

How Do We Imagine Our Future? The Infection Prevention Crystal Ball Initiative  
Prof Dr Hugo Sax, Bern University Hospital and University of Bern, Switzerland  
A Webber Training Teleclass

# How do we imagine our future?

## The Infection Prevention Crystal Ball Initiative

Prof Dr Hugo Sax | Bern University Hospital and University of Bern | sax.health.design | Switzerland  
Hosted by Martin Kieman martin@webbertraining.com



[www.webbertraining.com](http://www.webbertraining.com)

April 28, 2022

“It is difficult to make predictions, especially about the future.”

Danish Parliament 1937-1938



2

Hosted by Martin Kieman martin@webbertraining.com  
[www.webbertraining.com](http://www.webbertraining.com)

## Content

Why care about the future?  
Crystal Ball Initiative  
Futures Studies  
First survey  
Looking ahead



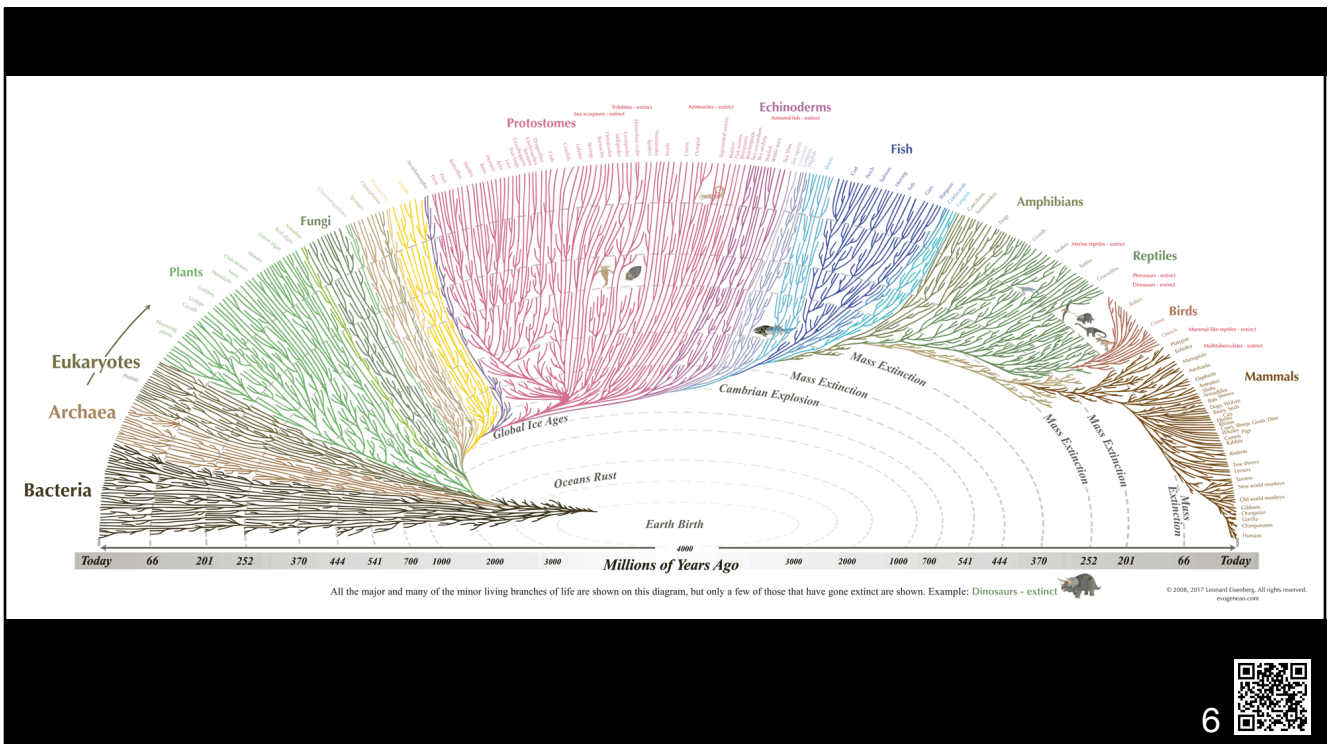
3


