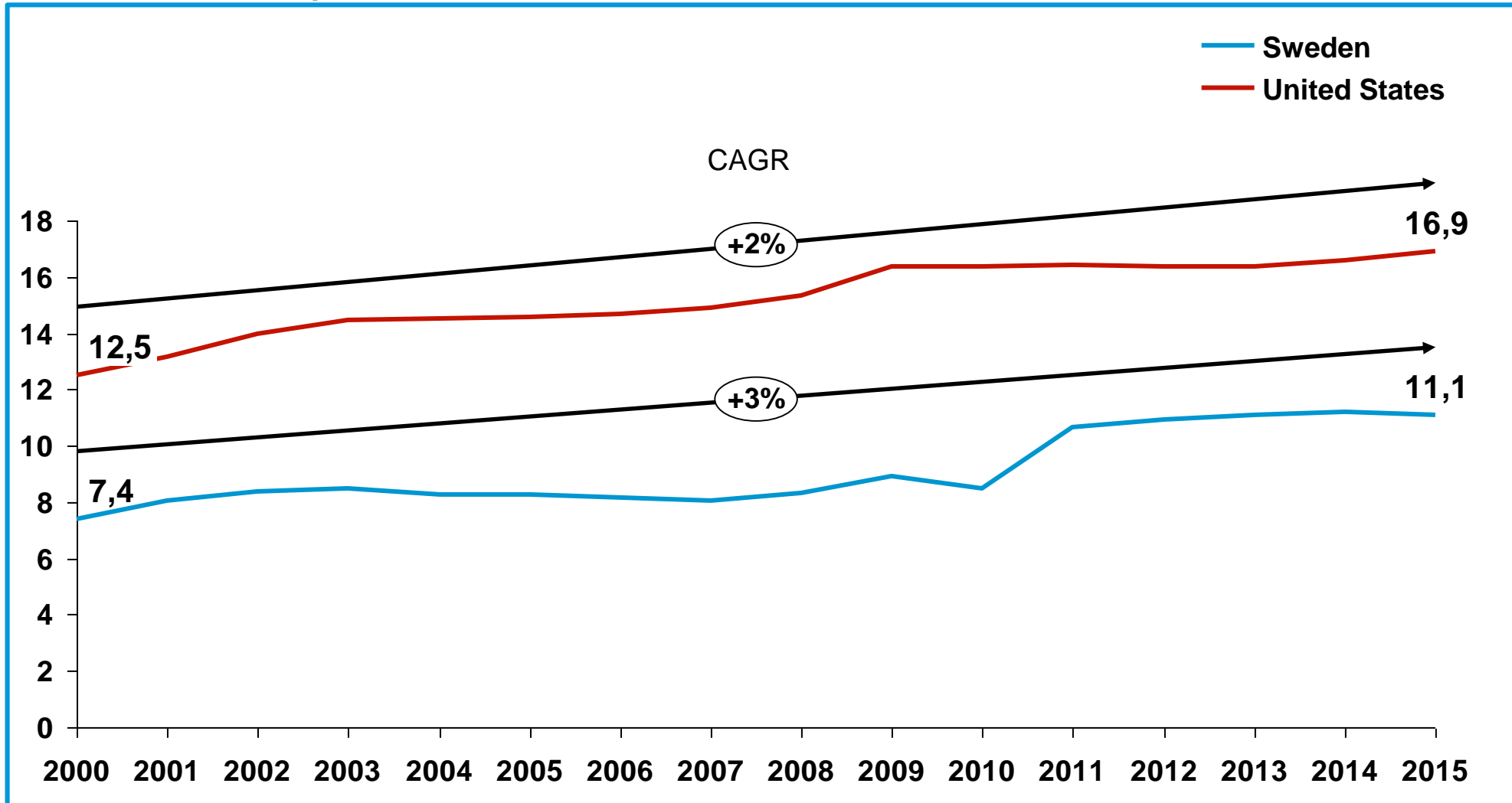# Introduction to the Karolinska journey: Building value around the patient pathway

Claes Ruth
Head of Corporate Control
Karolinska University Hospital

Michael Melin, MD
Manager of the Patient Flow for Heart Failure
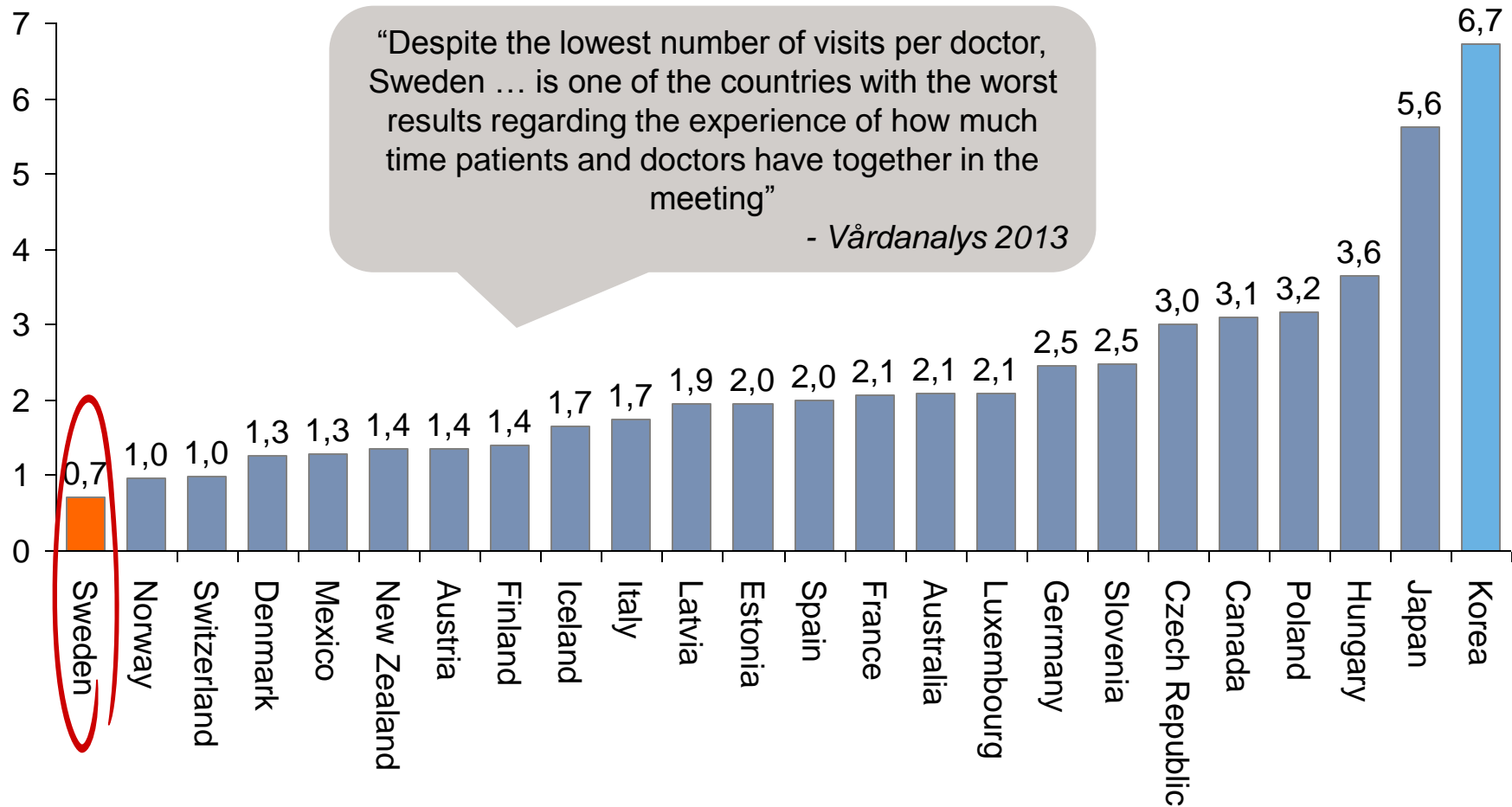Karolinska University Hospital

