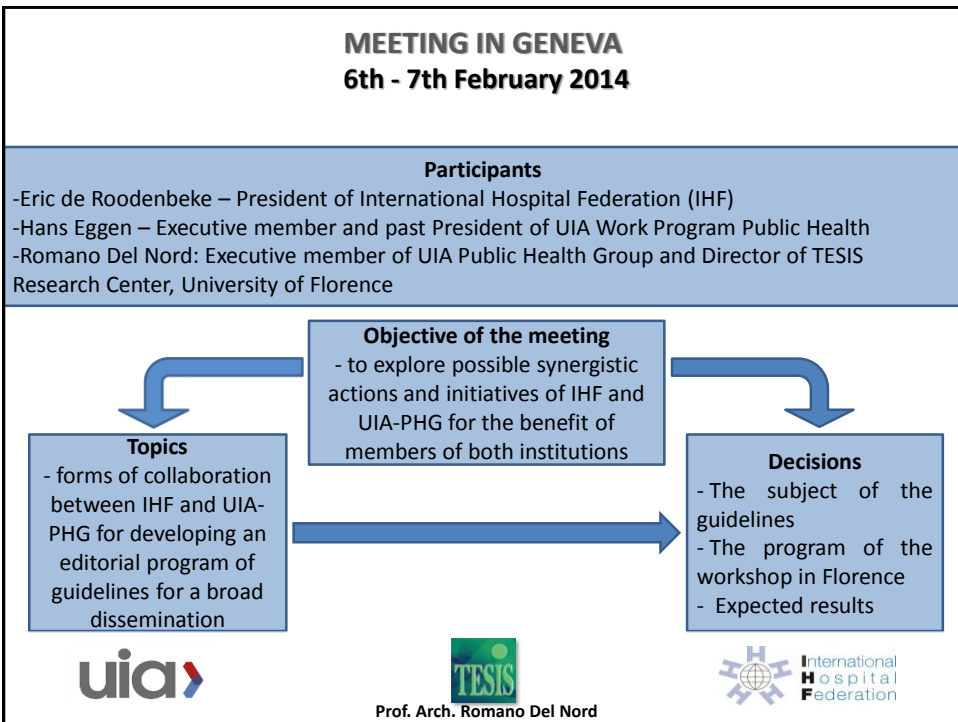




**CONTAINING HEALTHCARE COST
THROUGH HOSPITAL DESIGN**
COLLABORATION PROGRAM



CONTAINING HEALTHCARE COST THROUGH HOSPITAL DESIGN WORKSHOP - Florence, 3rd - 5th June 2014

PARTICIPANTS

• **PHG (UIA – Public Health Group) Representatives**

1) Hans Eggen

Executive Member and Past President of UIA Work Program Public Health, **Switzerland**.

2) Romano Del Nord

Executive Member of UIA Public Health Group and Director of TESIS Research Center, University of Florence, **Italy**.

3) Ružica Božović Stamenović

Professor of University of Belgrade and Executive Member of UIA Public Health Group, **Serbia**.

4) David Allison

Member of UIA Public Health Group and Director of Graduate Studies in Health-Clemson University, **U.S.A.**

5) Schinko Thomas

Member of UIA Public Health Group and Associate Architect of Vasconi Associes Architectes Paris, **France**.

• **IHF (International Hospital Federation) Representatives**

1) Eric de Roodenbeke

President of International Hospital Federation (IHF), **Switzerland**.

2) Jacinta George

Acting Deputy Director-General of Australian Capital Territory Health Department, Canberra, Health Infrastructure and Planning, **Australia**.

3) Paul Merlevede

Member of Council of International Federation of Hospital Engineers - IFHE, **Belgium**.

4) Henning Lengs

Dipl.-Ing. Architect, Chief Executive Officer of RRP International Hospital Planners PTE Ltd, **Germany/Singapore**.

5) Rufino L. Macagba

MD, MPH, Founder of Lorma Medical Center, **Philippines**.

6) Chad E. Beebe

AIA, SASHE, CHF, CFPS, CBO, Deputy Executive Director, Advocacy of American Society for Healthcare Engineering of the American Hospital Association, **U.S.A.**

- **TESIS's Researchers** : Tiziana Ferrante, Francesca Gioffré, Anna Maria Giovenale (University "La Sapienza" Rome) Roberto Bologna, Sandra Carlini, Luca Marzi, Francesca Nesi (University of Florence)



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AGENDA

Wednesday 4th June

- The components and the different interpretations of the concept of "cost" in the design and use of hospitals.
- Initial brainstorming to identify key concepts allowing significant cost reduction on operations covering managerial and technical dimensions: opinions, experiences e contributions from all the workshop's official participants.
- Interdependencies between investment costs, in use and maintenance costs, processing and decisions, design solutions.
- Prioritize the domains that should be further explored, consider the existing available information and benefit/cost approach for new healthcare projects, as well as retrofitting existing facilities.
- Identify the work package and need for resources.
- Suggestions and operational proposals.



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AGENDA

Thursday 5th June

- Develop a framework for guidelines by identification of priority target audience and their needs or information.
- Decide on what can be easily/quickly prepared by leveraging existing material and what area needs in depth works.
- Develop an outline for a concept including key issues and budget for possible sponsors.
- Identify sponsors and contacts and agree on approach for reaching out of them.
- Next steps and timeline for completion of tasks.
- Different possible initiatives oriented to create synergistic benefits for IHF and UIA-PHG.



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AIMS

The aim of the workshop is to identify a MATRIX that prioritize items and gives an order to our concerns. The goal is to share our knowledge and make it available to everyone.

