Navigating the Analytics Journey
Triple Aim Experience

1. Patient Satisfaction
2. Improving Population Health
3. Reducing Costs
The Analytics Journey

- **Optimize**
  - Prescriptive Analytics
  - Suggest course of action / plans

- **Manage**
  - Predictive Analytics
  - Predict uncontrollable variables based on data

- **Diagnose and Control**
  - Diagnostic Analytics
  - Correlate the results with the historical data

- **Monitor**
  - Descriptive Analytics
  - Basic Reporting
The Analytics Journey
Do we know the demand?

Did we identify the scarce resource?

Have we quantified it?
SCHEDULING

Surgery Booked

Duration  Skills  OT Equipment  Revenue

Multiple constraints to consider
Predict surgery duration and LoS
Requirements for a flexible plan

ERP
Spread sheet
Paper
Memory
ELECTIVE PATIENT JOURNEY

OUTPATIENT

WAITING LIST

SCHEDULE

PATIENT

DISCHARGE

SURGERY

Surgery Booked

Clinical Staff

ICU

Predict demand
Capacity to answer to GPs’ requests in time

Managing wait times
Deal with capacity constraints

Multiple constraints to consider
Predict surgery duration and LOS
Requirements for a flexible plan

Ensure the right team in the right OT
with the needed materials

Get the right bed, to the right patient,
at the right time

Ensure the right follow-up channel
to each patient

Spread sheet
Paper
Memory

Ensure the right team in the right OT
with the needed materials
Deal with no shows, delays and anticipations

Demand for Surgery

Rest vs. Planned Surgeries

Length of Stay

Sources

Challenges
ELECTIVE PATIENT JOURNEY

**OUTPATIENT**
- GP Appointment
- Specialist Appointment
- Acceptance criteria
- Priority level
- Duration
- Skills
- OT Equipment
- Revenue
- OT hours
- Beds

**SCHEDULING**
- ERP Spreadsheet
- Paper Memory
- Multiple constraints to consider
- Predict surgery duration and LOS
- Requirements for a flexible plan

**INPATIENT**
- ICU
- Differentiated bed
- Ward bed
- KPIs
- Beds
- Memory
- Paper

**OUTCOMES**
- Get the right bed, to the right patient, at the right time

**SOURCES**
- ERP Spreadsheet
- Paper Memory

**CHALLENGES**
- Predict demand
- Capacity to answer to GPs' requests in time
- Managing waiting times
- Deal with capacity constraints
- Ensure the right team in the right OT with the needed materials
- Deal with no shows, delays
- Ensure the right follow-up channel to each patient

**INPUTS**
- Demand for Surgery
- Bed vs. Planned Surgeries
- Elective Surgeries
ELECTIVE PATIENT JOURNEY

OUTPATIENT
- GP Appointment
- Specialist Appointment

WAITING LIST
- Acceptance criteria
- Priority level

SCHEDULING
- Duration
- Skills
- OT Equipment
- Revenue
- OT hours
- Beds

SURGERY
- Surgery Booked
- Clinical Staff

INPATIENT
- ICU
- Differentiated bed
- Ward bed

DISCHARGE
- Daycare

CHALLENGES
- ERP Paper
- ERP Spreadsheet
- ERP Paper
- ERP Sheet
- ERP Spreadsheet

SOURCES
- ERP Paper
- ERP Spreadsheet
- ERP Spreadsheet
- ERP Paper

ANALYSIS
- Demand for Surgery
- Real vs. Planned Surgeries
- Elective Planning
- Average Length of Stay
Como é feita a gestão de camas atualmente?

A equipa da gestão de camas:
- gera a capacidade de camas
- antecipa a alocação/disponibilização de camas para cuidados planeados
- equilibra as camas utilizadas para atividade eletiva com as camas disponíveis para urgência
- mantêm um fluxo continuo de doentes que passam pelo hospital
- garantem que os doentes têm acesso em tempo útil à cama mais apropriada à sua condição
- garantem a disponibilidade de camas necessárias, de forma a assegurar a melhor saúde e a melhor eficiência nos cuidados

Fonte: http://biblioteca.luzsaude.pt/RevistaIESSBeatrizAngelo/IESSBeatrizAngeloN9/
Como é feita a gestão de camas atualmente?

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WiseWard gets the right bed, to the right patient, at the right time.
WiseWard Planning
Empowering the proactive bed manager

Cost Reduction
5 to 7 day planning to meet cost reduction

Time and stress reduction
Comprehensive analysis of variables and data within EPR and PAS

Productivity
Productivity gain in scheduling and bed management

Revenue
Increased revenue through prioritised scheduling
### Week Plan

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<th>12 Jan</th>
<th>13 Jan</th>
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<td>34 PM + 57</td>
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### Situations As Is

##### Lack of Beds

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### Settings

- Allow Move Patients
- Allow Surgical Postures
- Allow Urgency Below Threshold
- Allow Mixed Sex Accommodations
- Allow Surgical Posture to Undefined Date
- Allow Patients Outside Specialty
- Allow Patients Mixed Age
- Balance Nursing Hours
- Balance Non Clinical Staff Hours
- Balance Patients Discharge Date

### To Do

Choose settings and press "Generate Plan" to get the best plan.

### Results

Results after press "Generate Plan"
WiseWard Analytics
Lifecycle

Prescriptive Action
What should we do?

Descriptive
What happened?

Predictive Insight
What will happen?

Diagnostic Monitoring and Reporting

Powered by IBM
# Patients

- **Gender:** Male
- **Age:** 52 yrs.
- **Specialty:** Orthopaedics

- **Gender:** Female
- **Age:** 35 yrs.
- **Specialty:** Neurology

- **Gender:** Male
- **Age:** 73 yrs.
- **Specialty:** Internal Medicine

- **Gender:** Male
- **Age:** 54 yrs.
- **Specialty:** General Surgery

- **Gender:** Female
- **Age:** 42 yrs.
- **Specialty:** Cardiology

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**Suggestions**

Select a patient from the list above.
WiseWard Operations
Tactical response to unforeseen events

Quick and reliable
Response time for unexpected events

Real Time
Ensured alignment of patient with appropriate medical staff and equipment

Business rules
Intuitive decision rules in natural language

Better care
Faster decision making for bed managers and chief nurses
WiseWard gets the right bed, to the right patient, at the right time.
Technology empowering longer and healthier living