KAROLINSKA
UNIVERSITY HOSPITAL

Health care spend is increasing at a high rate in Sweden

Health care spend as % of GDP

CAGR

Sweden
United States

+2%

+3%

12,5

7,4

16,9

11,1

18 16 14 12 10 8 6 4 2 0

2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015

Swedish doctors see the fewest patients in all of OECD, yet, doctor visits "feel rushed"

'000 Patient visits per active doctor[1]

"Despite the lowest number of visits per doctor, Sweden … is one of the countries with the worst results regarding the experience of how much time patients and doctors have together in the meeting"
- Vårdanalys 2013

Country	Value
Sweden	0,7
Norway	1,0
Switzerland	1,0
Denmark	1,3
Mexico	1,3
New Zealand	1,4
Austria	1,4
Finland	1,4
Iceland	1,7
Italy	1,7
Latvia	1,9
Estonia	2,0
Spain	2,0
France	2,1
Australia	2,1
Luxembourg	2,1
Germany	2,5
Slovenia	2,5
Czech Republic	3,0
Canada	3,1
Poland	3,2
Hungary	3,6
Japan	5,6
Korea	6,7

Source: OECD 2013, Vårdanalys 2013:9, Note Japan, Switzerland and New Zealand lack 2013 data, the graph therefore shows 2012 data for these countries.

Why do we need to change?

We need to solve our challenges

Fragmentation and lack of holistic overview

Big differences in treatment method and care outcomes

Continuous/cyclical economic challenges
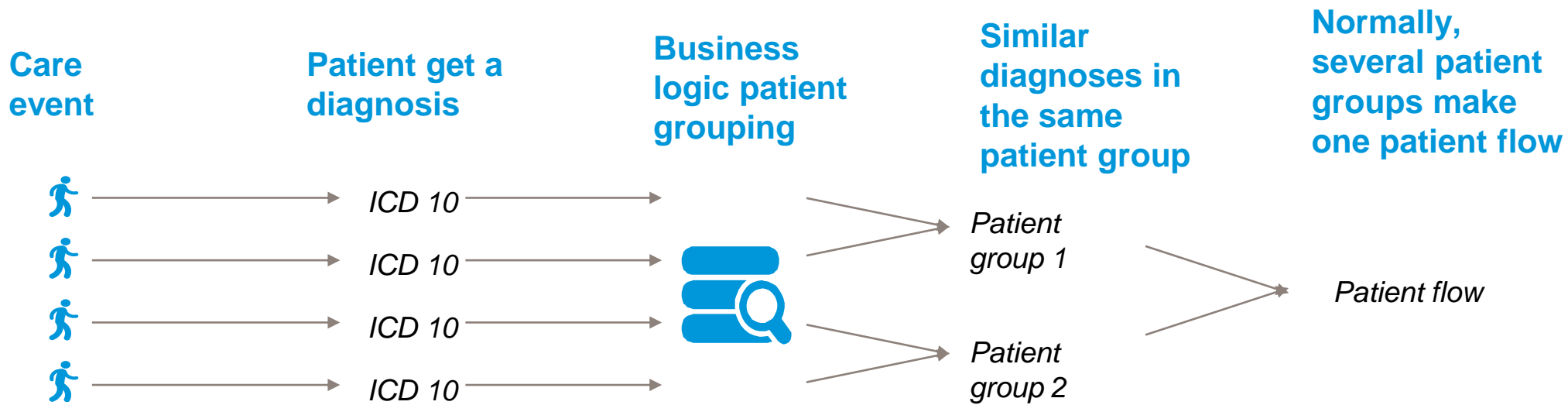
We want to deliver the best care

$$\frac{\text{Outcomes that matter to patients}}{\text{Cost of achieving the outcomes}} = \text{VALUE}$$

We have to organize along the patients journey through the system

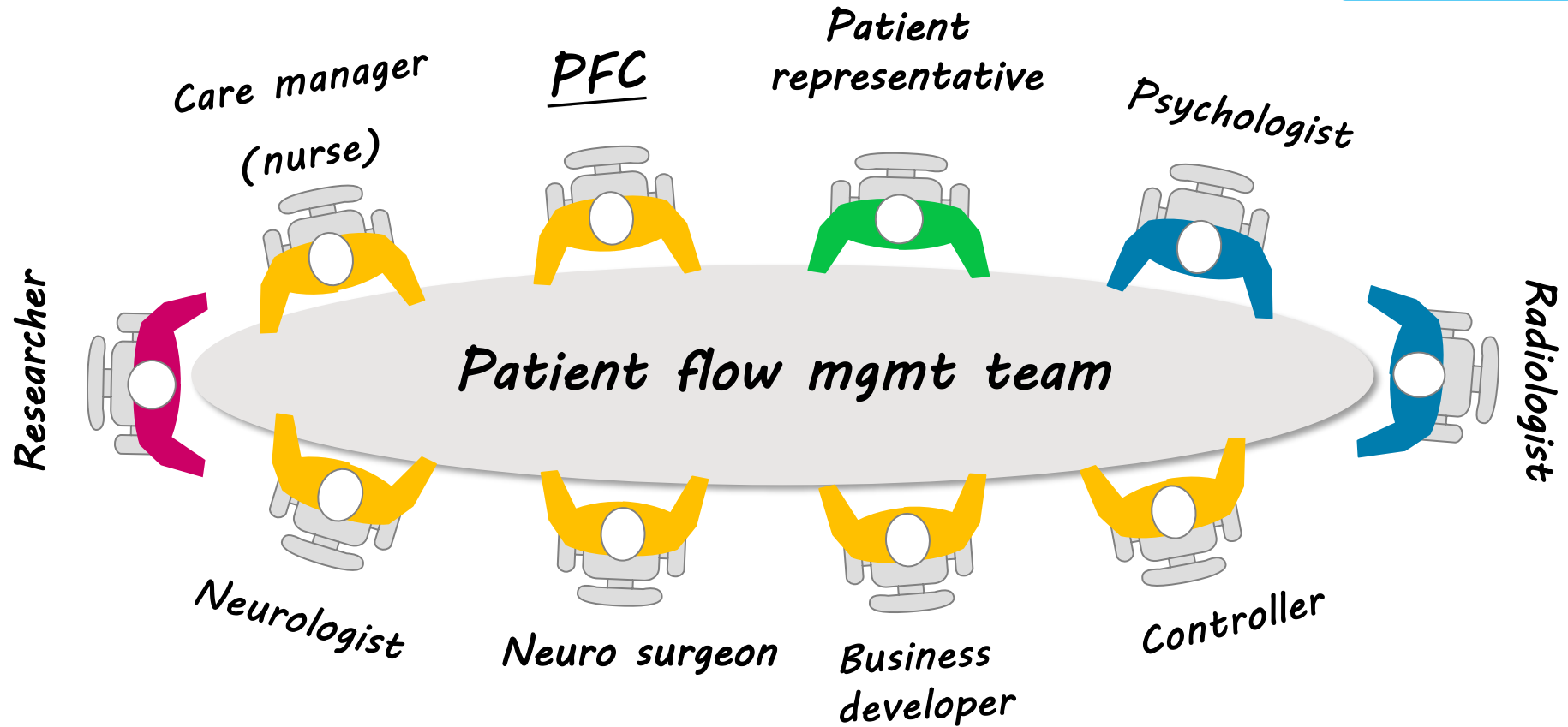# A new operating model centered around patient pathways enables patient centered optimization of flows and outcomes
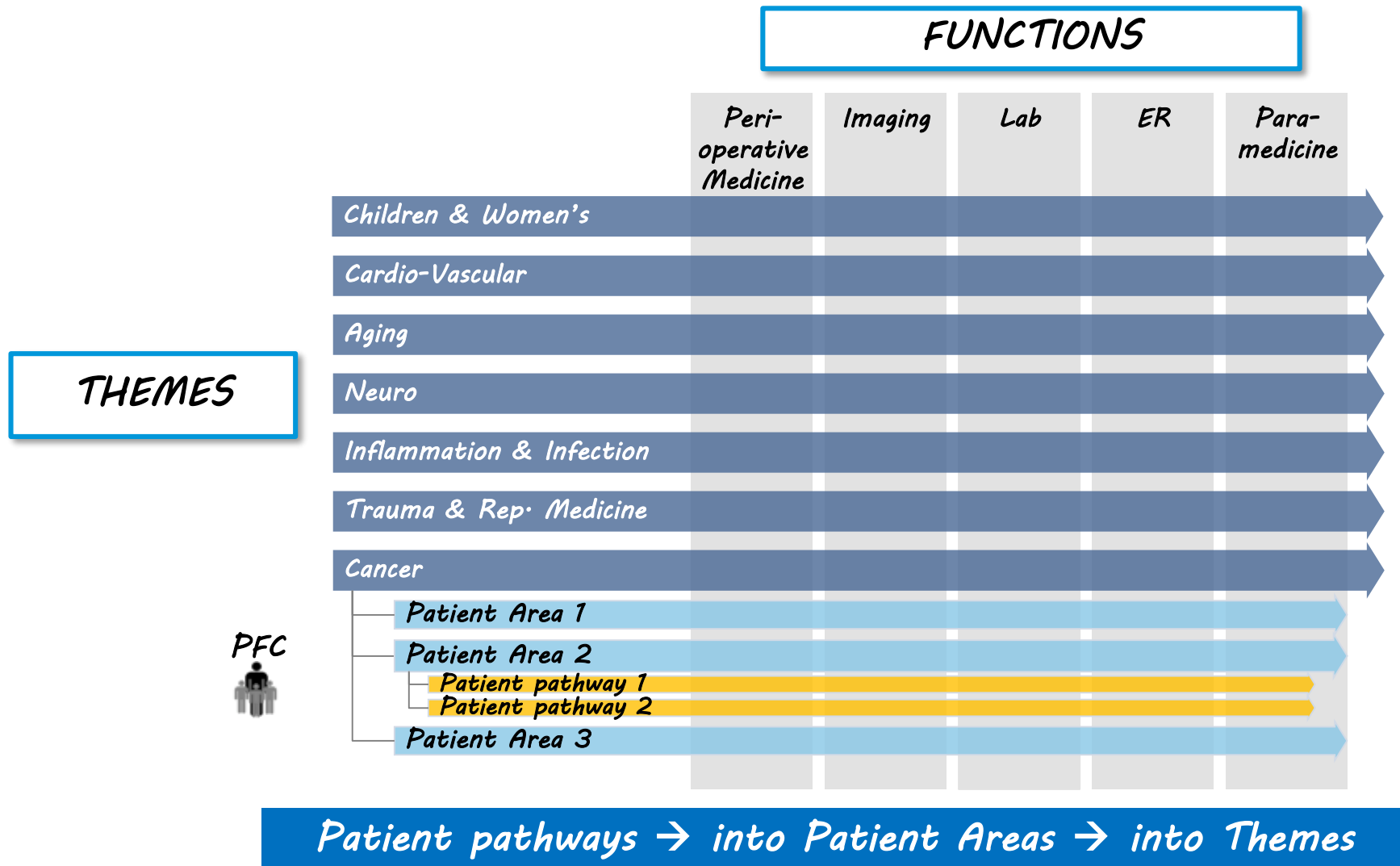
Patient groups are defined from similar diagnoses while patient flows are at an organizational level