# Why care about the future?

4



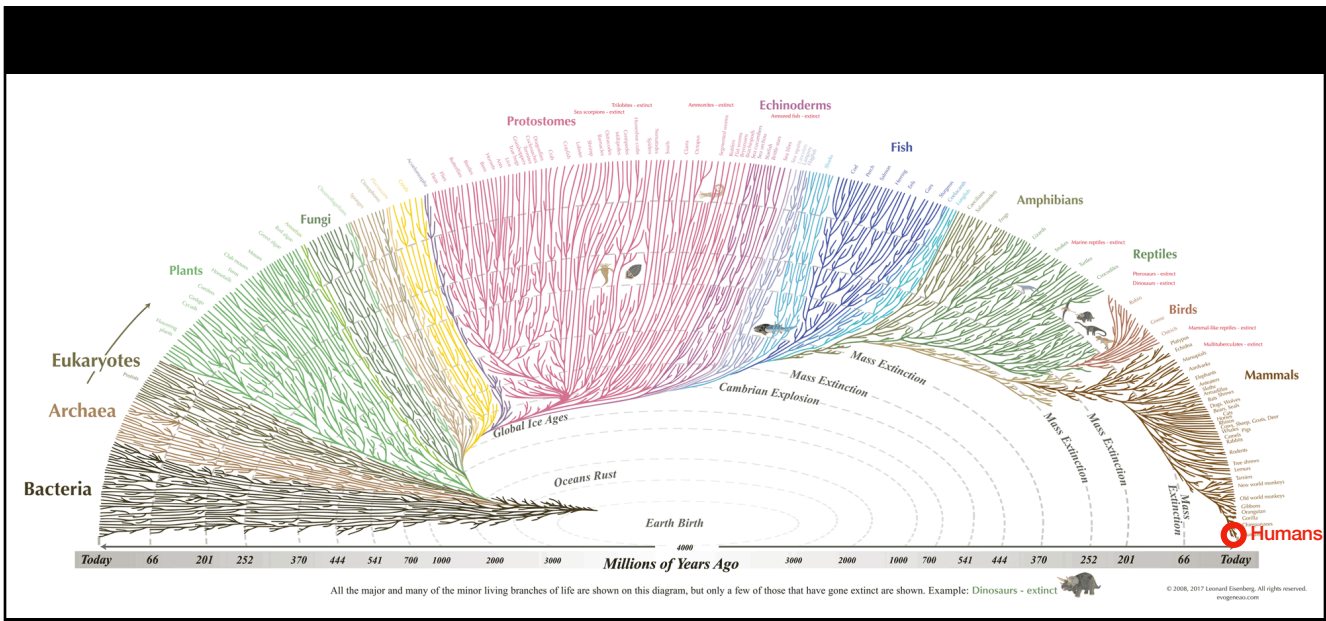
How Do We Imagine Our Future? The Infection Prevention Crystal Ball Initiative  
Prof Dr Hugo Sax, Bern University Hospital and University of Bern, Switzerland  
A Webber Training Teleclass



All the major and many of the minor living branches of life are shown on this diagram, but only a few of those that have gone extinct are shown. Example: Dinosaurs - extinct  © 2006, 2017 Leonard Eulerberg. All rights reserved. eulerberg.com



How Do We Imagine Our Future? The Infection Prevention Crystal Ball Initiative  
Prof Dr Hugo Sax, Bern University Hospital and University of Bern, Switzerland  
A Webber Training Teleclass



7



# The IPC Crystal Ball Initiative

8



Hosted by Martin Kieman [martin@webbertraining.com](mailto:martin@webbertraining.com)  
[www.webbertraining.com](http://www.webbertraining.com)

Vision?



