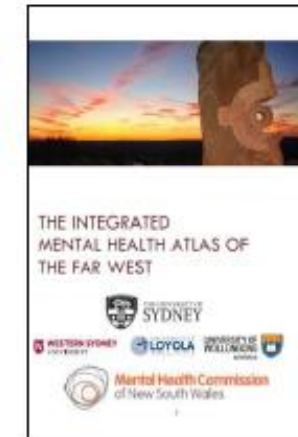
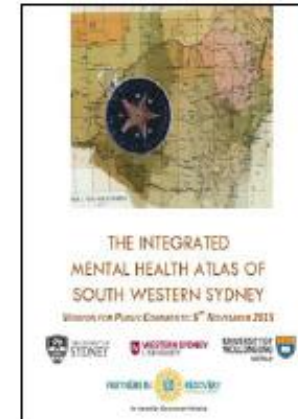
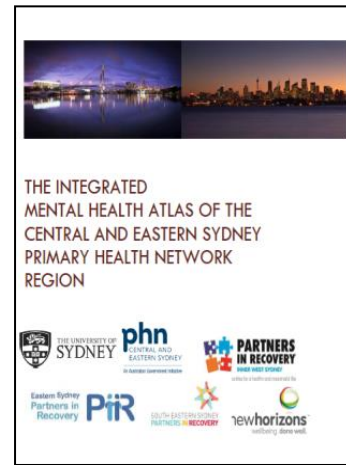
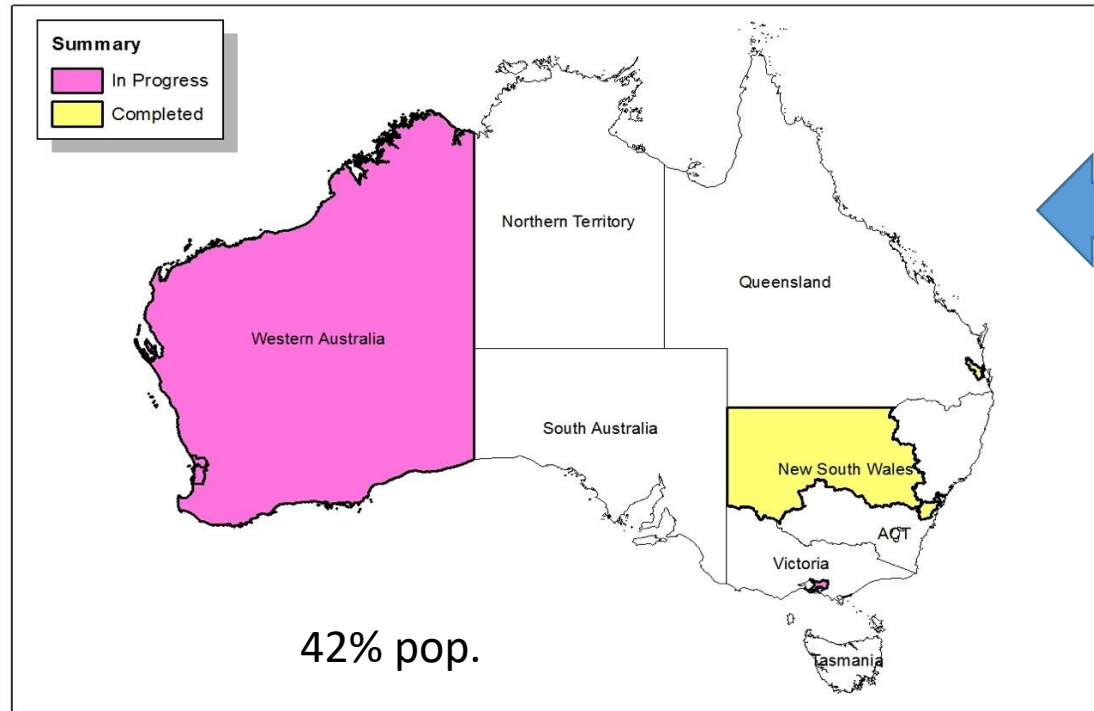
+AOD & Homelessness