Care event

Patient get a diagnosis

Business logic patient grouping

Similar diagnoses in the same patient group

Normally, several patient groups make one patient flow

ICD 10

ICD 10

ICD 10

ICD 10

Patient group 1

Patient group 2

Patient flow

- Patient groups and patient flows are not in a 1:1 relationship
- Patients who never get a diagnosis will not be part of a patient group but will be part of a patient flow through registration with economical attributes

Interdisciplinary teams lead the work within each patient flow with joint responsibility for outcomes and costs
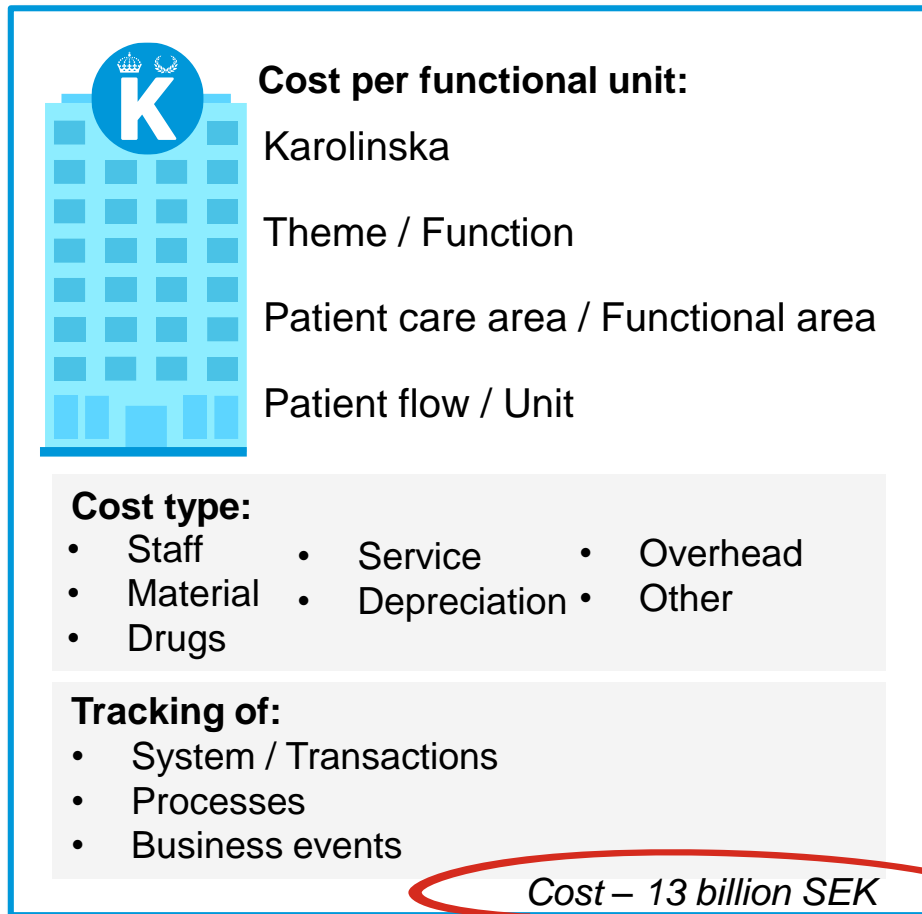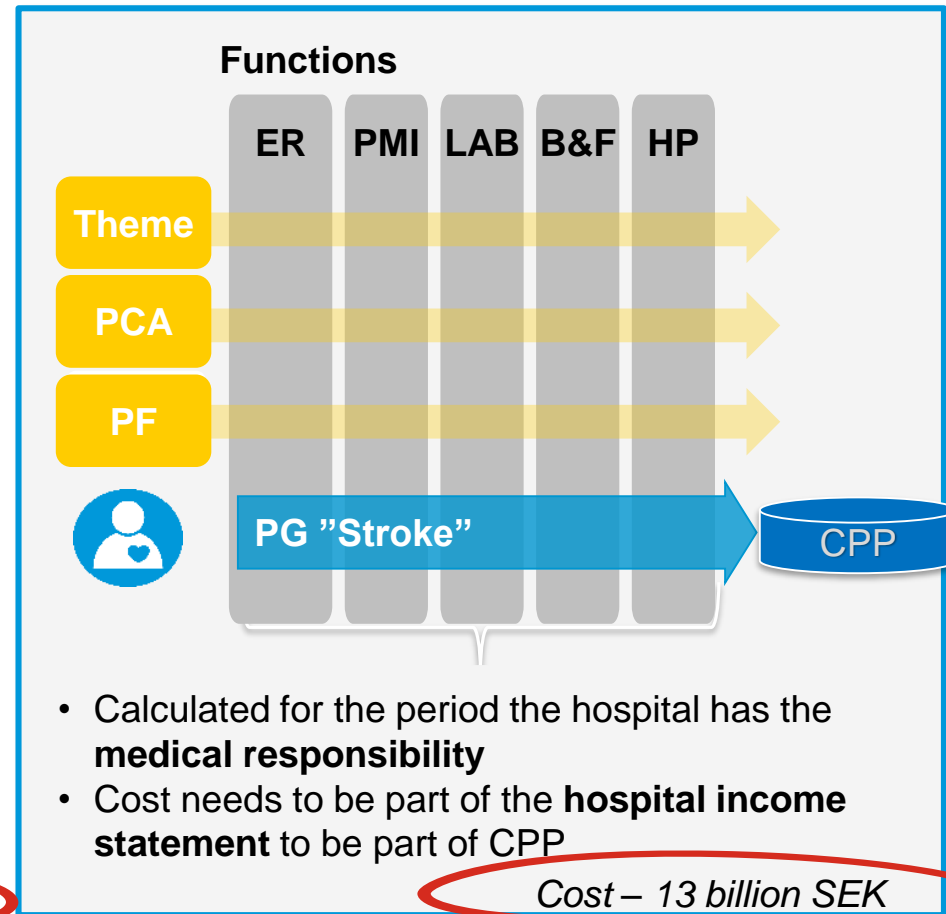
ILLUSTRATIVE

