



IU

INTERNATIONAL UPDATE

The ICU of The Future

Rome, Italy, December 11-14, 2022



## Update on The ICU of the Future

Rome, December 11-14, 2022

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### Sunday, December 11, 2022

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17:00	<i>Registration</i>
17:30	<b>Welcome – Aim of the meeting</b> Jean-Louis Vincent (Brussels, Belgium)
17:45	<b>Pandemic preparedness – déjà vu all over again</b> Lennie Derde (Utrecht, Netherlands)
18:00	<b>What is artificial intelligence? What we need to know before this meeting</b> Azra Bihorac (Gainesville, USA)
18:15	<b>The different facets of the hospital of the future</b> Maurizio Cecconi (Milan, Italy)
18:30	<b>How information will circulate in the future</b> Derek C Angus (Pittsburgh, USA)
18:45	<b>Discussion – Questions to be raised during the meeting</b> The entire faculty
19:00	<i>End of the day</i>

## **Monday, December 12, 2022**

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### **Session 1: the ICU of the future**

08:30	<b>The ICU will be the heart of the hospital</b> Maurizio Cecconi (Milan, Italy)
08:45	<b>The ICUs will be without borders</b> Marlies Ostermann (London, UK)
09:00	<b>The new ICU will be co-designed by patients and relatives</b> Erik Koomen (Utrecht, Netherlands)
09:15	<b>Discussion</b>

### **Session 2: monitoring of the future**

09:30	<b>The progress in vital signs monitoring</b> Maurizio Cecconi (Milan, Italy)
09:45	<b>Short to medium term prediction of vital sign values</b> David Tscholl (Zurich, Switzerland)
10:00	<b>Monitoring will be totally non-invasive</b> Marlies Ostermann (London, UK)
10:15	<b>Discussion</b>
10:30	<b>Break</b>
10:50	<b>How individual dynamic profiles will facilitate treatment</b> Julia Wendon (London, UK)
11:05	<b>New frontiers for sepsis recognition</b> Derek C Angus (Pittsburgh, USA)
11:20	<b>Discussion</b>

### **Session 3: quality of care**

11:35	<b>Team work</b> Julia Wendon (London, UK)
11:50	<b>Communication</b> Lioudmila Karnatovskaia (Rochester, USA)
12:05	<b>Cognitive aids</b> David Tscholl (Zurich, Switzerland)
12:20	<b>Better alarm systems</b> Erik Koomen (Utrecht, Netherlands)
12:35	<b>Discussion</b>

### **Final comments**

12 :45	<b>What I learned this morning</b> Vincent Liu (Oakland, USA) & Azra Bihorac (Gainesville, USA)
13:00	<b>Lunch</b>

## Session 4: technical development

13:45	<b>Decision support-based ICU care</b> Erik Koomen (Utrecht, Netherlands)
14:00	<b>User-centered visualization technologies will increase situational awareness</b> David Tscholl (Zurich, Switzerland)
14:15	<b>Discussion</b>

## Session 5: the impact of artificial intelligence

14:30	<b>How it will change our world</b> Vincent Liu (Oakland, USA)
14:45	<b>How we will deal with challenges and biases</b> Erik Koomen (Utrecht, Netherlands)
15:00	<b>Discussion</b>
15:15	<b>Break</b>

## Session 6: the future from a management perspective

15:35	<b>The hospital director</b> Jacques Creteur (Brussels, Belgium)
15:50	<b>The hospital manager</b> Julia Wendon (London, UK)
16:05	<b>The healthcare manager</b> Derek C Angus (Pittsburgh, USA)
16:20	<b>Discussion</b>

## Session 7: the industry perspective

16:35	<b>Presentations</b>
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## Round table discussion

17:05	<b>What we need from the industry</b> (Integration of devices, better alarms, integration of the information, closed loops systems...) <b>Moderator:</b> Jacques Creteur (Brussels, Belgium) Derek C Angus (Pittsburgh, USA), Vincent Liu (Oakland, USA), Erik Koomen (Utrecht, Netherlands), Lennie Derde (Utrecht, Netherlands)
17:35	<b>End of the day</b>