Western Australia

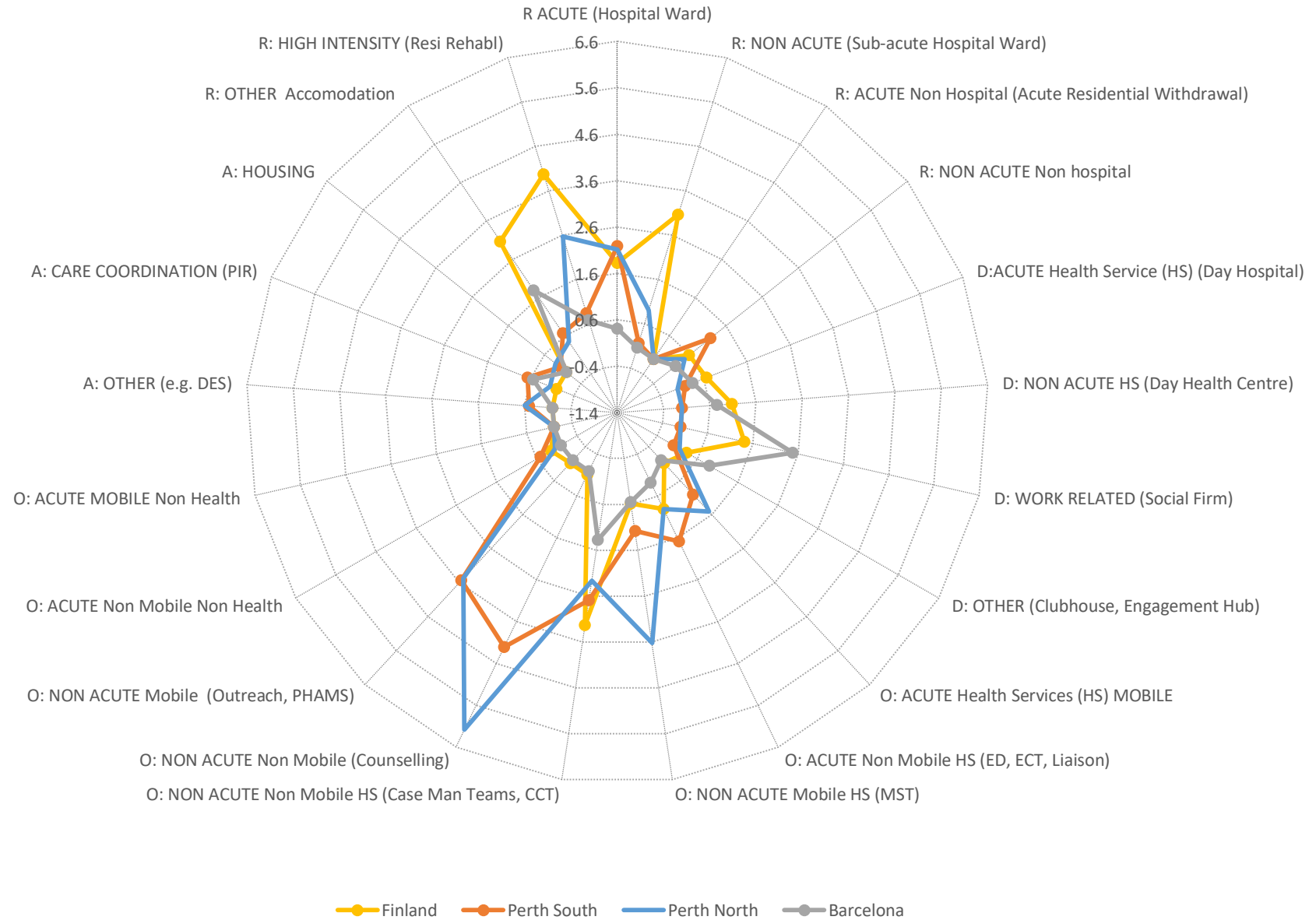
Western NSW

North Sydney

Canberra ACT



Pattern of Mental Health Care - Adults WA Metro Vs. Barcelona Vs. Finland



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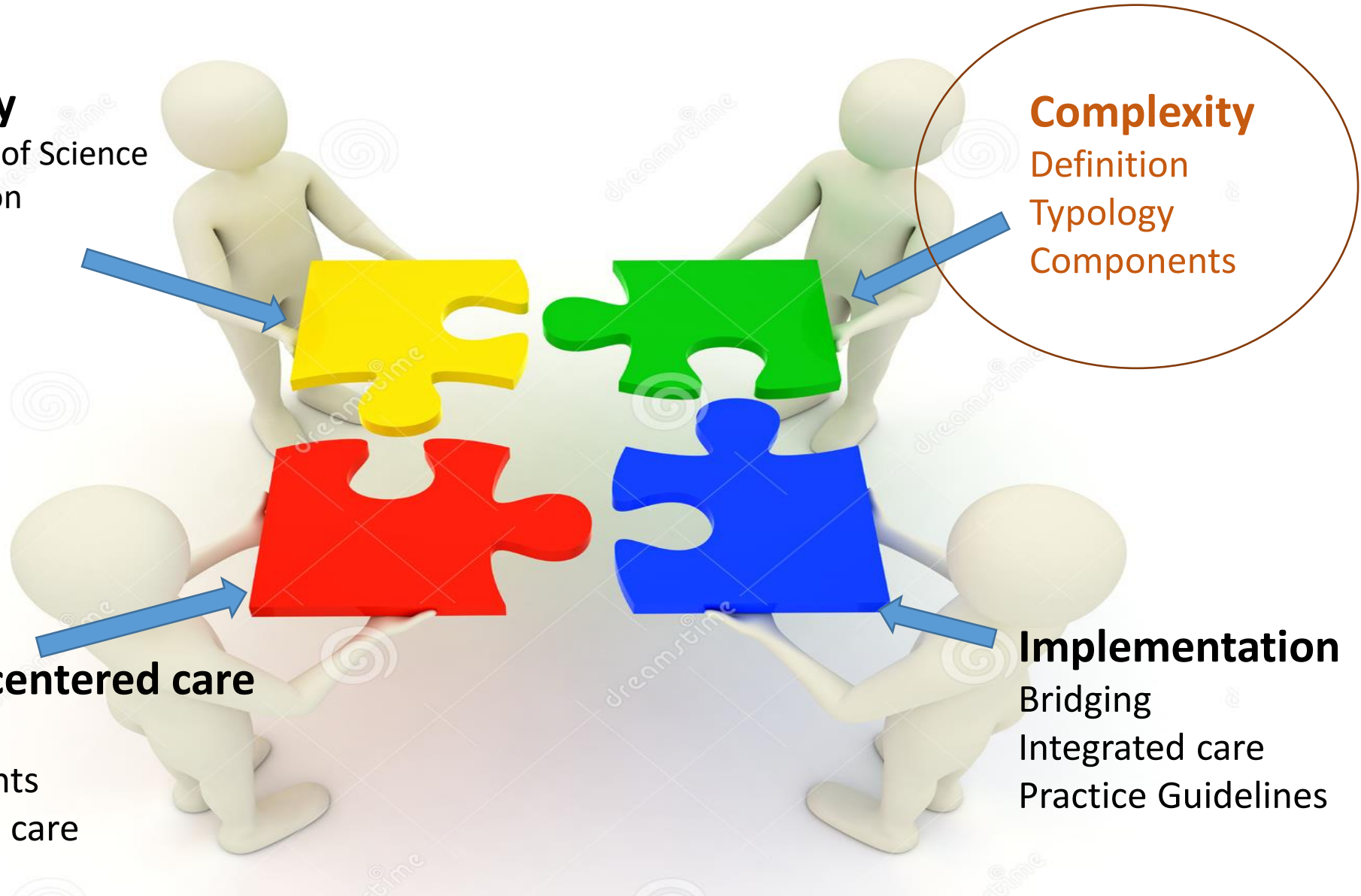
Definition
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Integrated care
Practice Guidelines



System thinking perspective for health care planning

- **HEALTH SYSTEMS** *are dynamic social organizations of people, institutions and resources that deliver health care to meet the health needs of target populations mainly by providing health interventions.*
- **SYSTEM THINKING:** provides a means of analysing organisations as a integrated, complex composition of many interconnected agents (human and non-human) that need to work together for the whole to function successfully
- **DYNAMIC SYSTEMS** can be described in terms of their context, goals, components , and connections and interactions. They are characterised by:
 - HIGH Variability
 - HIGH Uncertainty and ambiguity
 - DIFFERENT Levels of Organisation: Simple / Complicated / *Complex*





Components of Complex health systems

Hierarchy & Context:

Systems, subsystems,
nested systems
Boundaries: mapping
Context & Local history

LOCAL ATLAS OF CARE

Jurisdictions
Context analysis
GIS

Availability
Capacity
Use

DSS

Logic models
Conceptual maps
Financial Flows

Interventions
Packages
Social Networks

Drivers

Values, goals,
targets

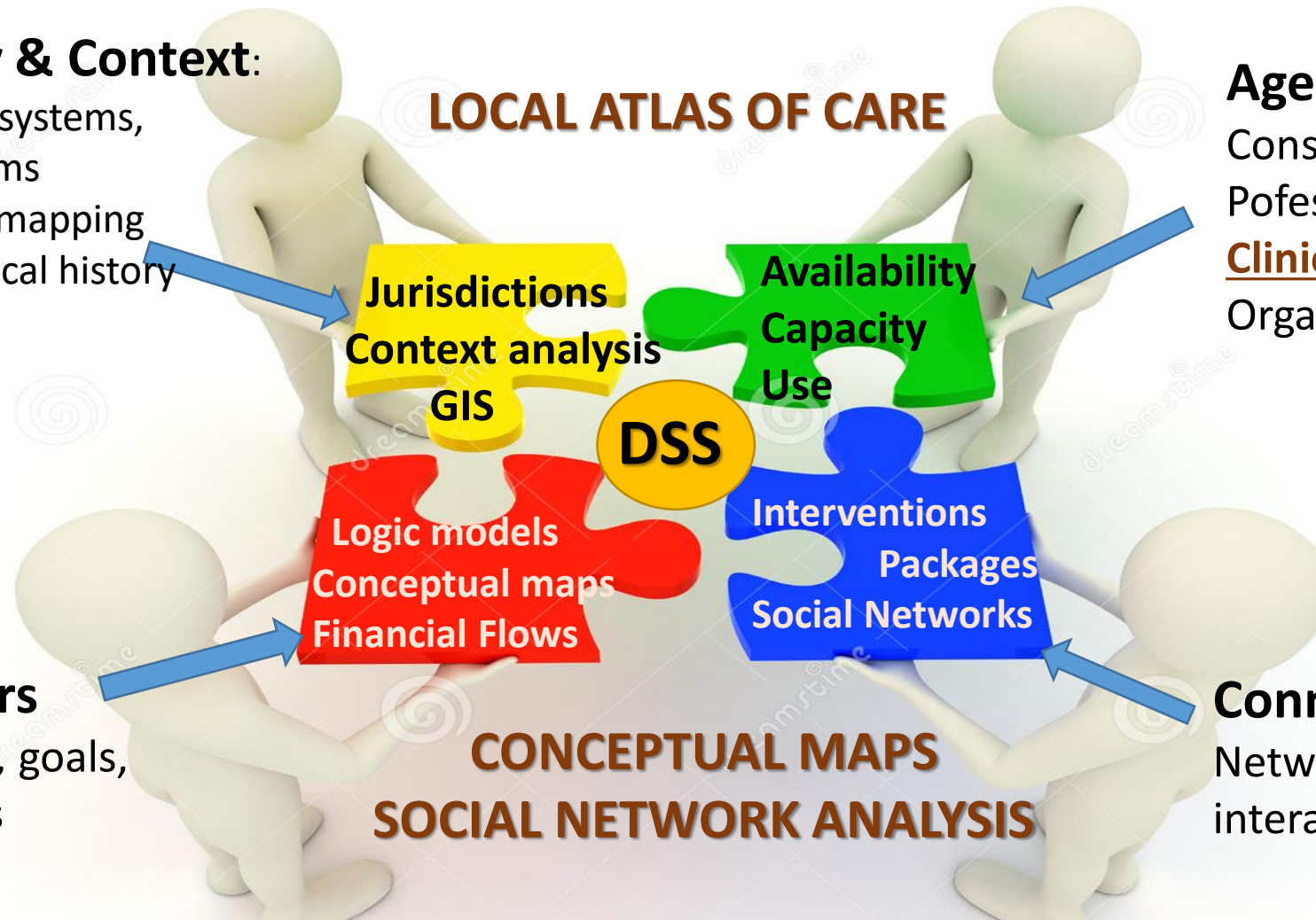
CONCEPTUAL MAPS SOCIAL NETWORK ANALYSIS

Agents

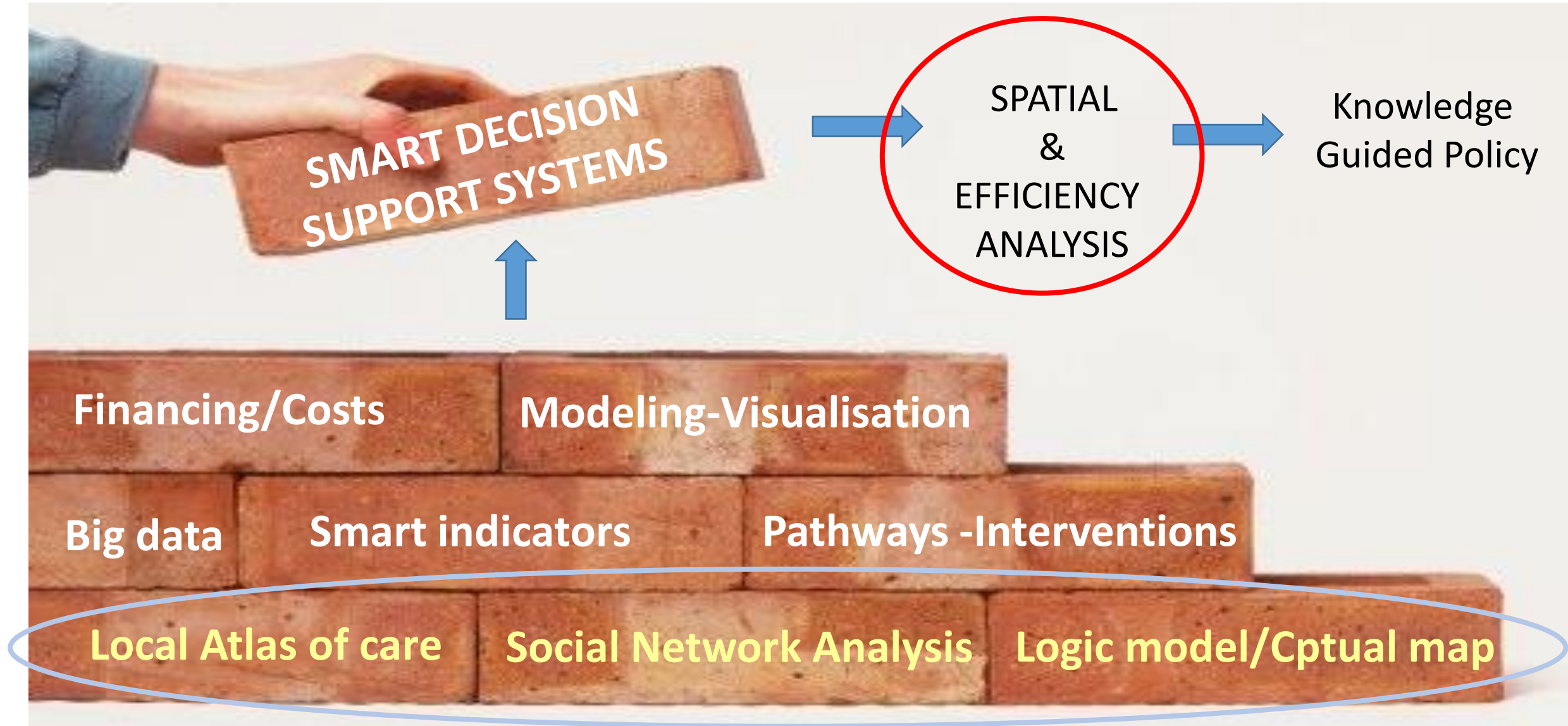
Consumers
Professionals,
Clinical Teams,
Organisations