Care manager (nurse)

PFC

Patient representative

Psychologist

Researcher

Radiologist

Patient flow mgmt team

Neurologist

Neuro surgeon

Business developer

Controller

6

We need to be able to view cost in two different ways: Financial Statement and Cost per patient

Financial statement

**Cost per functional unit:**

Karolinska

Theme / Function

Patient care area / Functional area

Patient flow / Unit

Cost type:
- Staff
- Material
- Drugs
- Service
- Depreciation
- Overhead
- Other

Tracking of:
- System / Transactions
- Processes
- Business events

Cost – 13 billion SEK

Cost per patient

Functions

| ER | PMI | LAB | B&F | HP |

Theme

PCA

PF

PG "Stroke" → CPP

- Calculated for the period the hospital has the **medical responsibility**
- Cost needs to be part of the **hospital income statement** to be part of CPP

Cost – 13 billion SEK

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CPP[1] is an important enabler – connecting the patients journey to care events and cost structure

Total CPP: PUC ... Standard cost
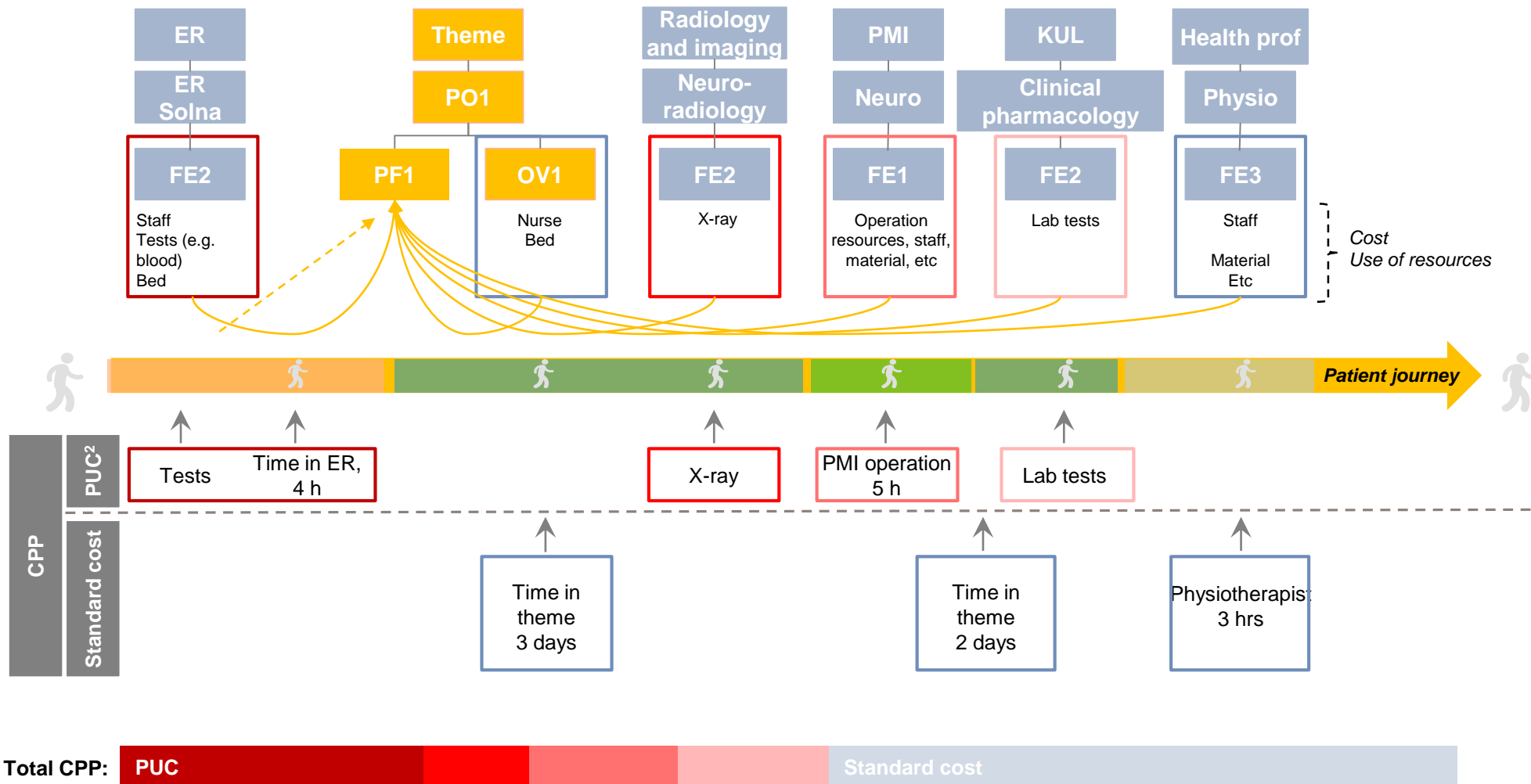
1 Cost per patient
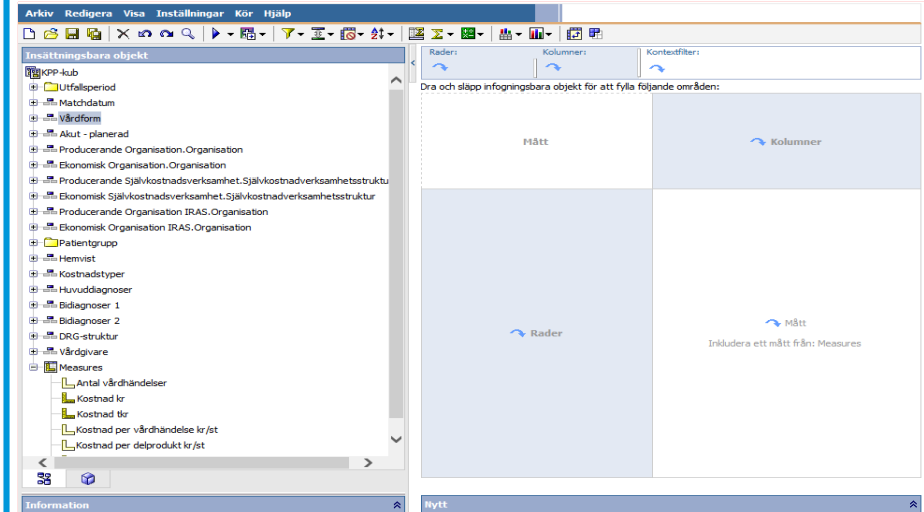2 Patient Unique Cost