~~Used future.~~

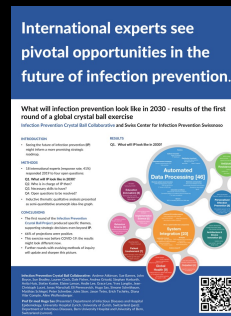


# First round of an international crystal ball 'exercise' in 2019.

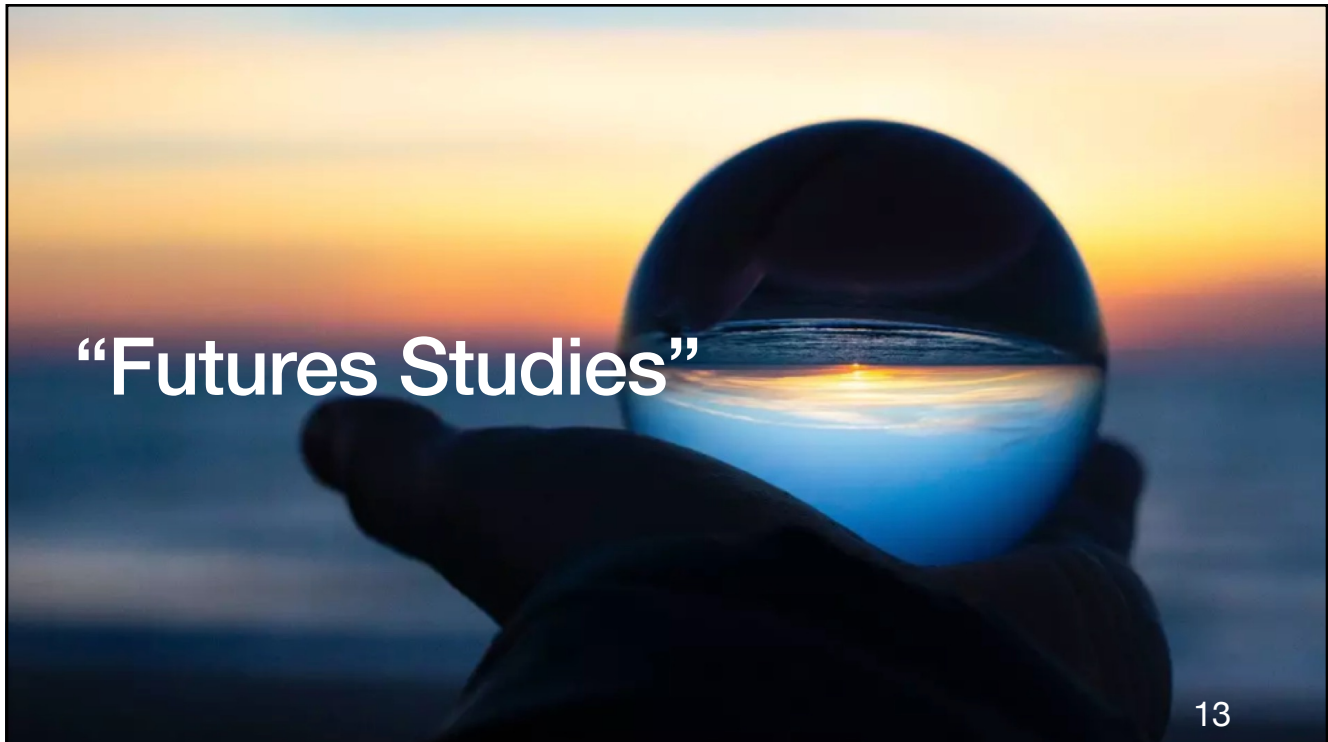


## Collaborative 2019 -

Andrew Atkinson, Sue Barnes, John Boyce, Sue Bradley, Lauren Clack, Dale Fisher, Andrea Grisold, Stephan Harbarth, Anita Huis, Stefan Kuster, Elaine Larson, Andie Lee, Grace Lee, Yves Longtin, Jean-Christoph Lucet, Jonas Marschall, Eli Perencevich, Hugo Sax, Simone Scheithauer, Matthias Schlegel, Peter Schreiber, Jules Storr, Jason Tetro, Erich Tschirky, Diana Vilar Compte, Aline Wolfensberger.







## Futures Studies - Birth of a science

Inayatullah 2002, Masini 1983

Trying to predict the future as it will be.

Strategic planning to control the near future.

“The future is influenced by how one anticipates the future.”

The move from the future to several alternative futures.