Connections

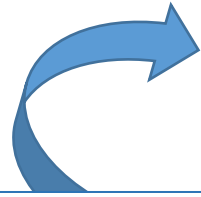
Networks
interactions



System thinking in MH Planning



Spatial Analysis



Spatial Economic Analysis

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/rsea20>

Applying an Evolutionary Algorithm for the Analysis of Mental Disorders in Macro-urban Areas: The Case of Barcelona

José Alberto Salinas-Pérez, Maria Luisa Rodero-Cosano, Carlos Ramon García-Alonso & Luis Salvador-Carulla
Published online: 11 Aug 2015.

Epidemiology and Psychiatric Sciences

<http://journals.cambridge.org/EPS>

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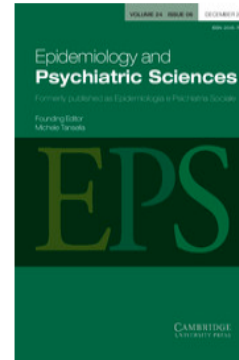
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ATLAS OF MH CARE



Use of an integrated Atlas of Mental Health Care for evidence informed policy in Catalonia (Spain)



Modelling

European Journal of Operational Research 242 (2015) 525–535



Contents lists available at [ScienceDirect](#)

European Journal of Operational Research

journal homepage: www.elsevier.com/locate/ejor



Decision Support

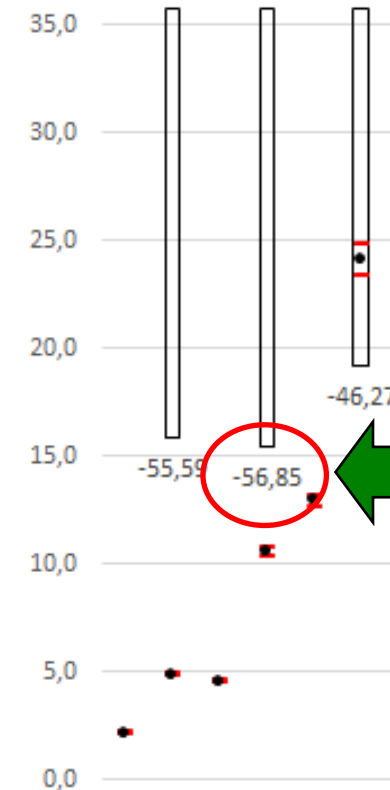
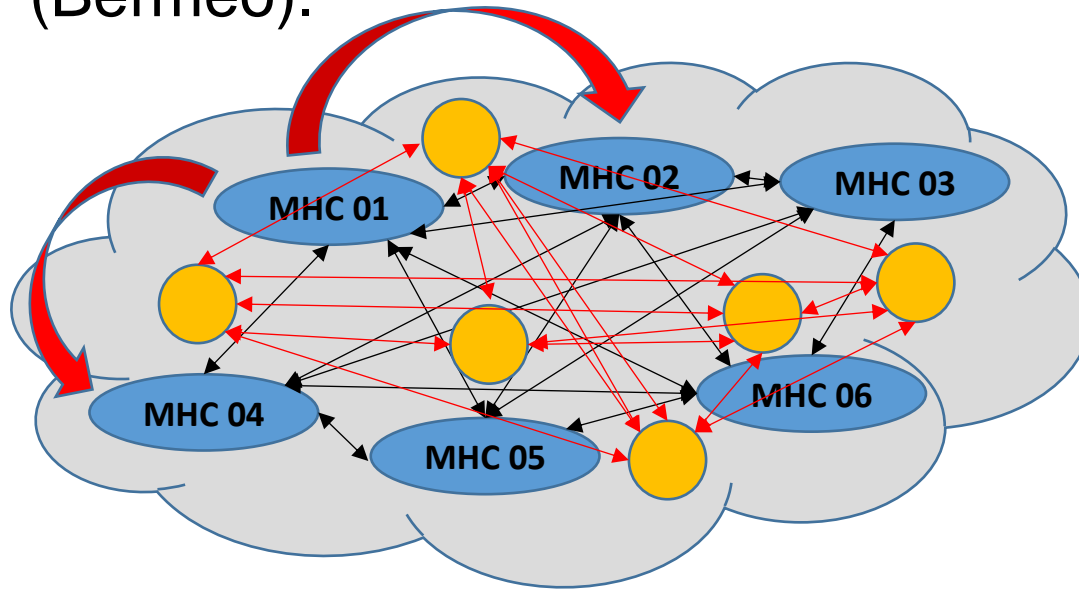
Evaluation of system efficiency using the Monte Carlo DEA: The case of small health areas

Mercedes Torres-Jiménez ^{a,*}, Carlos R. García-Alonso ^b, Luis Salvador-Carulla ^c,
Vicente Fernández-Rodríguez ^d



Micro- Management Interventions at mesolevel in MHC in the Basque Country (Spain)

1. Moving a psychologist from an Acute Service (EDESDE-LTC code R2) in a MHC (Durango) to another Acute Service in other MHC (Ercilla).
2. Moving a place (1 bed) in an Acute Service (EDESDE-LTC code R2) located in a MHC (Durango) to another Acute Service in other MHC (Bermeo).



The DSS recommends us these changes

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Geneva Conferences & Declarations on PCM

- 2008 Conceptual Explorations
- 2009 From Concepts to Practice
- 2010 Collaboration across Specialties, Disciplines & Programs
- 2011 Articulating Person-centered Clinical Medicine & People-centered Public Health
- 2012 Chronic Diseases: Person- & People-centered Perspect.
- 2013 Person-centered Health Research
- 2014 Person and People-centered Care for all
- [2015 Person-Centered Primary Health Care](#)
- [2016 Person Centered Integrated Care through the Life Course](#)

2014 Geneva Declaration on Person- and People-centered Integrated Health Care for All

Adopted by the participants of the 7th Geneva Conference on Person Centered Medicine on April 30, 2014 and released by the ICPCM Board on May 27, 2014.

Preamble

We, participants in the 7th Geneva Conference on Person-centered Medicine, call on everyone to join together to promote person-centered and people-centered health care in order to improve health for all in ways that are equitable, sustainable, and cost-effective. Equity and integration in person-centered health care are crucial foundations for targeting opportunities for effective action.

The International College of Person-Centered Medicine (ICPCM) adheres to the new perspectives on universal health care endorsed by the World Health Assembly since 2009 and reads with interest the 2013 Lancet Commission Report on "Global Health 2035: World converging within a generation", both of which outline objectives, research, and strategies for developing Person- and People-centered Integrated Care (PPCIC) for all people.

Global Health Equity is Imperative

There is growing consensus on the need and opportunity to reduce the gap between the health and well-being of people in high-income countries and those in lower-income countries. Inequity in health and health services within and between countries is a crucial barrier to well-being around the world. Although global health equity is an ethical imperative independent of its economic implications, the increased economic productivity and social value that occur as a result of improved health in low-income countries makes the achievement of equity feasible as a result of increased self-sufficiency of people and of the synergies that emerge from global cooperation.

Effective global health care policy must be guided by the recognition of the intrinsic dignity of all persons, who deserve respect and support in their efforts to realize their own health, happiness, and capabilities. Consequently, individual well-being cannot be divorced from collective well-being. Person-centered care necessarily involves a commitment to the promotion of health for all people. Mutual respect empowers people so that they have both the rights and the opportunities needed to flourish in a state of physical, mental, and social well-being.