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Two additional tools will enable tracking and follow-up on patient group level

1 **Digital scorecards**
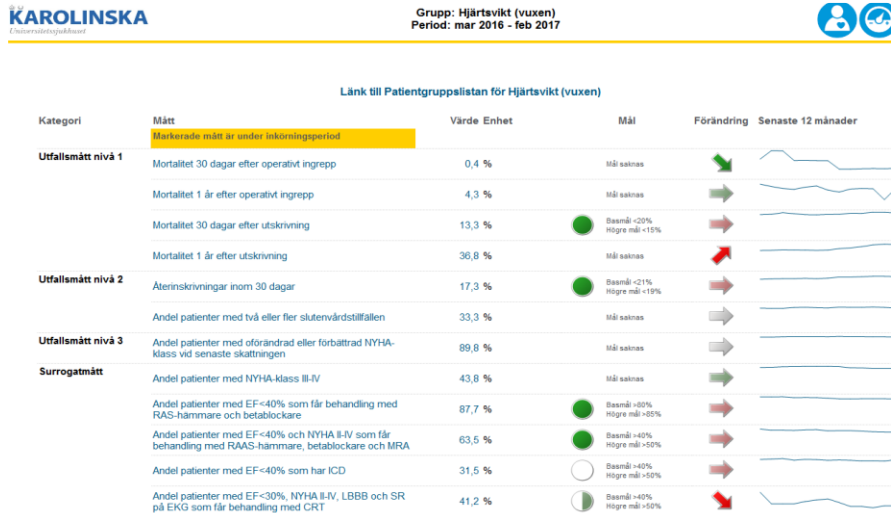
- Automated collection of "value to patient" data
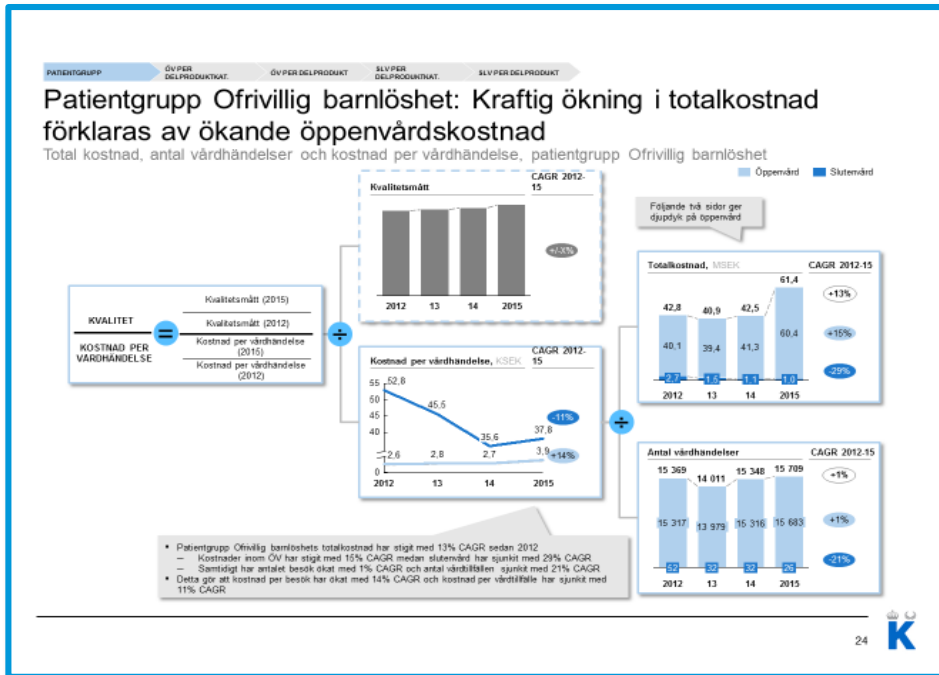- Enables data driven improvement work

2 **Insight reports**

- In-depth analysis
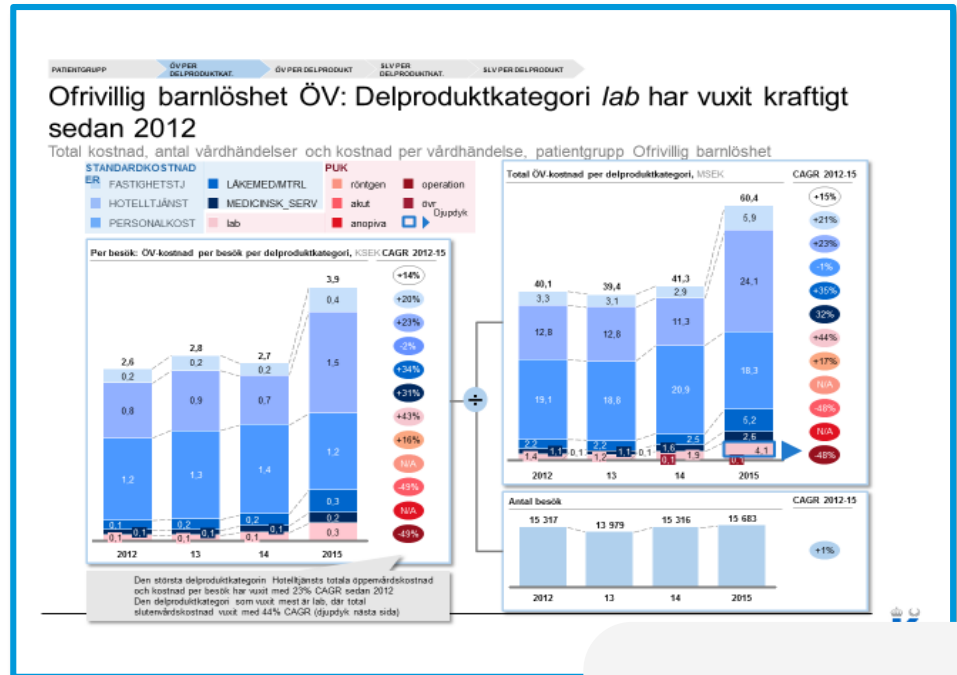- Used to understand development and make an action plan