### Session 8: ICU staffing issues

08:30	<b>Enough ICU doctors?</b> Jacques Creteur (Brussels, Belgium)
08:45	<b>Enough nurses?</b> Jean-Louis Vincent (Brussels, Belgium)
09:00	<b>Digital tools and robotic assistance will decrease staffing requirements</b> Marlies Ostermann (London, UK)
09:15	<b>Discussion</b>

### Session 9: how we will prevent and manage

09:30	<b>Sepsis</b> Vincent Liu (Oakland, USA)
09:45	<b>Organ failure</b> Azra Bihorac (Gainesville, USA)
10:00	<b>Renal failure</b> Marlies Ostermann (London, UK)
10:15	<b>Discussion</b>
10:30	<b>Break</b>
11:00	<b>Respiratory failure</b> Jean-Louis Vincent (Brussels, Belgium)
11:15	<b>Liver failure</b> Julia Wendon (London, UK)
11:30	<b>Coma</b> Lioudmila Karnatovskaia (Rochester, USA)
11:45	<b>Discussion</b>

### Final comments

12 :00	<b>What I learned this morning</b> Maurizio Cecconi (Milan, Italy) & Lennie Derde (Utrecht, Netherlands)
12:30	<b>Lunch</b>

## Session 10: fewer syndromes, more phenotypes

13:30	<b>How artificial intelligence will identify phenotypes</b> Azra Bihorac (Gainsville, USA)
13:45	<b>We'll no longer talk about 'AKI'</b> Marlies Ostermann (London, UK)
14:00	<b>Will we still speak about 'sepsis' and 'ARDS'?</b> Jean-Louis Vincent (Brussels, Belgium)
14:15	<b>My comments</b> Derek C Angus (Pittsburgh, USA)
14:30	<b>Discussion</b>
14:45	<b>Break</b>

## Session 11: fusion care and research

15:15	<b>Implementation research and delivery science</b> Vincent Liu (Oakland, USA)
15 :30	<b>Embedding research into clinical practice</b> Derek C Angus (Pittsburgh, USA)
15 :45	<b>Novel trial designs to allow individualized care</b> Lennie Derde (Utrecht, Netherlands)
16 :00	<b>Discussion</b>

## Session 12: future of clinical trials

16 :15	<b>When big data meet big trials</b> Maurizio Cecconi (Milan, Italy)
16 :30	<b>Will we use more Bayesian analyses</b> Derek C Angus (Pittsburgh, USA)
16 :45	<b>Platform trials are here to stay</b> Lennie Derde (Utrecht, Netherlands)
17 :00	<b>Discussion</b>

## Final comments

17:15	<b>What I learned this afternoon</b> Julia Wendon (London, UK) & David Tscholl (Zurich, Switzerland)
17:00	<b>End of the day</b>

## Wednesday, December 14, 2022

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08:30	<b>The impact of ageing populations</b> John Muscedere (Kingston, Canada)
08:45	<b>Progress, prevention, patient's preferences... will the number of ICU patients decrease?</b> Jacques Creteur (Brussels, Belgium)
09:00	<b>We will understand the connection of microbiome to disease susceptibility</b> Lioudmila Karnatovskaia (Rochester, USA)
09:15	<b>Discussion</b>

### Round table discussions

09:30	<b>The hospital of the future</b> <i>Moderator:</i> Julia Wendon (London, UK) Jacques Creteur (Brussels, Belgium), Maurizio Cecconi (Milan, Italy), Derek C Angus (Pittsburgh, USA), David Tscholl (Zurich, Switzerland)
10:00	<b>The risks to be avoided</b> <i>Moderator:</i> Lennie Derde (Utrecht, Netherlands) Marlies Ostermann (London, UK), Lioudmila Karnatovskaia (Rochester, USA), Vincent Liu (Oakland, USA), Erik Koomen (Utrecht, Netherlands)

### Session 13: the distant future

10:30	<b>The future of AI in critical care</b> Vincent Liu (Oakland, USA)
10:45	<b>Pervasive intelligence in ICU – the next frontier</b> Azra Bihorac (Gainesville, USA)
11:00	<b>Discussion</b>
11:10	<b>General discussion: remaining questions</b> The entire faculty
12:00	<b>End of the day</b>

**End of the meeting**