[Association of Professional Futurists](#) - founded in 2002.

conservative

Evolution

disruptive

14



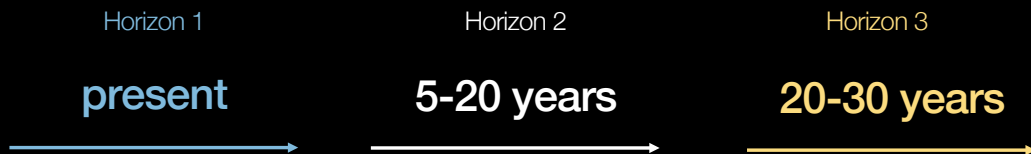
How Do We Imagine Our Future? The Infection Prevention Crystal Ball Initiative  
Prof Dr Hugo Sax, Bern University Hospital and University of Bern, Switzerland  
A Webber Training Teleclass

“Futures studies creates **alternative futures** by making basic assumptions problematic.  
Through *questioning the future, emerging issues analysis, and scenarios*, the intention is to  
**move out of the present** and **create the possibility for new futures.**”

Sohail Inayatullah



15



16



Policy making



Futures studies

Ways to include the possibility of discontinuous change, of forecasting trends before they emerge?

17



## Futures Studies - “Six pillars”

Inayatullah 2008

1. Mapping the future
2. Anticipating the future
3. Timing the future
4. Deepening the future
5. Creating alternatives
6. Transforming the future

### Commonly used techniques



- “Futures triangle”
- “Emerging issues analysis”
- “Micro-, meso-, and macro-history”
- “Causal layers analysis” (CLA)
- “Scenario planning”
- “Visioning”, “Backcasting”

18



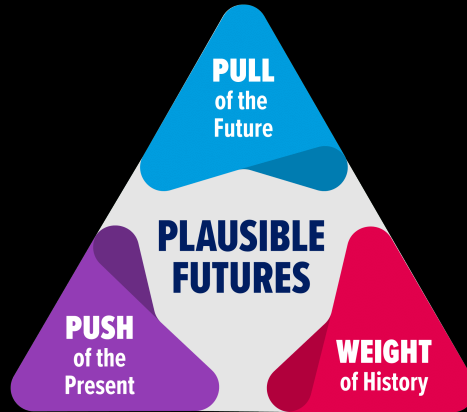


# How Do We Imagine Our Future? The Infection Prevention Crystal Ball Initiative

Prof Dr Hugo Sax, Bern University Hospital and University of Bern, Switzerland  
A Webber Training Teleclass

## Futures triangle

What drivers of change are pulling us towards particular futures?  
What are the compelling images of the future, those we can't overlook?  
Are there competing images of the future?



What drivers of change are pushing us towards particular futures?  
What quantitative drivers of change are changing the future?  
What is happening now? What is popular now?

What is holding us back or getting in our way?  
What are the barriers to change?  
What are the deep structures that resist change?

Maria Crabtree, <https://knowledgeworks.org/resources/futures-thinking-now-drivers-change-futures-triangle/>

Mapping | Anticipation | Timing | Deepening | Alternatives | Transforming

21



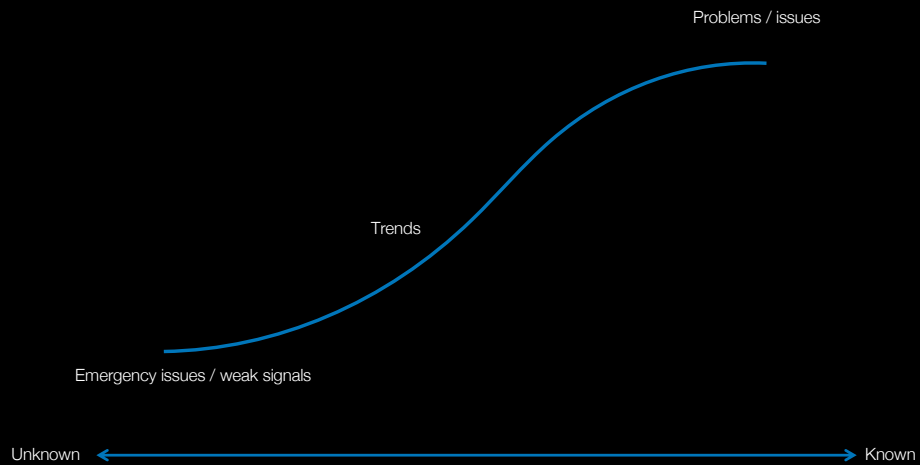
## 2. Anticipating the Future

22



How Do We Imagine Our Future? The Infection Prevention Crystal Ball Initiative  
Prof Dr Hugo Sax, Bern University Hospital and University of Bern, Switzerland  
A Webber Training Teleclass