Insight reports are produced for each organizational level, enabling follow-up for specific responsibilities
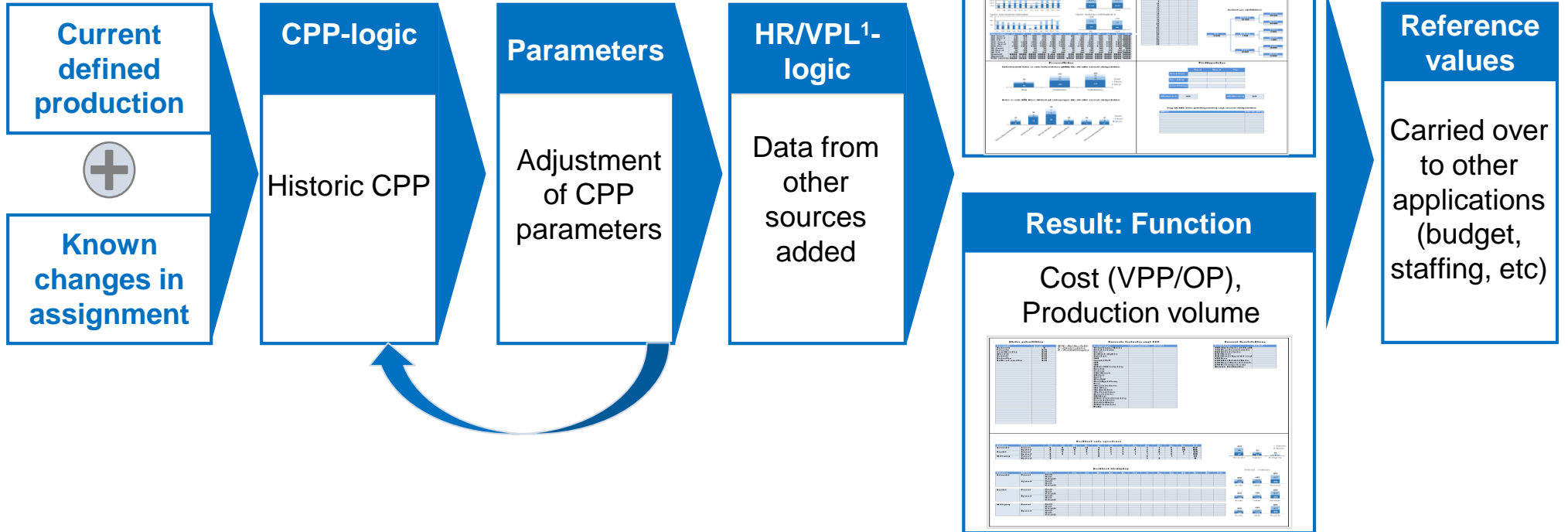
High level reports

Breakdown of data to find the cause

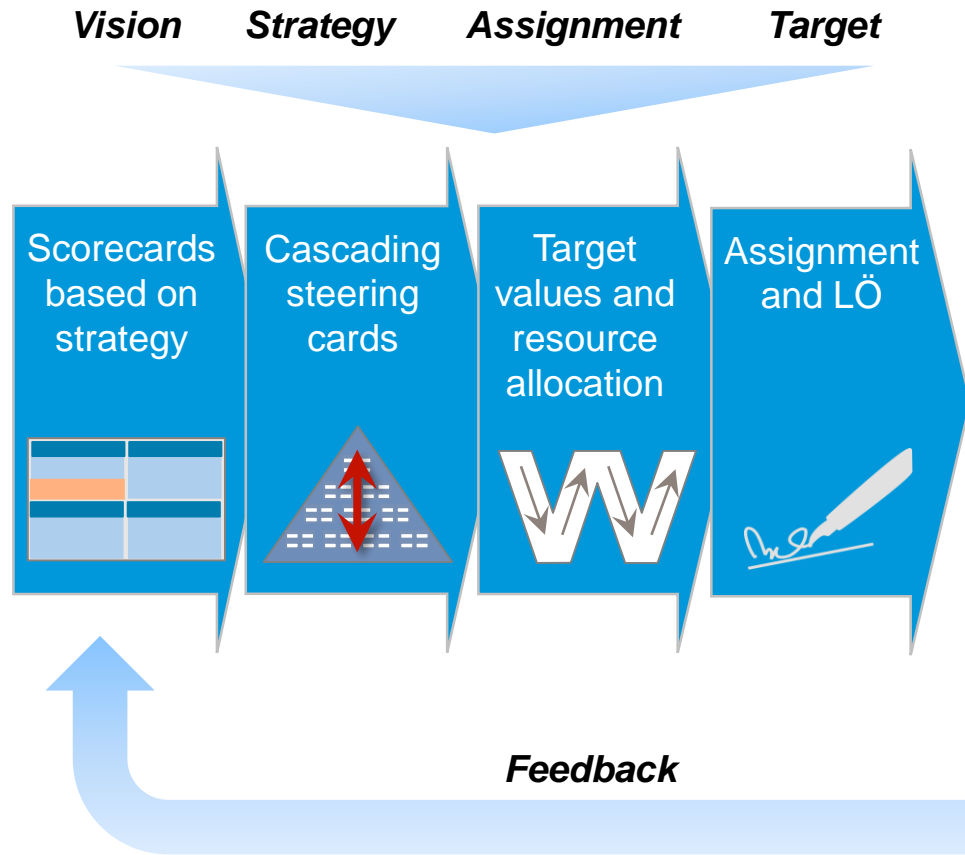# A Multi Resource Planning tool enables integrated and iterative planning of volumes, resources and finances

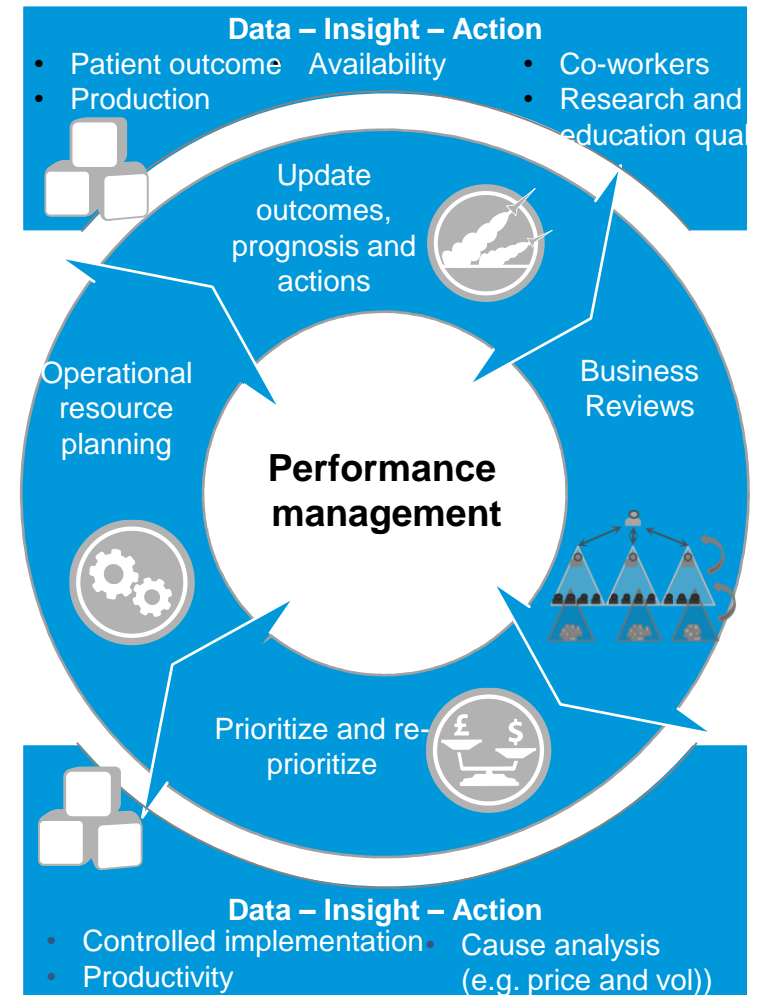**Possibility to do simulations for a workflow**

Current defined production

(+)

Known changes in assignment

CPP-logic

Historic CPP

Parameters

Adjustment of CPP parameters

HR/VPL[1]-logic

Data from other sources added

Result: Theme

Production, economy, HR and , care days

Result: Function

Cost (VPP/OP), Production volume

Reference values

Carried over to other applications (budget, staffing, etc)

Ambition for organizational planning and performance management at Karolinska University Hospital

