Leadership and Management Capacity Development Program for the Public Health Sector

Data Management For Decision Making Module

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ABC of Hospital Dashboards2

Acknowledgment

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Disclaimer

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In this session:

In Session 3.3, we

- Get to know variety of people who can benefit from hospital dashboards
- Learn the main subjects of use in hospital dashboards
- Learn various purposes of hospital dashboards and how they are different by

Why is this important?

Any Dashboard design project begins with a dashboard design plan which clarify the dashboard aspects first

Dashboards can have various aspects which affects:

1. its design,
2. Its metrics, and measures
3. its data plan for feed and update

Such Important Aspects are:

1. Who is using them?
2. On What Subject?
3. On What Purpose?

Users of Hospital Dashboards

Good Information, Good Decision

Common Users of H. Dashboards:

1. Department Managers
2. Clinical Care Managers
3. Hospital Managers

Department Mangers as Users of H. Dashboards

Types of Department Managers:

1. Administrative Departments
such as: ADT, Finance, Q&S, Supply
2. Care Departments, such as ER, Surgery, Maternal, Internal,
…..

Department Managers uses Dashboards for:

1- Personnel Control
2- Department Service Management
3- Department Performance Monitoring

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Clinical Mangers as Users of H. Dashboards

Types of Clinical Care Managers as Dashboard Users:

1. Physicians in charge
2. Chief or Head Nurse
3. Chief Midwife

Clinical Care Managers uses Dashboards for:

1- Monitoring patient status
2- Watching for provided quality of care
3- Safety Control of Patient
4- Managing patient care
5- Enabling Learning Health System

Hospital Mangers as Users of H. Dashboards

Hospital Managers uses Dashboards for:

1. Managing the performance of every department, person, and service
2. Performance Planning and Monitoring
3. Root-cause Analysis for a gap or failure
4. Applying Predictive Intelligence in Hospital
5. Information-based and Evidence-based decision making

Subjects and Metrics in HM Dashboards

Good Information, Good Decision

Main Aspects of H. Dashboards:

1. Finance
2. Quality and Safety
3. Supply Chain
4. Human Resource
5. Clinical care Management

Financial Dashboards are built to:

1. manage and monitor the budget, revenue, expenditure and cash flow
2. conduct budget planning based on department or service output or outcome;
3. monitor and analyze the cost-effectiveness of the current hospital services
4. perform asset management and planning, and
5. do asset and resource analysis


Dashboard - Financial Management
KloudData
Facility ALL
KPI Analysis
Show Details
Financial Core Measures
Cash Flow Measures
Measure | Month | YTD | Budget | Ind
Days in Accounts Receivable | 38.80 | 39.43 | 79.91
Days Cash on Hand | 51.63 | 49.62 | 107.37
Debt Service Coverage | 0.13 | 0.12 | 0.47
Current Ratio | 15.87 | 14.62 | 28.72
Debt to Equity | 9.53 | 9.04 | 15.19
Daily POS Collections (000's) | 113,327.7 | 2,066,355 | 184272.98
Daily AR Collections (000's) | 13,584.17 | 256,865.1 | 22021.25
Rolling 12 Months-Days in
Days
Month
All Facilities
Budget
Patient Type
Payor Type
Month: Jan
Blue Cross
Commercial Contract
Medicare
Mediclaim
N/A
Other Governmental
Self Pay
United
Jan
Dec
FTEs
Total Labor Costs
Amount
Total Labor Costs
Budget

Financial Dashboard Metrics and Measures

FINANCIAL MEASURES
PROFIT
Contribution Margin
Profit Margin
Bad Debt as a Percent of Net Revenue
Charity Care a Percent of Net Revenue
Self-Pay Receivable as a Percent of Accounts Receivable
LIQUIDITY
Days Cash on Hand
Cash on Hand
Average Daily Cash Collections
Current Ratio
AIR Days
Denials Rate
CAPITAL & DEBT
Return on Total Assets
Return on Capital Employed
Net Asset Turnover
Debt to Equity Ratio
Debt to Assets Ratio

Clinical Dashboards are built to:

- target quality and safety matters of the patient care
- provide a clear overview of the QS indicators needed to achieve the desired objectives
- To enable users to manage the QS performance of hospitals.

Supply Chain Dashboards are built to:

- Enable Inventory Management & Reporting
- Track reusable items
- Enable Consignment stock usage & tracking
- Conduct demand forecasting …
- Perform supplier management, and
- Conduct SC performance monitoring

Supply Chain Dashboards are expected to result in:

- Improved visibility such as real-time visibility into hospital supply orders
- Improved responsiveness to department inquiries
- Improved efficiency such as minimizing inventory and improved margins

Example Metrics and Measures for SC Dashboard

Supply Chain Metrics and MEASURES

Contracting

- Contracts in progress
- Contract expiration forecasting
- Future Workload anticipation
- Production Schedule

Procurement KPIs

- Time between a requisition to the purchase order dispatch
- Percentage of purchase orders dispatched
- Purchase order confirmations
- Volume of match exceptions between an invoice, purchase order, or receipt
- Purchase orders on hold by a buyer

Materials Management

- Volume of orders submitted to the storeroom
- Number of lines pulled
- Scheduled vs. completed unit deliveries
- Percentage of daily cycle counts that are accurate
- Weekly and ongoing inventory value
- Weekly inventory turns