## Emerging issues analysis



Inayatullah S. Futures Studies: Theories and Methods. Book: There's a future: Visions for a better world. BBVA 2012 - ISBN: 978-84-15253-72-3

Mapping | Anticipation | Timing | Deepening | Alternatives | Transforming

23



## 3. Timing the future

24



How Do We Imagine Our Future? The Infection Prevention Crystal Ball Initiative  
Prof Dr Hugo Sax, Bern University Hospital and University of Bern, Switzerland  
A Webber Training Teleclass

## Emerging issues analysis

The future is linear



The future is cyclical



The future is spiral



The future is disruptive



The future displays hinge periods



Inayatullah S. Futures Studies: Theories and Methods. Book: There's a future: Visions for a better world. BBVA 2012 - ISBN: 978-84-15253-72-3

Mapping | Anticipation | Timing | Deepening | Alternatives | Transforming

25



## 4. Deepening the Future

26



How Do We Imagine Our Future? The Infection Prevention Crystal Ball Initiative  
Prof Dr Hugo Sax, Bern University Hospital and University of Bern, Switzerland  
A Webber Training Teleclass

## Causal Layered Analysis (CLA)

Litany

*Now*

Systemic cause

*Years*

Worldview

*Decennials*

Myth / metaphor

*Centuries*



IPC is not well integrated.

Medicine is organ-oriented.

Medicine fixes sick human beings.

Causality is linear. Newton.

Mapping | Anticipation | Timing | Deepening | Alternatives | Transforming

27



## 5. Creating Alternatives

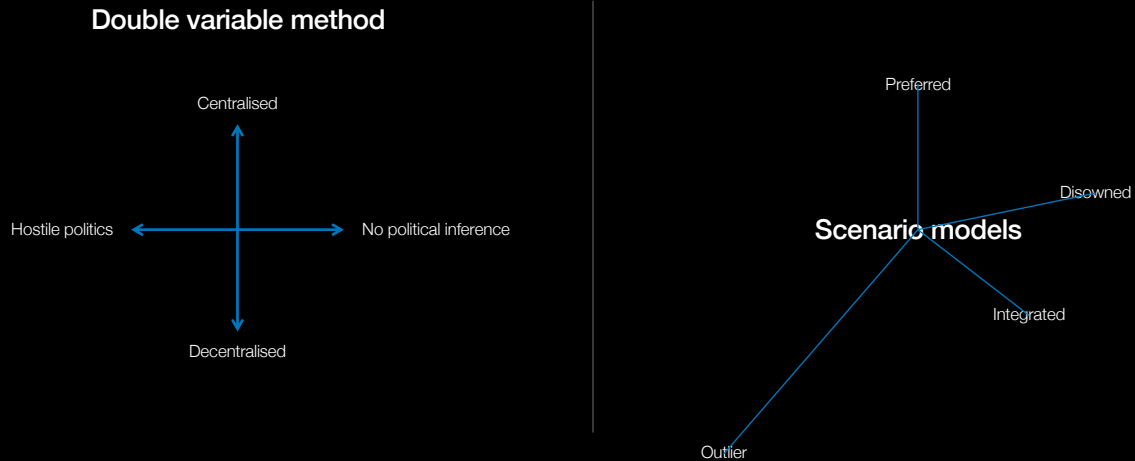
28





How Do We Imagine Our Future? The Infection Prevention Crystal Ball Initiative  
Prof Dr Hugo Sax, Bern University Hospital and University of Bern, Switzerland  
A Webber Training Teleclass

## Scenario planning



Inayatullah S. Futures Studies: Theories and Methods. Book: There's a future: Visions for a better world. BBVA 2012 - ISBN: 978-84-15253-72-3

Mapping | Anticipation | Timing | Deepening | Alternatives | Transforming

29



## 6. Transforming the Future

30



How Do We Imagine Our Future? The Infection Prevention Crystal Ball Initiative  
Prof Dr Hugo Sax, Bern University Hospital and University of Bern, Switzerland  
A Webber Training Teleclass

## Visualising

What happens when you wake up?