"One" planning process

Vision *Strategy* *Assignment* *Target*

Scorecards based on strategy

Cascading steering cards

Target values and resource allocation

Assignment and LÖ

Feedback

Data – Insight – Action loop

Data – Insight – Action
- Patient outcome   Availability
- Production

- Co-workers
- Research and education qual…

Update outcomes, prognosis and actions

Operational resource planning

Performance management

Business Reviews

Prioritize and re-prioritize

Data – Insight – Action
- Controlled implementation
- Productivity

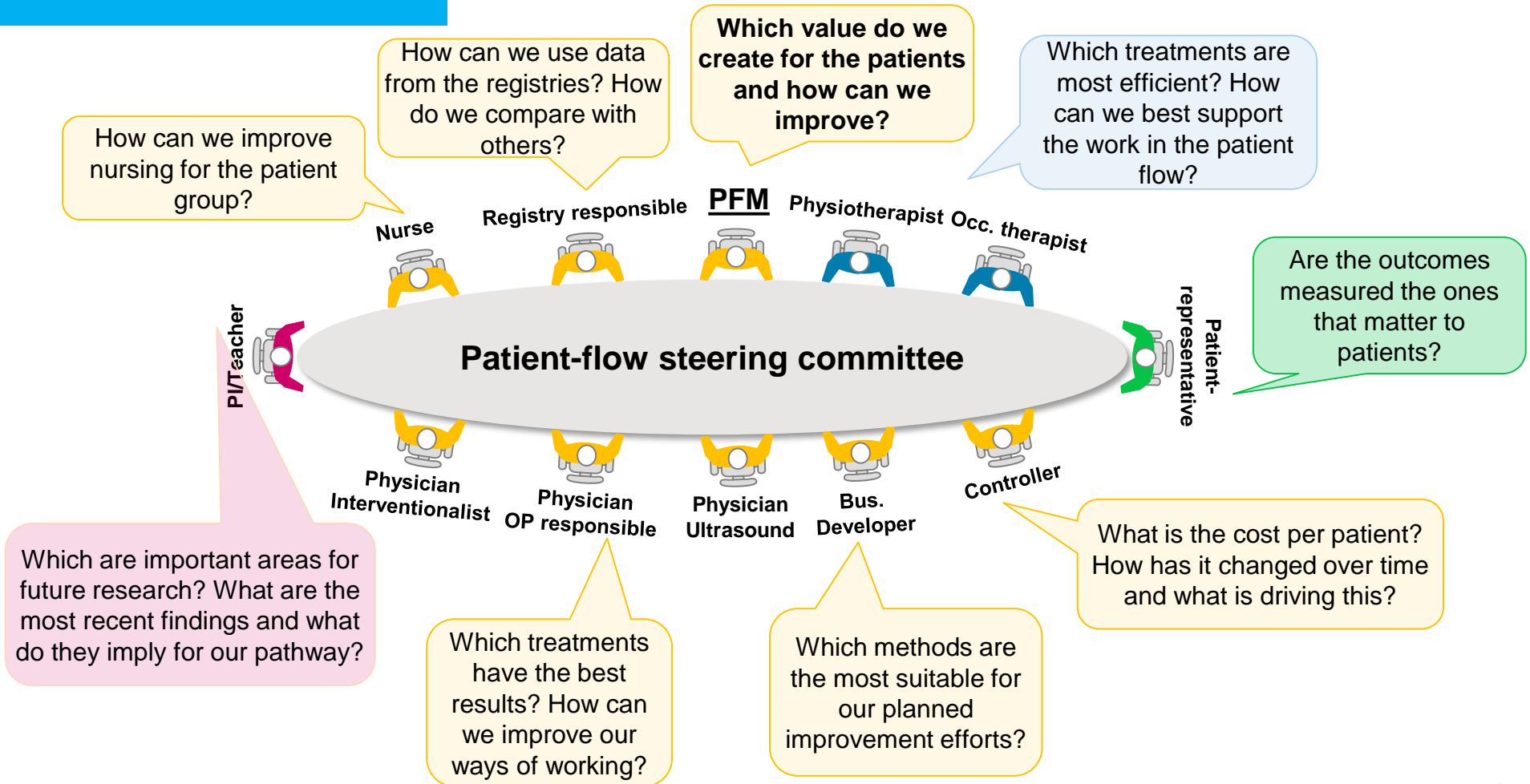- Cause analysis (e.g. price and vol))

Quote from a nurse:

'For the first time the head of the department/patient area focuses on the outcomes for the patient with heart failure. That didn´t happen before.'
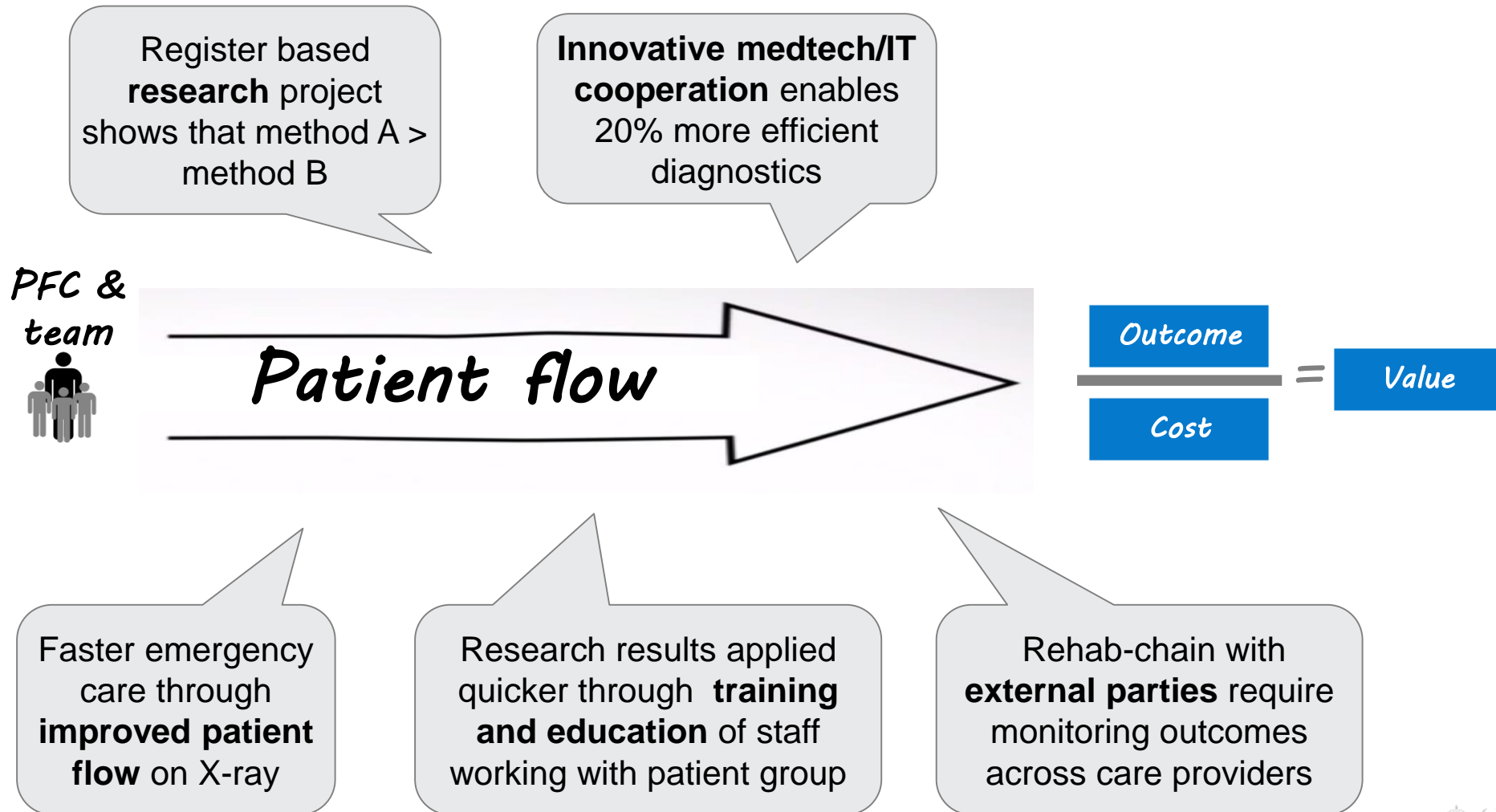
Patient Flow Manager convenes Steering Committee with broad representation from the flow, including patient representation

Heart Failure

How can we improve nursing for the patient group?

How can we use data from the registries? How do we compare with others?