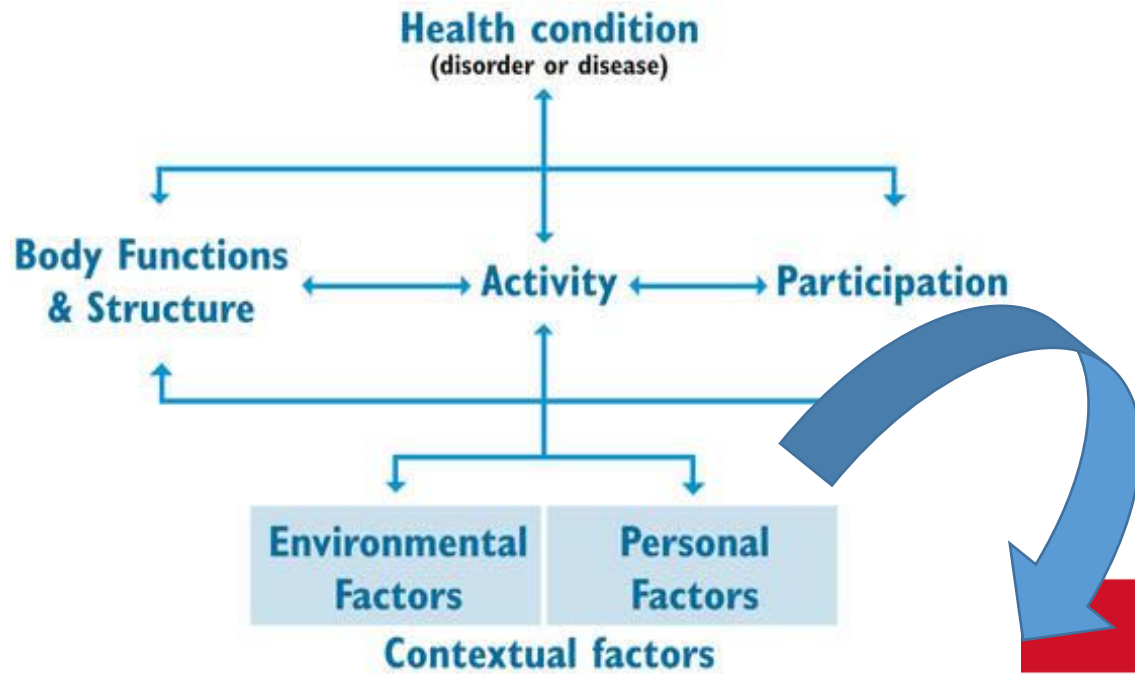
Person-centered health focuses on the needs, values and perspectives of the whole person in their life context and course, rather than exclusively on their status as a patient, their medical condition or disease. People-centered health care emphasizes that persons live together with other people organized in families, communities and populations dispersed around the world. The perspectives of person-centered and people-centered care are universal, equitable, and integrative.

Health Care for All must be integrated to be effective

Universal health and well-being require integration of health care planning and delivery that exist at several levels. Such integrated health care must be fully people- and person-centered in order to function in accord with the basic principle of intrinsic human dignity and related values of equity and justice, consistent with our previous declarations, and with the conventions approved by the UN. More specifically, PPCIC operates at six major levels that are intertwined within a complex global system:

1

Domains of Person-centered care



	Ill Health	Positive Health
I. Health Status	Ill-Being a. Disorders / diseases b. Dysfunction/disabilities	Well Being a. Recovery/good health b. Good functioning
II. Experience of Health	Experience of ill-being	Experience of well-being
III. Contributory factors	Contributors to ill-being (internal & external health risks)	Contributors to well-being (internal & external health promoters)

Declaration of Alma-Ata

International Conference on Primary Health Care, Alma-Ata, USSR, 6-12 September 1978

The International Conference on Primary Health Care, meeting in Alma-Ata this twelfth day of September in the year Nineteen hundred and seventy-eight, expressing the need for urgent action by all governments, all health and development workers, and the world community to protect and promote the health of all the people of the world, hereby makes the following

Declaration:

I

The Conference strongly reaffirms that health, which is a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity, is a fundamental human right and that the attainment of the highest possible level of health is a most important world-wide social goal whose realization requires the action of many other social and economic sectors in addition to the

II

The existing gross inequality in the health status of developed and developing countries as well as within economically unacceptable and is, therefore, of com

III

Economic and social development, based on a New basic importance to the fullest attainment of health f between the health status of the developing and deve protection of the health of the people is essential to development and contributes to a better quality of li have the right and duty to participate individually an implementation of their health care.

V

Governments have a responsibility for the health of only by the provision of adequate health and social governments, international organizations and the wh decades should be the attainment by all peoples of ti of health that will permit them to lead a socially and Primary health care is the key to attaining this target of social justice.