What does your home look like?

Who do you live with?

Do you go to work? If yes, what does work look like?

What do you eat?

What can you see, smell, hear, touch, taste?

Inayatullah S. Futures Studies: Theories and Methods. Book: There's a future: Visions for a better world. BBVA 2012 - ISBN: 978-84-15253-72-3

Mapping | Anticipation | Timing | Deepening | Alternatives | Transforming



31

## Backcasting



Mapping | Anticipation | Timing | Deepening | Alternatives | Transforming



32

How Do We Imagine Our Future? The Infection Prevention Crystal Ball Initiative  
 Prof Dr Hugo Sax, Bern University Hospital and University of Bern, Switzerland  
 A Webber Training Teleclass

“We can design situations that help us better understand possible futures by visiting them.”

Experiential futures  
 Show and tell

Stuart Candy 10/26/17

Fly me to tomorrow

Within a generation, those unable to afford time outside Toronto's dense urban environment will resort to Nature Deficit Disorder Clinics, where they will get essential dietary supplements along with simulated rainforests and birdsong.

In Singapore, a popular museum exhibition will chart the startling social transformations over the previous few decades in romance, sex and marriage, including the introduction of state-subsidised love robots to maintain well-being across the population.

Mexico City will be subject to severe flooding, and a peer-to-peer emergency service called Operación Axolotl will emerge as citizens help meet each other's basic needs.

By 2044, young people in North Carolina will face a critical choice at the age of 18: whether to let life's slings and arrows take their natural course, or to accept the wonders of modern medical technology and become, in effect, immortal.

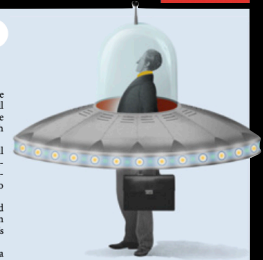
How can anyone possibly claim to predict all this,

We can design situations that help us better understand possible futures by visiting them

you may ask? Actually I'm not predicting that these things will happen—even though I witnessed them all first-hand.

As an experiential futurist my job is to create, and to help others create, transmedia situations where such possibilities can be thought, felt and used to make better decisions. In this practice, all media are fair game for bringing futures to life, from interactive performances to physical artifacts, from video to food: whatever enlivens a future scenario as a potential reality-in-waiting.

If Andy Clark, a cognitive scientist at the Univer-



sity of Edinburgh, is right, thought isn't confined to the boundaries of our skulls. We think with our environments. The map or smartphone in your pocket is a deliberate extension of your thought processes.

We can design situations that help us understand possible futures by visiting them. How much more powerful this is than the white papers and slideshows that are the typical focus of future-gazing in boardrooms and at US summits.

Driven by the irrepresible human urge to bring our inner worlds to life, the culture of public imagination is set to make a leap: in coming years we can expect to see more and more companies, governments, advocacy organisations and communities creating and sharing experiential futures. The sooner we learn to use and democratise collective imagination to dramatise our alternatives, the more powerful will be our capacity to shape change towards just and worthwhile ends. ■

Stuart Candy, director of the Situation Lab and assistant professor of strategic foresight and innovation at OCAD University in Toronto, and Fellow of the Long Now Foundation

Stuart Candy, The Economist, November 2015

Mapping | Anticipation | Timing | Deepening | Alternatives | Transforming

33



First crystal ball survey



34

## Scopes

- Harvest the vision of senior infection prevention experts around the globe
- Extract possible and desired futures
- Invite participants as authors by contributing to next methods and evolution
- Establish a platform



## Method

- Online self-administered survey of open-ended questions
- Purposively chosen participants (innovative style) according to web, conference, and science publication contributions
- Four main questions
- Two-step inductive qualitative analysis:
  - per-case: codes → themes
  - cross-case: leitmotifs



## Questions

1. What will Infection Prevention and Control (IPC) look like in 2030?
2. In whose hands will IPC in healthcare settings lay in 2030? Who will be responsible?
3. What skills and knowledge will be necessary to execute IPC in healthcare settings successfully in 2030?
4. What are the most burning (research) questions regarding IPC in healthcare settings that should/will be answered by 2030?