The long terms goals are to disseminate good practice and find a funding mechanism to keep improving in the future.



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PREMISES




The current speed of change make it difficult to accept the fact that timing between design and completion may take up to 10 years. Innovation enables us to **accelerate construction**.

Hospitals must not be shops for organ repair but **promote good healthy living**.

We must create the condition for **improving the relationship between space and operating cost of construction**. This means also **greening the hospital**.

Healthcare is fast changing and today's solutions may be no more suitable in **the future**.

A hospital is first and foremost a **PUBLIC BUILDING** and designers must understand what users want and respond to their needs appropriately.






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REFLECTIONS AND QUESTIONS



An important aspect of cost containment is the **relationship** between the hospital and the other healthcare centres. **It is important to reflect on the inappropriate use of hospital.**

How can we maximize initial capital cost to reduce functional cost that have a greater impact?




Industrialization is changing and its renewed potentials must become integral to the design and construction process. Industrialization and BIM can contribute to reduce cost?

Flexibility and **resilience** are paramount to address market pressure and contain cost waste.

Should Acute Hospitals **outsource all their services** or should the Hospital **produce all these services and make a profit?**

The **'Programme'** and decision making is already in place when the design Team starts working on a project.

Commissioning (validation) cost should be carried throughout all the design phases and should be aimed at **minimizing cost by reducing energy cost**.

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REFLECTIONS AND QUESTIONS

What does a hospital do to raise the social capital?

In-Use cost needs to be taken into consideration at feasibility stage.

Resources and technology play a major role and have a great impact on manpower.

Predictive costs are never the same as the final costs: how to face this problem?

How to address the efficiency of the hospital in relation to its **size, typology, cultural context**?

When should feasibility study start and when should be encompass?

How to generate an **income from the hospital**?

The **feasibility evaluation and cost evaluation in the Feasibility Study** is a strategic phase of decisional process.

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METHODOLOGICAL APPROACH

There are **3 levels of costs** - social cost, operating cost and initial cost - **and for each level it is important to define the main factors and the relevant strategy.**

Level of social cost is more difficult to define both in terms of measuring strategies and results. Decision makers should be made aware of the social context and of its specific aspects.

The importance of finding recommendations within the 3 levels that can be useful globally (from the most developed to the less developed countries) is strategic to achieving the objectives.

The general aim is to CONTROL the cost NOT containing the cost. To this end the point is: which decisions need to be taken at the level of feasibility study. Which information and which decisions need to be provided and addressed.

Cost of change over time during project delivery process

TOTAL LIFE CYCLE COST

Value of knowledge

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METHODOLOGICAL APPROACH

It is important to define the “value of knowledge” and to draw a **MATRIX (road map)** that fosters innovation.

The aim is to identify a MATRIX that **prioritize items and gives an order to these concerns.**

The goal is to **share the knowledge** and make it available to everyone.

The long term goals are to disseminate good practice and find a funding **mechanism to keep improving** in the future.

DECISION MAKERS AND STAKEHOLDERS	PUBLIC AND PRIVATE DECISION MAKERS	HOSPITAL GENERAL MANAGERS	DESIGN TEAM	COMMUNITY	PROFESSIONAL BODIES	...
FEASIBILITY STUDY	DECISION MAKERS INFORMED PEOPLE					
PROJECT PROGRAM		DECISION MAKERS INFORMED PEOPLE				
PRELIMINARY PROJECT			DECISION MAKERS INFORMED PEOPLE			
DETAILED PROJECT				DECISION MAKERS INFORMED PEOPLE		
CONSTRUCTION PHASE					DECISION MAKERS INFORMED PEOPLE	
POST OCCUPANCY						DECISION MAKERS INFORMED PEOPLE



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SIMULATION OF USE OF THE MATRIX

Built Environment Considerations Related to Cost
P/P decision - Hosp. Management - Design Team – Users and Community

Feasibility study:
Cost of land
Access and infrastructure connections
Connectivity to related network services
Risk disaster mitigation, seismic risk / flooding
Environmental impact
Regulation constraints
Geotechnical conditions
Ability to accommodate initial project and growth/expansions
Social impact
...

Project Program (DPP):
...

Preliminary Project:
(initial construction costs): quantity, configuration and quality
Site development (parking, etc)

Building systems
Building envelope
(In-use/operational costs)
Interdepartmental relationships, connectivity and layout
Departmental relationship, connectivity and layout
Spatial layout to optimize clinical care
Spatial analysis (options)
Access to daylight
Connections/views to nature
Patient and staff flow (number of steps in the care process)
Ability to adapt to changing needs over time
(Maintenance Costs)
(Energy Costs)
Detailed Project:
...
Post Construction/Occupancy:
...



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NEXT STEPS

Next targets:

Defining how to involve the members of both Institutions in this research. To this end it is necessary to inform all PHG and IHF members.
How can we move forward to develop the road map?
It is important to give members specific tasks.

As far as deadlines:

Define the publication project/Open source knowledge

Potential Sponsor and/or Partnering Organization:

Pharmaceutical companies
Construction companies
International Federation of Hospital Engineers
Saudi Arabia
European Investment Banks

Phase 1:

August - November

Presentation of the program to UIA-PHG in Durban

Presentation of the program to IHF leadership in November

Phase 2: by end of year

Proposal (or white paper) to include:

Abstract

Problem statement

Proposal of summary statement

List of Promoters and interested members (individual and organizations)

Outline/Table of Contents of Final Document

Methodology and project Schedule

Project budget

Bibliography of supporting literature

Phase 3: book, series of white papers, and/or online document(s)



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