WHO

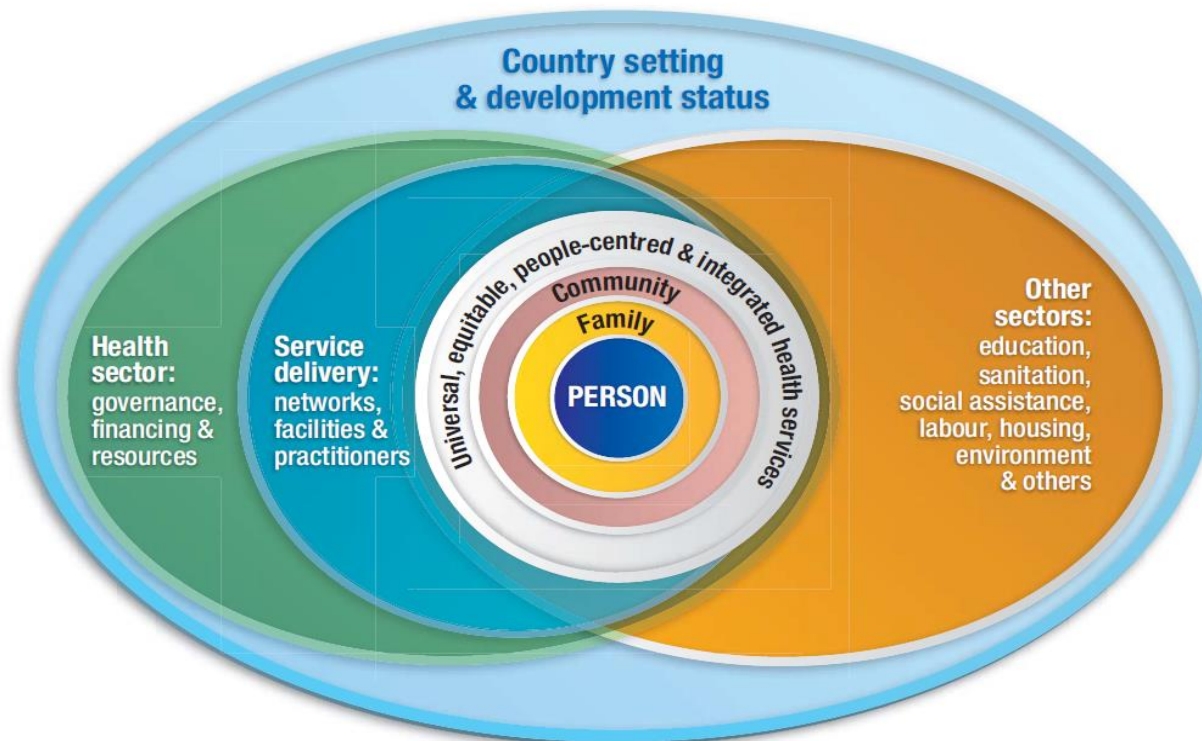


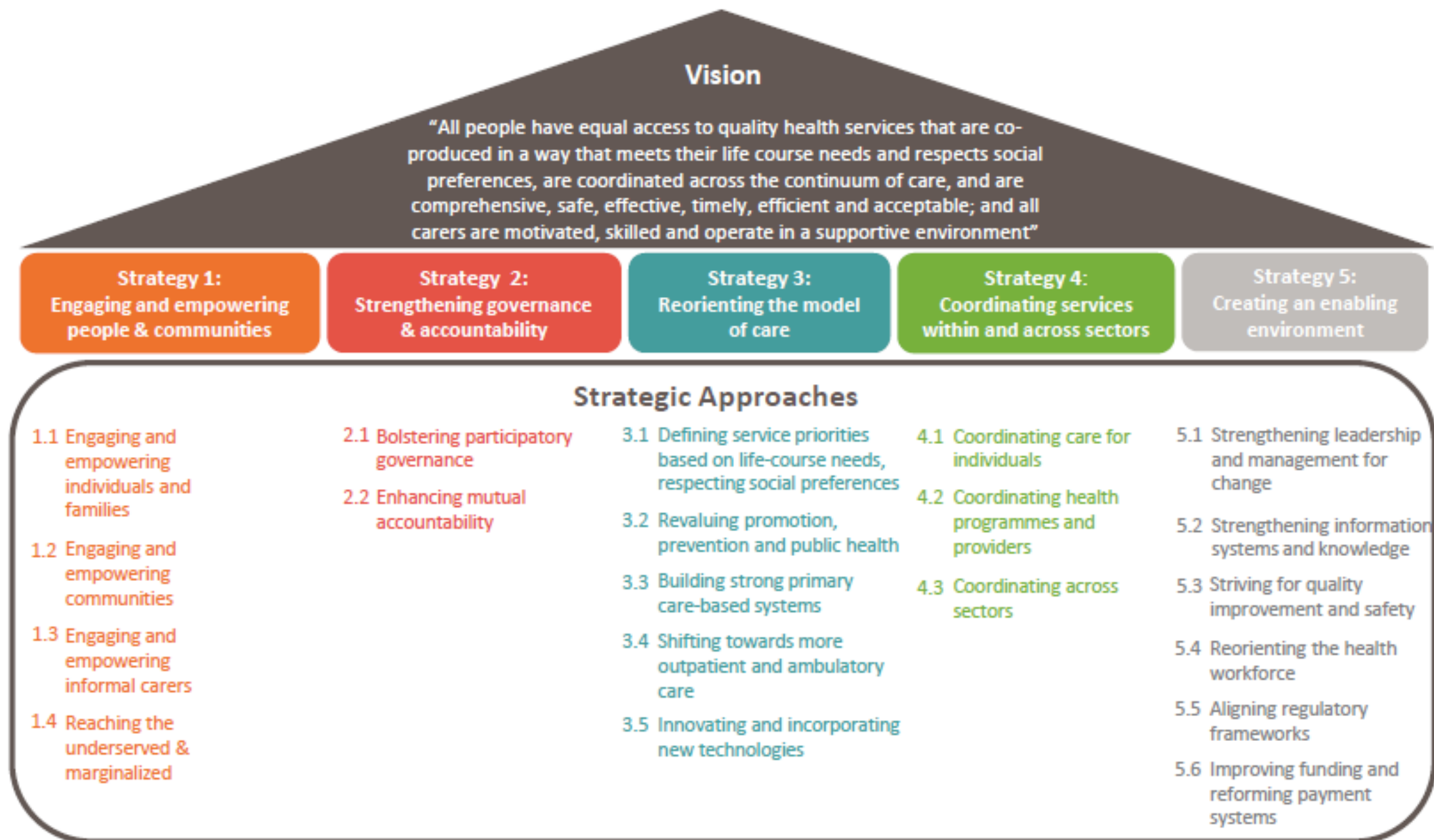
World Health
Organization

Service Delivery and Safety

WHO global strategy on people-centred
and integrated health services

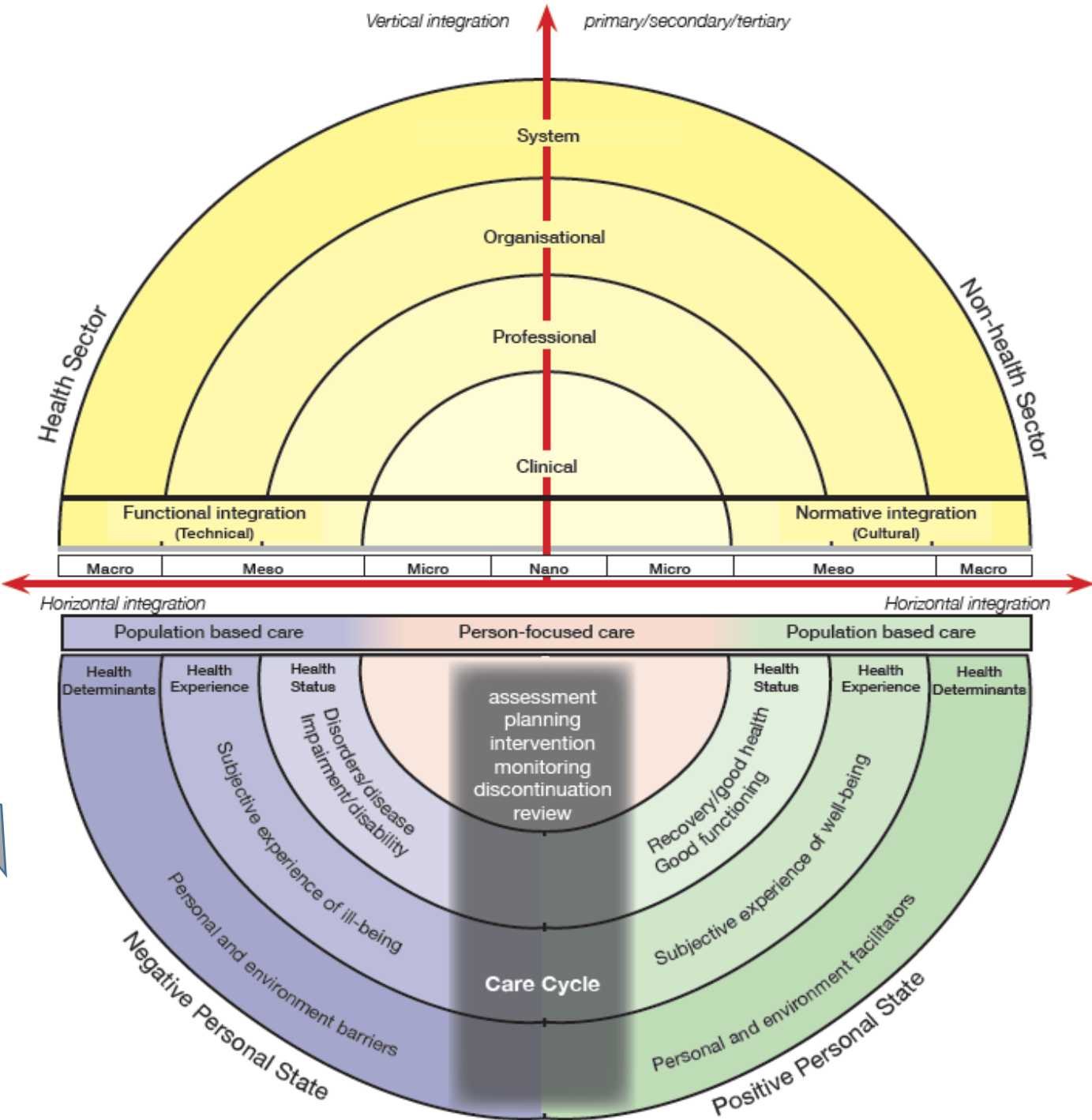
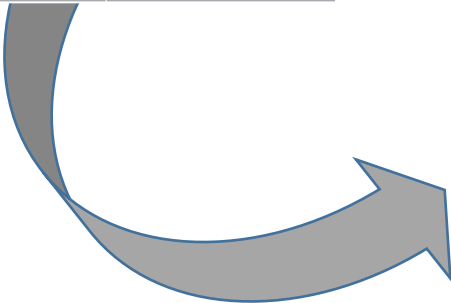
Interim Report





Expanded model of Person and People Centred Integrated Care (PPCIC)

Levels	Ill Health	Positive Health
I. Health Status	Ill-Being <div> a. Disorders /diseases b. Dysfunction/disabilities </div>	Well Being <div> a. Recovery good health b. Good functioning </div>
II. Experience of Health	Experience of ill-being	Experience of well-being
III. Contributory factors	Contributors to ill-being (internal & external health risks)	Contributors to well-being (internal & external health promoters)