## Participants

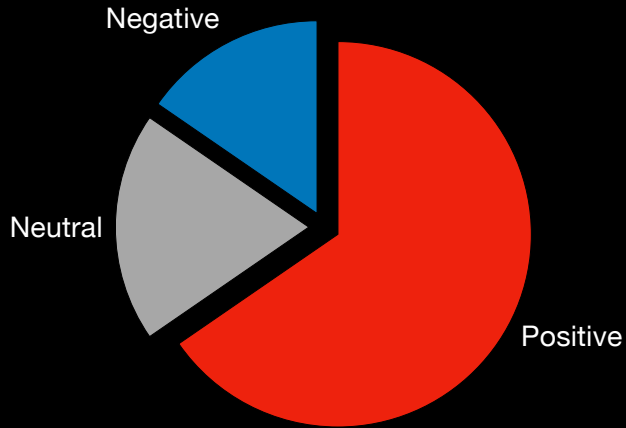
- 18 of 44 (41%) responded
- **Profession:** physicians (14), nurses (3), manager (1)
- **Geography:** USA (6), Canada (2), Switzerland (2), Australia (1), France (1), Germany (1), Mexico (1), The Netherlands (1), Singapore (1), United Kingdom (1)



How Do We Imagine Our Future? The Infection Prevention Crystal Ball Initiative  
 Prof Dr Hugo Sax, Bern University Hospital and University of Bern, Switzerland  
 A Webber Training Teleclass

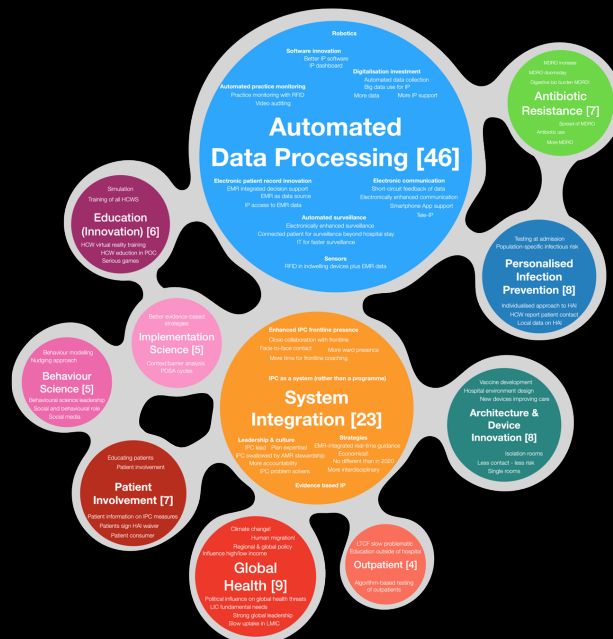
# Results

## Question 1 - Mood analysis



# Results

## Question 1 - Themes





# How Do We Imagine Our Future? The Infection Prevention Crystal Ball Initiative

Prof Dr Hugo Sax, Bern University Hospital and University of Bern, Switzerland  
A Webber Training Teleclass