Which value do we create for the patients and how can we improve?

Which treatments are most efficient? How can we best support the work in the patient flow?

Are the outcomes measured the ones that matter to patients?

Which are important areas for future research? What are the most recent findings and what do they imply for our pathway?

Which treatments have the best results? How can we improve our ways of working?

Which methods are the most suitable for our planned improvement efforts?

What is the cost per patient? How has it changed over time and what is driving this?

Patient-flow steering committee

Nurse · Registry responsible · PFM · Physiotherapist · Occ. therapist · Patient-representative · PI/Teacher · Physician Interventionalist · Physician OP responsible · Physician Ultrasound · Bus. Developer · Controller
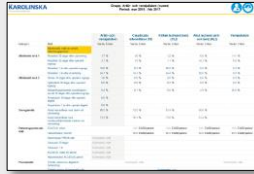
Note: PI, principal investigatorr; OP, out-patient

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A new role – the Head of the Patient Flow (PFC)

Register based **research** project shows that method A > method B

Innovative medtech/IT cooperation enables 20% more efficient diagnostics

PFC & team

Patient flow

Outcome

Cost

= Value

Faster emergency care through **improved patient flow** on X-ray

Research results applied quicker through **training and education** of staff working with patient group

Rehab-chain with **external parties** require monitoring outcomes across care providers

9 digital scorecards

Heart Failure: The score board allows for monitoring of the patient in a whole new way
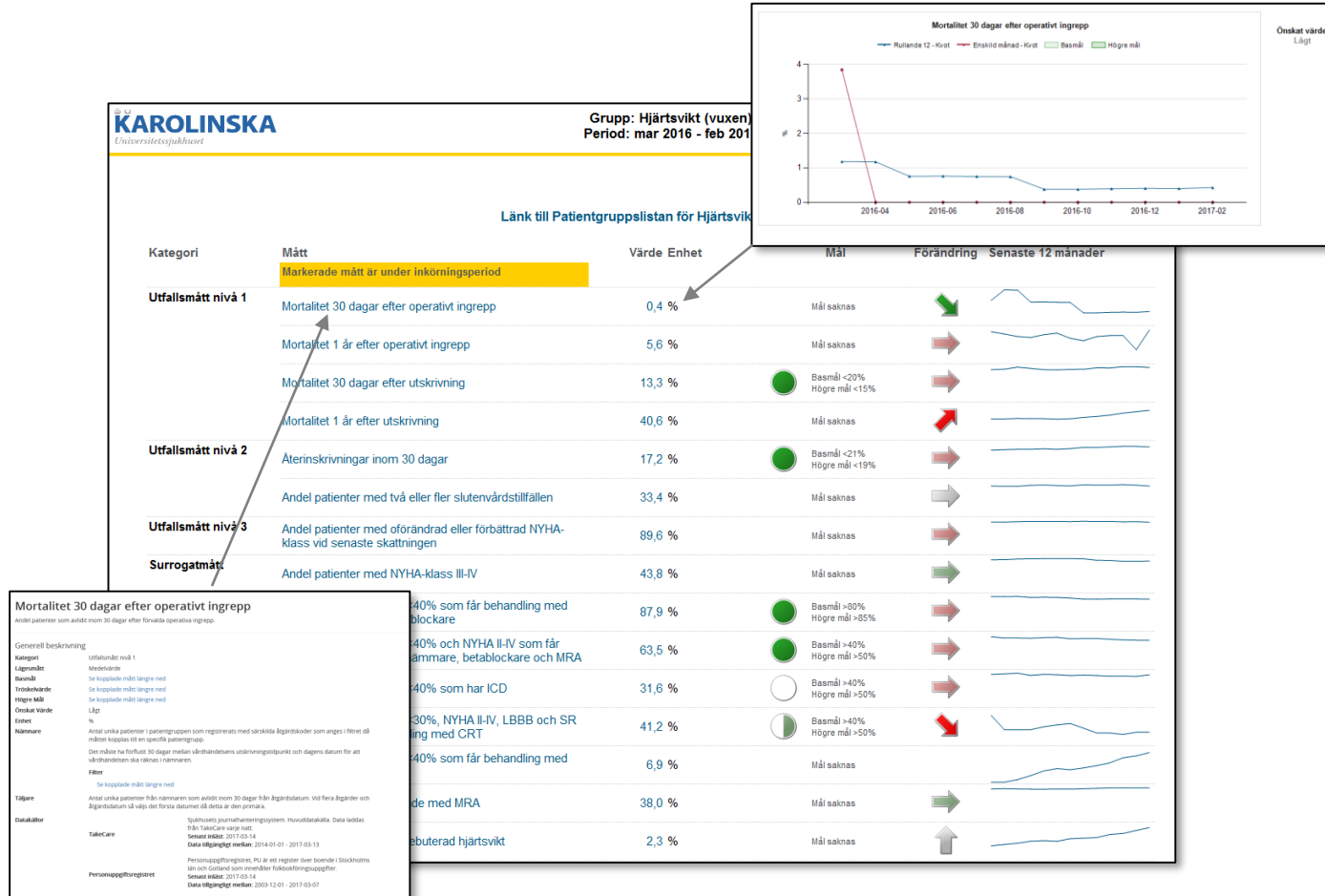
Digital scorecards: Outcomes, resources, research and working environment

- Digital scorecards was developed in cooperation with SwedeHF (Swedish Registry For Heart Failure)

- Data is extracted daily from medical records

- Follow-up and analyze results at each steering committee

- Appropriate measures to improve results

- Scorecards shall include metrics for
    - outcomes for patient
    - economy
    - research and education
    - working environment
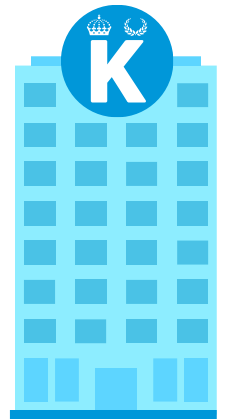
The breadth of competence and accountability in the team supports improvement work along the full patient pathway

Registry-based *research project* showing method A > method B

Innovative collaboration for distance care enabling 20% increased outpatient care

Patient Flow Mgr with an inter-professional and inter-disciplinary team

Patient flow

INTERNALLY

EXTERNALLY

$$\frac{\text{Outcome}}{\text{Cost}} = \text{Value}$$

Faster acute process through *improved flow* in radiology

Research result can be applied directly through *education* within the patient group team

Rehab care chain with *external party* requiring outcome measurement cross different care givers

The two main objectives of Karolinska's new organizational setup

Creating patient centered care by organizing ourselves in teams around the patient flow...

...to shape a new kind of university hospital organization

Patient Group Mgr with inter-professional & inter-disciplinary teams

Patient flow

$$\frac{\text{Outcome}}{\text{Cost}} = \text{Value}$$

Hospital

Karolinska Institutet

University

Centralizing the organization around the patient is a prerequisite for value-based health care
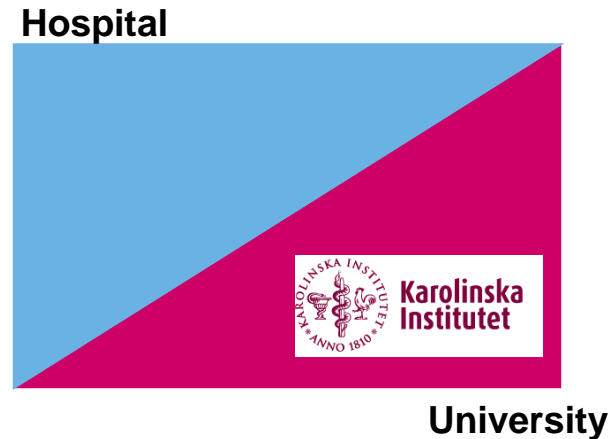
Enabling a high level of integration between care, research and education

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Thank you!

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