DISCERNEMENT AND COMPLEX HEALTH CARE

Ontology

Philosophy of Science
Classification
Taxonomy

Complexity

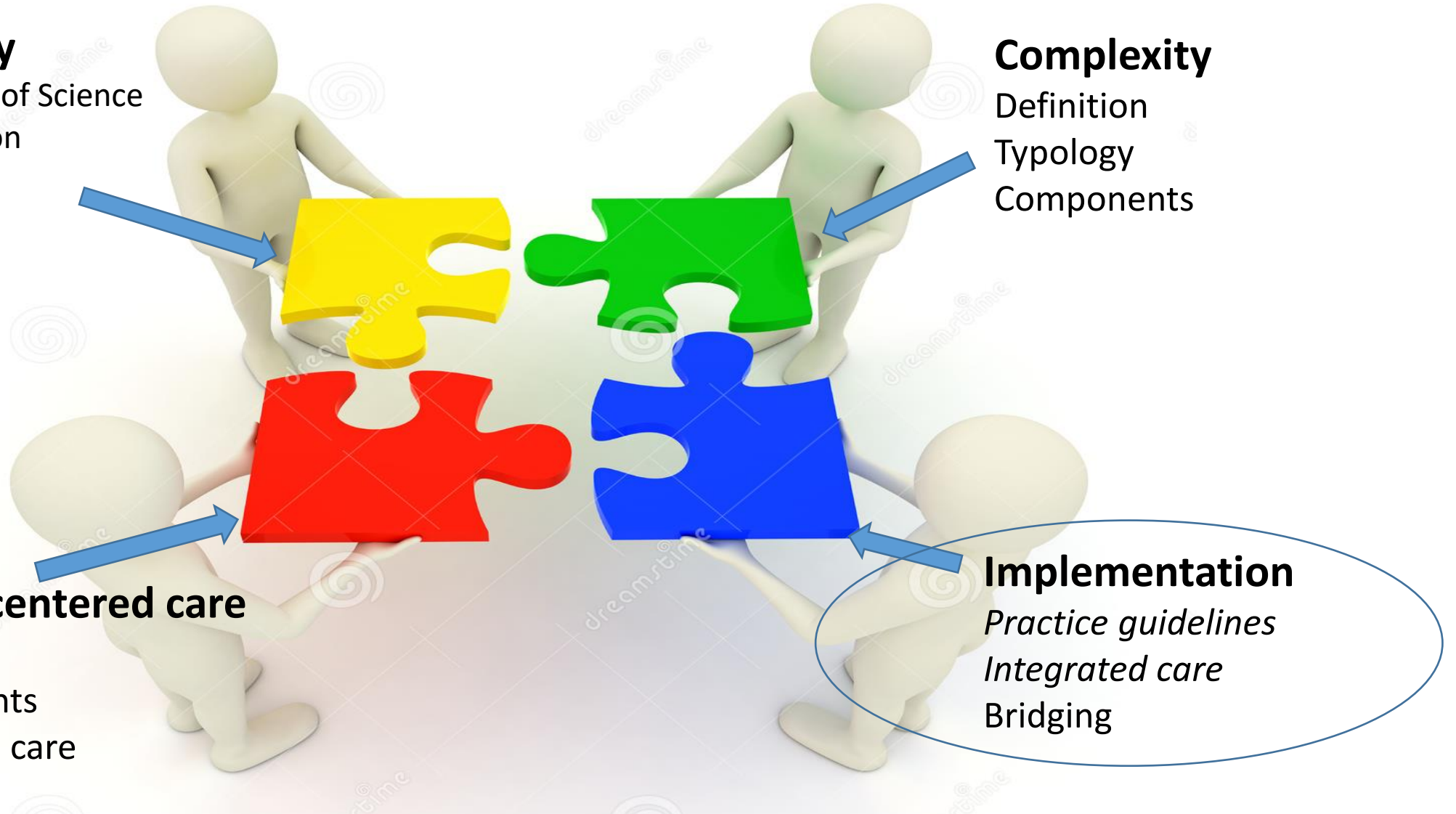
Definition
Typology
Components

Person-centered care

Definition
Components
Integrated care

Implementation

Practice guidelines
Integrated care
Bridging





2009 BARCELONA DECLARATION Bridging knowledge in Long Term Care and Support

- Political stand to make bridging and knowledge transfer key components of any program in the fields of disability and aging



2012 TORONTO DECLARATION Bridging knowledge, practice and policy in Disabilities and ageing

INTERNATIONAL JOURNAL OF INTEGRATED CARE
www.ijic.org



PERSON-CENTERED HEALTH CARE

-Umbrella term that encompasses models, research and activities in person-centered medicine, person and people-centered-care as well as planning. PCHC is a holistic, multidisciplinary and relational field

BRIDGING & KNOWLEDGE TRANSFER

- Bridging and Knowledge Transfer (B&KT) is a new 'meta-science' covering an array of different sectors (health, social care, education, employment), disciplines (health and social sciences), approaches (care and support models) and stakeholders (providers, users, researchers and policy makers), that require integration in order to generate progress in relational fields, such as PCHC.

Bridging

- **Objective** Improve efficiency, equity of care, inclusion and support at all levels, from the person to the society
- **Conceptual Frame:** Recognising the complexity of the human condition from birth to death, the capabilities of all people, and the need for a conceptual vision that takes into consideration when planning a society where participation of all citizens is the ultimate goal.



BRIDGING B&KT AND PPIHC



- Building effective bridges requires **interdisciplinary collaboration** and engagement with national and international decision-makers
- Connecting the fields will require development of a clear frameworks/models of bridging and PCH
- Bridging requires developing a **common terminology** and semantic interoperability across the related knowledge base.
- IMPROVING COOPERATION & PARTNERSHIP IN COLLABORATIVE CARE: PCH, B&KT, CCM, Integrated Care. Health systems-complexity

DISCERNEMENT AND COMPLEXITY IN HEALTH CARE

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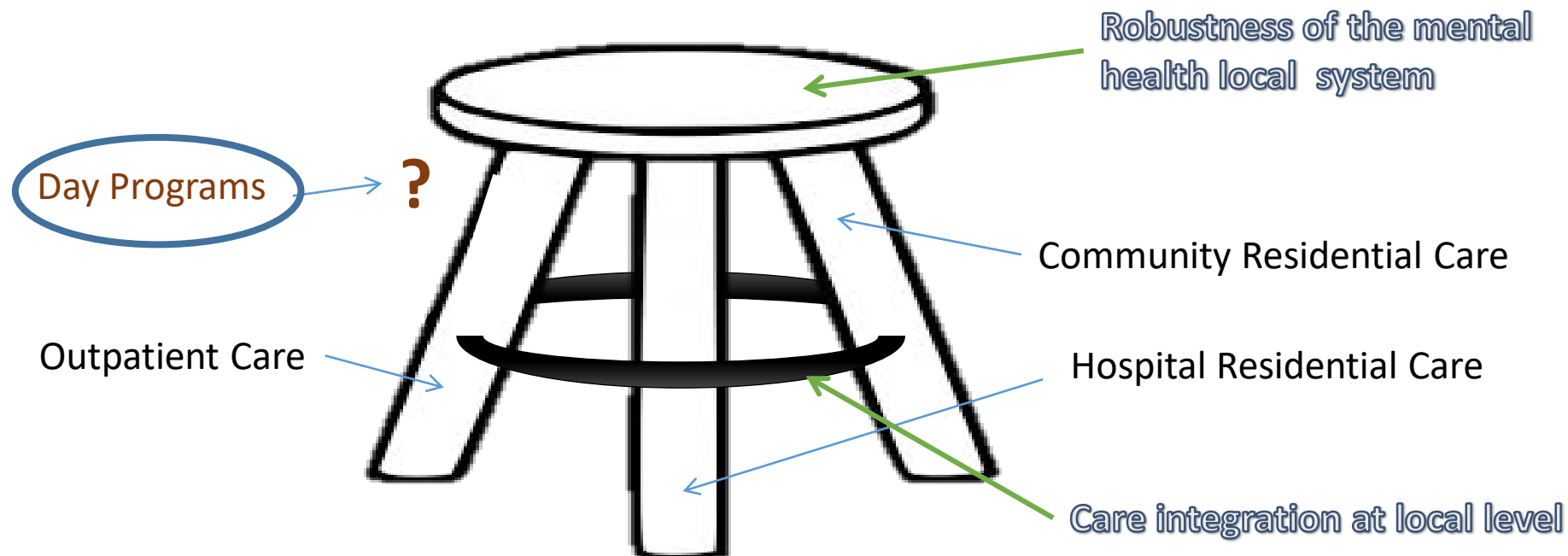
Implementation

Bridging
Impact of implementation

Bridging Intl. Conference 2009: AWARD to Prof DIEGO GRACIA (Health Ethics as a basic translational field and main tool of KT)

A SYSTEM GAP ANALYSIS DOES NOT IMPLIES SOLUTIONS: IT ONLY GENERATES
NEW GUIDED QUESTIONS:
What is the impact of NOT having day care services on the local MH system's efficiency?

**STOOL MODEL
COMMUNITY MENTAL HEALTH CARE**



..... AND ADDS KNOWLEDGE ON THE LOCAL SYSTEM FOR DECISION MAKING

- *WESTERN SYDNEY: Problem in the structural organisation of service availability*
- *FAR WEST (rural): Problem in the workforce capacity of the local MH system*



Michael Marmott
President World Medical Association
Director Institute of Health Equity



Arthur C Evans
Commissioner of Philadelphia's
Department of Behavioral Health
& ID (DBHIDS)

SYSTEMS THINKING vs LINEAR HEALTH CARE PLANNING: *MIND THE GAP!*

Epidemiology and Psychiatric Sciences (2015), 24, 42–44. © Cambridge University Press 2014
doi:10.1017/S2045796014000596

COMM

The role of geographic context on mental health: lessons from the implementation of mental health atlases in the Basque Country (Spain)

A. Iruin-Sanz¹, C. Pereira-Rodríguez²

Evaluación de la eficiencia técnica de la atención primaria pública en el País Vasco, 2010–2013

ARTICLE in GACETA SANITARIA · DECEMBER 2015

Complexity and whole-system change programmes

Brice Dattée, James Barlow

Journal of Health Services Research & Policy Vol 15 Suppl 2, 2010: 19–25

LHS
26,3

Leadership in Health Services
Vol. 26 No. 3, 2013

Deming's systems thinking and quality of healthcare services: a case study

Robert M. Gerst

Authors

Chris Ham

Hugh Alderwick

NHS arm's length bodies and regulatory networks in England: quantitative analysis

Richard McManus^{*,†}

Int J Health Plann Mgmt 2014; 29: 225–243.