41



## Results

### “Leitmotifs” - cross-case analysis

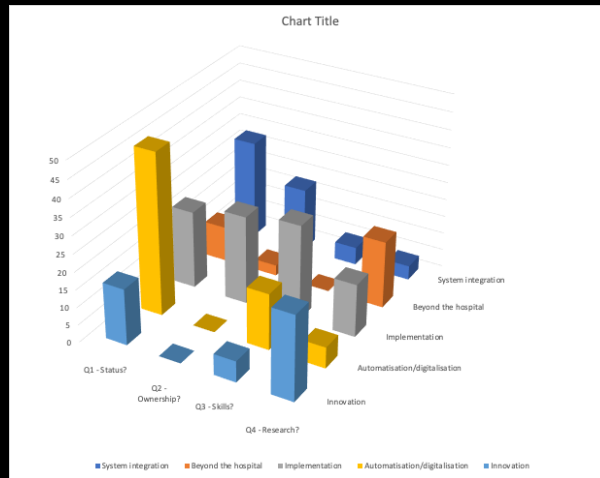
- **“System integration”**  
**Quote:** “I think the infection prevention and control/hospital epidemiology field will need to rethink the skill sets needed on the team to optimise success of programs.”
- **“Beyond the hospital”**  
**Quote:** “IPC does not yet “own” the LMIC space.”  
**Quote:** “How are we prepared to deal with public health and national or international emergencies?”
- **“Implementation”**  
**Quote:** “Quality/patient safety departments may gain importance in hierarchy, but the need for special expertise in epidemiology, surveillance, prevention measures and implementation science, and outbreak investigations will persist.”
- **“Automatisation - digitalisation”**  
**Quote:** “Familiarity and expertise in data management, statistical analysis of data, epidemiological principles, use of artificial intelligence, methods for recognition and investigation of clusters or outbreaks of healthcare-associated infections, knowledge of antimicrobial resistance patterns of pathogens.”
- **“Innovation”**  
**Quote:** “What is the role of the microbiome and immunologic host factors in risk of HAI and how can these be ‘manipulated’ or included in prevention of infections.”

42



## Results

### Semiquantitative Questions x Leitmotifs



43



## Conclusions

- The survey gave rich picture(s) of the potential future
- Most answers corresponded to 'desired futures' (positive mood); except MDRO and take-over by administration / QI
- Surprise: "System integration" and "Beyond the hospital"
- Potential benefit of using a more structured, experiential "Futures" approach to create multiple futures?

44



# Looking ahead



45



## Potential futures :)

- Deepening by interviews?
- IPC function in healthcare institutions?
- Futures workshop?
- Collaboration with other think tanks?

46



How Do We Imagine Our Future? The Infection Prevention Crystal Ball Initiative  
Prof Dr Hugo Sax, Bern University Hospital and University of Bern, Switzerland  
A Webber Training Teleclass

Infection Prevention Crystal Ball Initiative



Would you like to participate?



<https://www.saxhealthdesign.com/crystal-ball>



47

“We will have the future we deserve.”

Albert Einstein



48

How Do We Imagine Our Future? The Infection Prevention Crystal Ball Initiative  
Prof Dr Hugo Sax, Bern University Hospital and University of Bern, Switzerland  
A Webber Training Teleclass

[www.webbertraining.com/schedulep1.php](http://www.webbertraining.com/schedulep1.php)

*(FREE Teleclass)*

May 5, 2022

**SPECIAL LECTURE FOR WORLD HAND HYGIENE DAY**

Speaker: **Prof. Didier Pittet**, University of Geneva Hospitals, and **Dr. Benedetta Allegranzi**, World Health Organization, Switzerland

May 12, 2022

**PREVENTION AND MANAGEMENT OF POST-OPERATIVE SEPSIS**

Speaker: **Dr. Cindy Hou**, Jefferson Health, New Jersey

May 19, 2022

**C. DIFFICILE ASYMPTOMATIC CARRIERS: SHOULD WE WORRY ABOUT THEM?**

Speaker: **Prof. Yves Longtin**, McGill University, Montreal

May 25, 2022

*(South Pacific Teleclass)*

**PATIENT-FOCUSED ANTIMICROBIAL RESISTANCE SURVEILLANCE: DATA FROM THE GROUND UP**

Speaker: **Dr. Paul Turner**, Cambodia Oxford Medical Research Unit, Angkor Hospital for Children, Cambodia

Thanks to Teleclass Education  
**PATRON SPONSORS**



[diversey.com](http://diversey.com)



[gojo.com](http://gojo.com)



Hosted by Martin Kieman [martin@webbertraining.com](mailto:martin@webbertraining.com)  
[www.webbertraining.com](http://www.webbertraining.com)