CATALONIA &
BASQUE COUNTRY (SPAIN) / SCOTLAND NHS (UK)

ALBERTA /ENGLAND (CQC)
AUSTRALIA

Context

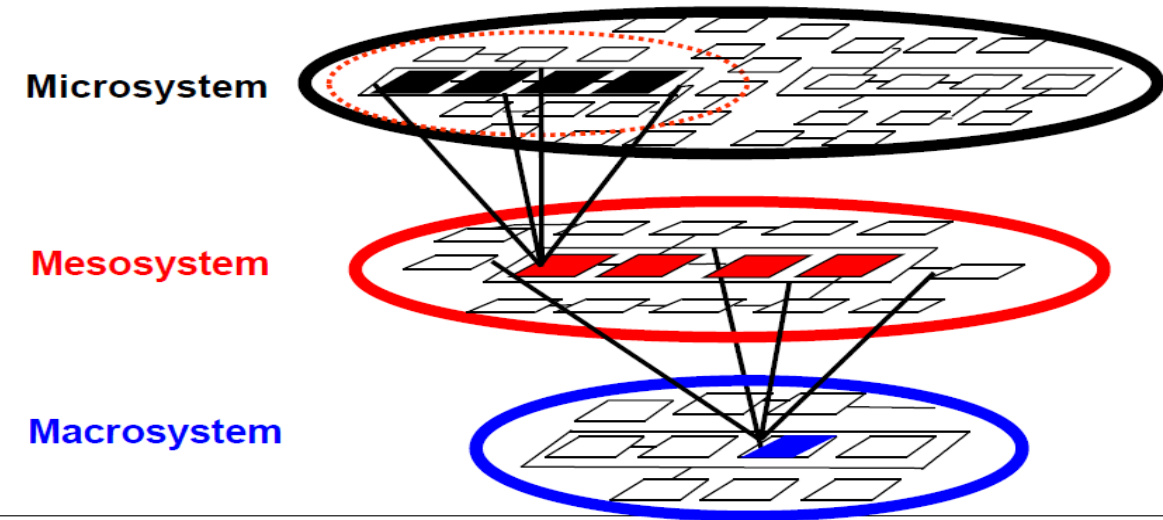
- Context refers to the totality of circumstances that comprise the milieu of a given phenomenon
- In health care it includes all sources of evidence of the local system: geography, social and demographic factors, other environmental factors, service availability, capacity, use and costs. It also includes legislation and expertise on the milieu (e.g., the historical account current state of the art)

Functional teams (EU) = Clinical micro-systems (US)

-Micro-system in health care delivery: a small group of people who work together on a regular basis to provide care to discrete subpopulations of patients

-CMS have clinical and business aims, linked processes, shared information environment and produces performance outcomes

- CMS evolve over time and are (often) embedded in larger organizations



Exploring Innovation and Quality Improvement in Health Care Micro-Systems: A Cross-Case Analysis

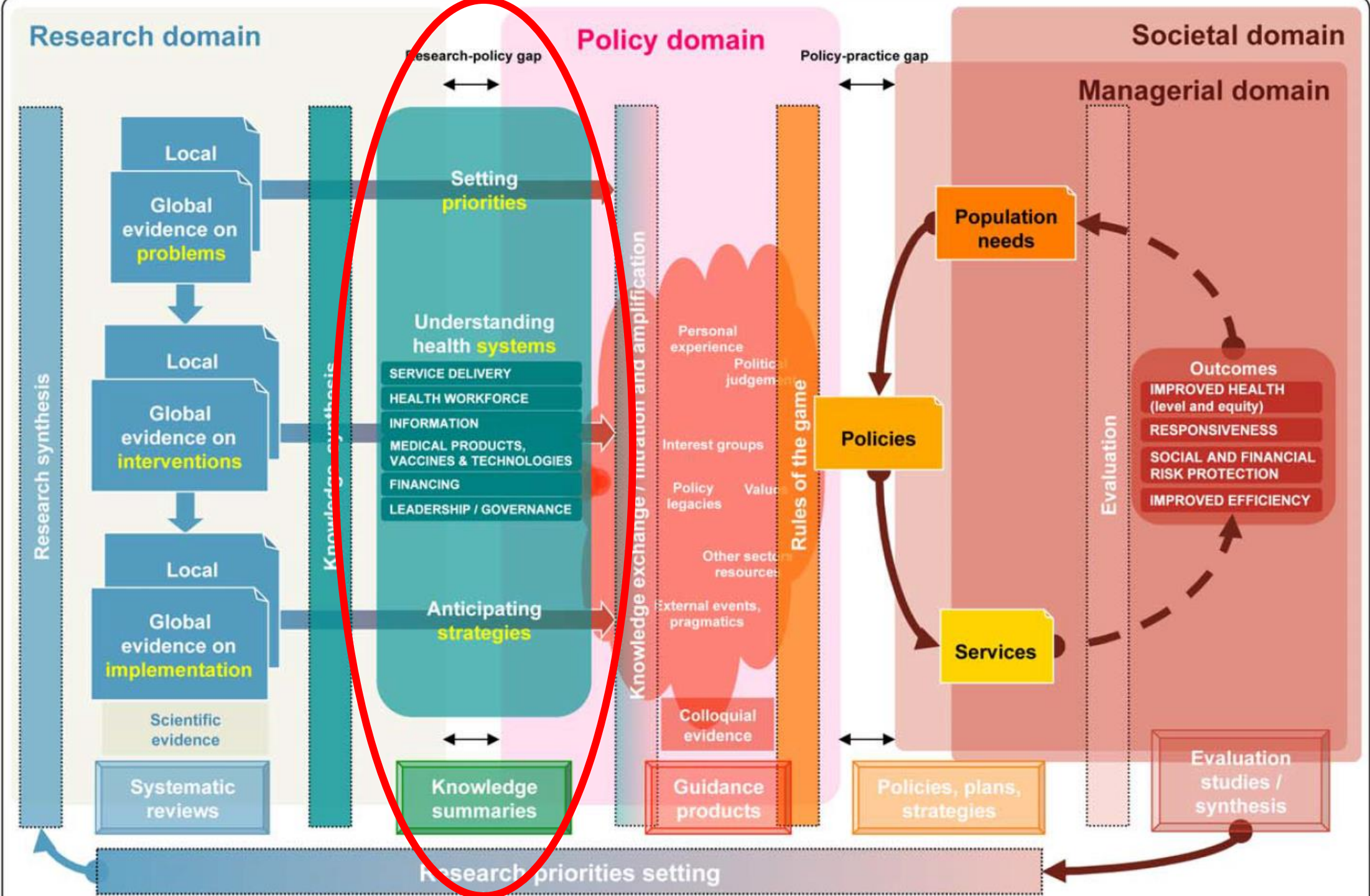
A Technical Report for the Institute of Medicine Committee on the Quality of Health Care in America by Molla S. Donaldson, Dr.P.H., M.S., and Julie J. Mohr, Ph.D., M.S.P.H.

ISBN: 0-309-54155-7, 100 pages, 8 1/2 x 11, (2001)

This free PDF was downloaded from:

<http://www.nap.edu/catalog/10096.html>

Evidence-Informed Policies about health systems

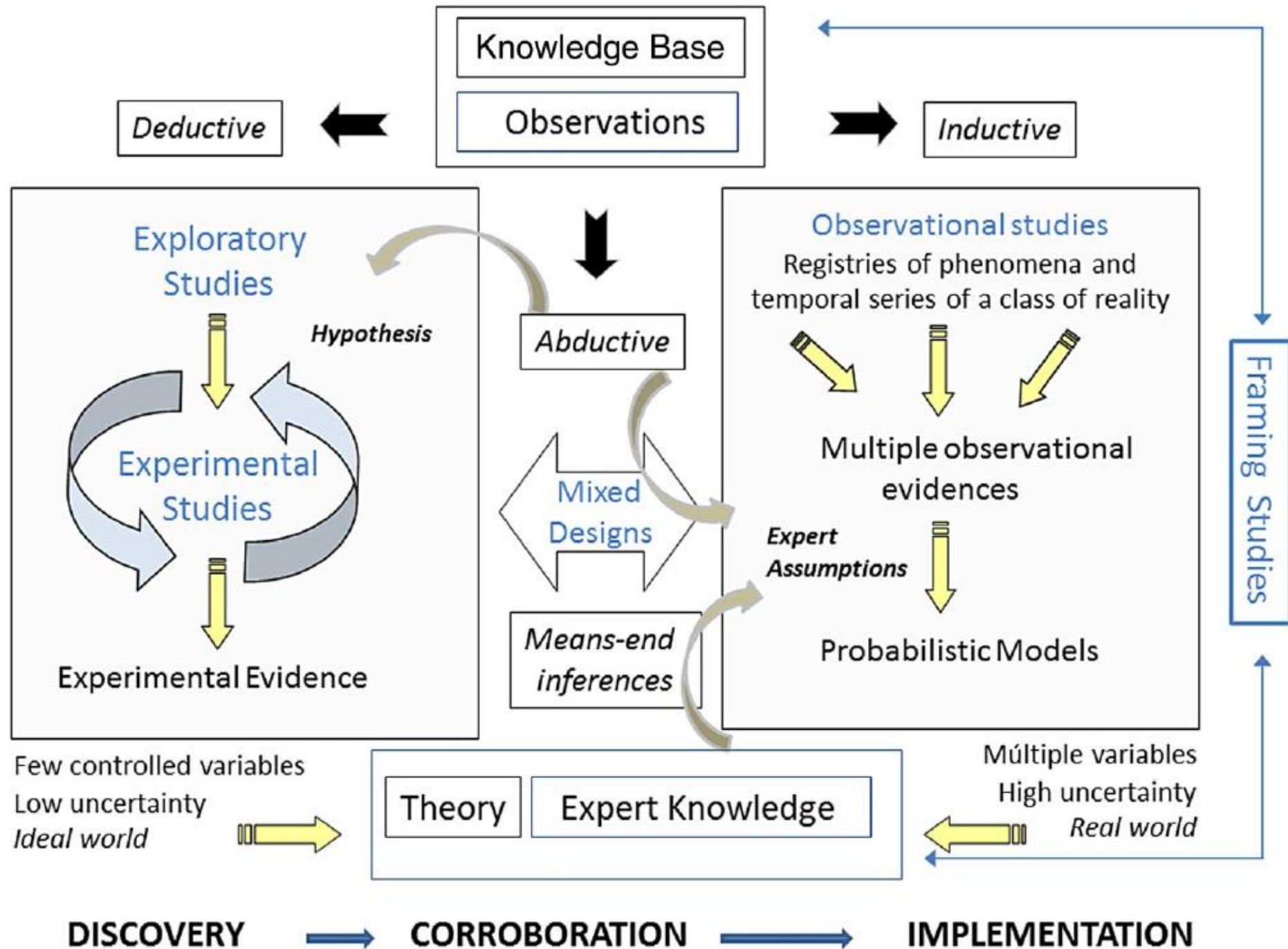


Bosch-Capblanc et al.
PLOS Med
9 (3), 2012

The Four Leadership Questions

- Do you know how good you are?
- Do you know where you stand relative to the best?
- Do you know where the variation exists?
- Do you know the rate of improvement over time?





SCIENTIFIC KNOWLEDGE

A fluid mix of contextualized information (evidence), know-how and experience (expert knowledge) that allows for a better understanding and prediction of natural, psychological and social phenomena. It is acquired by means of standardized methods of research following the principles of commensurability, transparency for corroboration and transferability to broader contexts.

Scientific knowledge should fulfil five basic assumptions: minimal realism, fallibilism, objectivity, intersubjectivity and logical clarity.

It provides a framework for incorporating new information and experiences and for generating new research questions, hypotheses and theories.

EVIDENCE

The part of scientific knowledge based on contextualized information from facts and data, and which is analysed using quantitative approaches alone or combined with qualitative methods to generate inferences using mainly deductive reasoning, but also and non-deductive logical reasoning (induction and abduction).

EXPERT KNOWLEDGE

A set of formalized know-how, understanding, experience and insight in a defined area of knowledge, which is informed, contextualized, stable, consistent and connected. It is elicited using qualitative approaches alone or combined with quantitative methods to generate means–end inferences and non-inferential knowledge to complement evidence.

Arthur C Evans
Commissioner of Philadelphia's
Department of Behavioral
Health & ID (DBHIDS)



Academia
Implementation
Policy and Practice



Michael Marmott
President World Medical Association
Director Institute of Health Equity

POPULATION HEALTH:

- Adoption of the complexity and systems thinking approach
- The shift from EBM to Evidence informed policy: context and environmental factors, prior expert knowledge and experiential knowledge
- WHO Strategy: People-centred integrated care with a focus on EQUITY and EFFICIENCY (waste reduction)

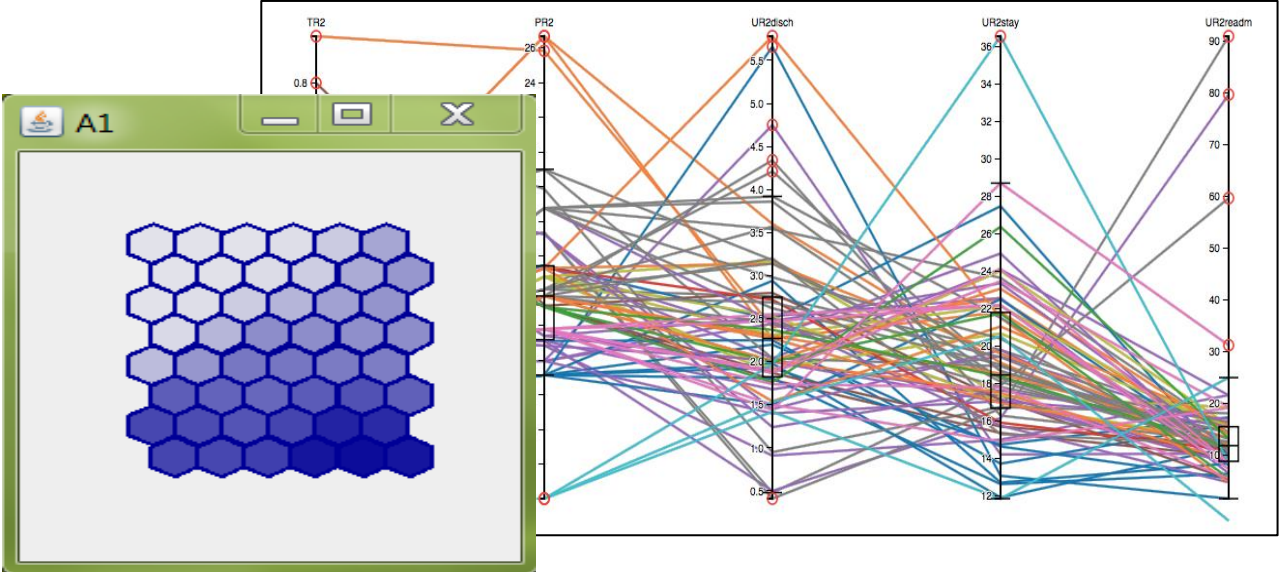
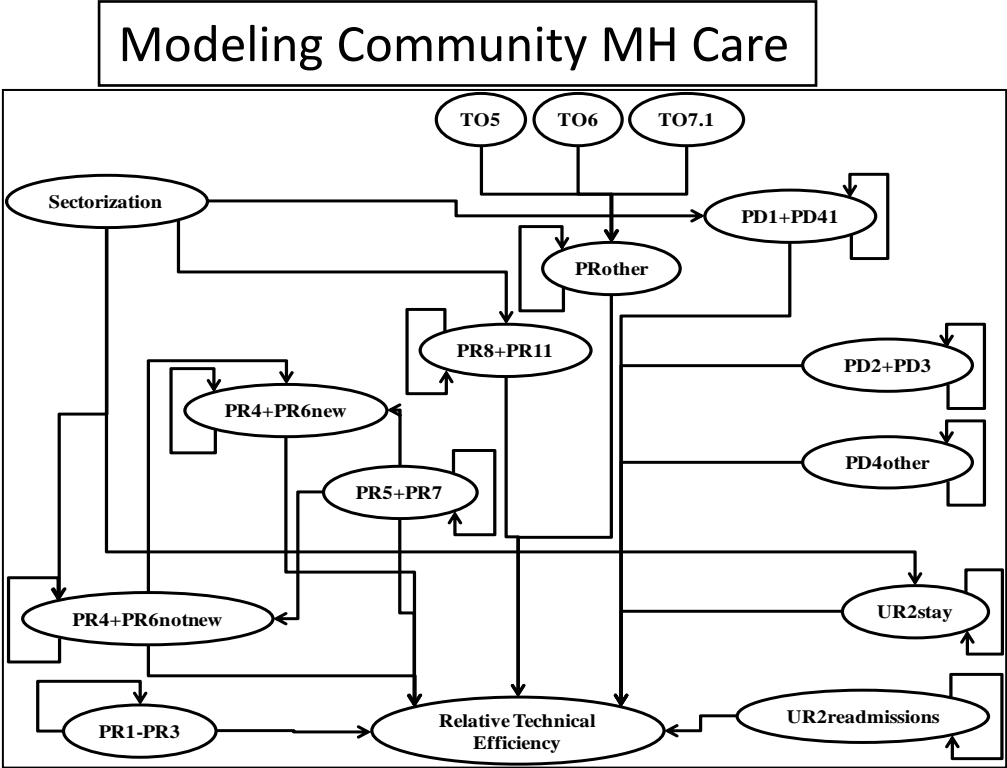
HEALTH CARE SYSTEMS IN CRISIS (major challenges for MH)

- Increasing costs, market inefficiencies, impact of IT, payment systems not tested, lack of relevant information for evidence-informed planning
- New payment mechanisms to replace ABF and fee-for-service: bundle payments, population based payment (capitation)
- New organisational approaches: Patient medical homes, accountable care organisations, recovery
- new alliances private/public, health/social
- New models of care

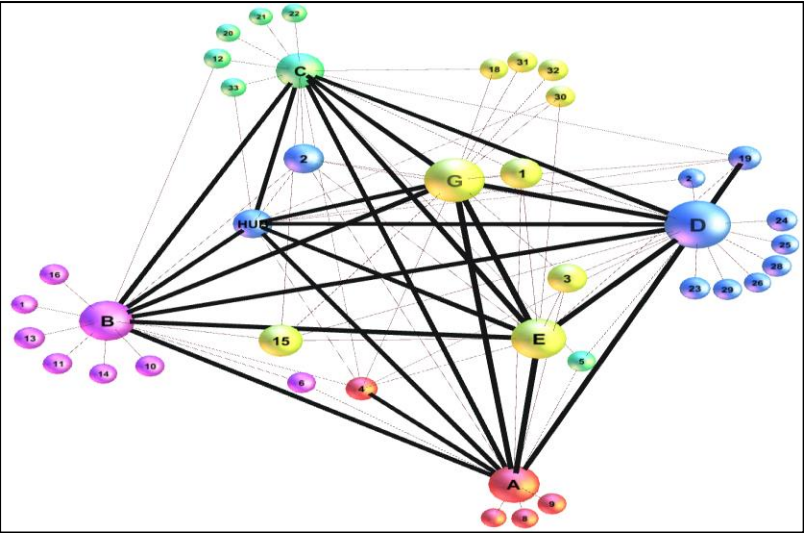
NEW DEMANDS : IMPLEMENTATION RESEARCH & GUIDELINE DEVELOPMENT

- Managerial epidemiology, Impact analysis, Context analysis, Spatial analysis
- Move from classical EBM/Qualitative research: Research in local areas, big data analysis, cross design synthesis, modelling and Knowledge Discovery from Data
- Collaborative research: multidisciplinary teams with extensive partnership with public health agencies, providers, stakeholders and health care companies

New visualisation tools for analysis of KPIs



Relative Efficiency & Benchmarking



Social Network Analysis