Human Resource Dashboards are built to:

- keep the staff focused on activities that not only support each department activities, but also the hospital's overall goals.
- control costs by eliminating inefficiencies
- lower the turnover rate and saves the hospital from the considerable expense of recruiting, interviewing, and training new employees

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Example Metrics and Measures for HR Dashboard

Human Resource Metrics and Measures
Compensation KPIs
Hospital Expense per Current Employee
Hospital Benefits Satisfaction
Employee Productivity Rate
Culture and Training KPIs
Employee Satisfaction Index
Effectiveness of Training
Training Cost per Employee
Percentage of Employees Trained
Net Promotor Score
Employment KPIs
Absenteeism Rate
Voluntary/Involuntary Termination Rate
Attrition Rate
Turnover Rate for Highest Performers
Performance KPIs
Performance of New Hires
Internal Promotions Vs. External Hires
Suggestions per Employee
HR-to-FTE Ratio

Executive Dashboards are built to:

1. Provide an overall picture of hospital performance on all crucial aspects
2. Build strong engagement with departments with reflecting their critical role in setting directions, expectations, fostering leadership, and shaping hospital overall performance
3. Provide a strategic planning, monitoring, and evaluation tool to manage hospital based on reliable and up-to-date information and knowledge

Example Metrics and Measures for Executive Dashboard

Executive/Leadership/Governance Metrics and Measures
Hospital Incidents Rate
Death Rate
Bed Occupation Rate
Medication Errors
Patient Wait Time
Average Length of Stay
Asset Utilization Rate
Physician/Staff Performance
Referral to Outside Centers
Hospital Overall Performance

Types of Hospital Dashboards

Good Information, Good Decision

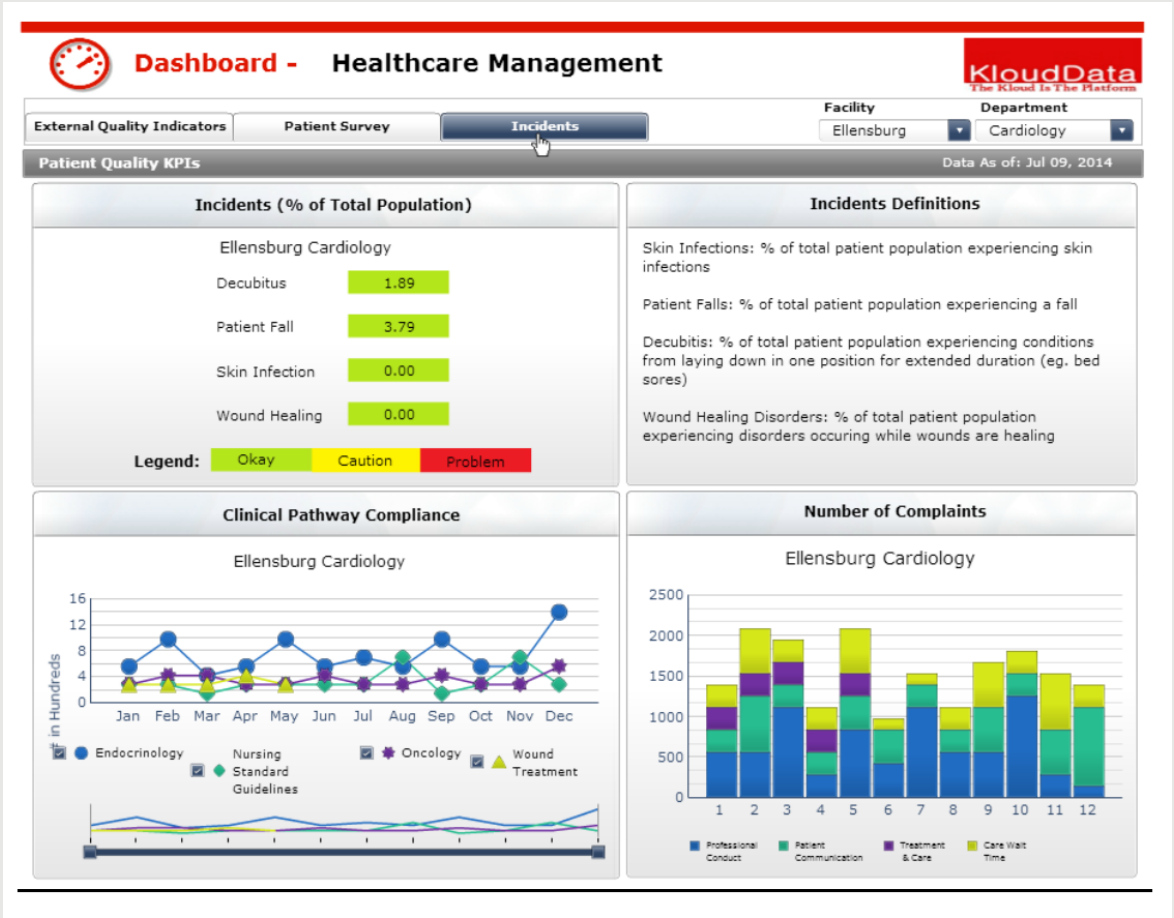
Main Purposes/Types of H. Dashboards:

1. Operation
2. Clinical Care
3. Analytical
4. Executive Management

Operation (or service operation)

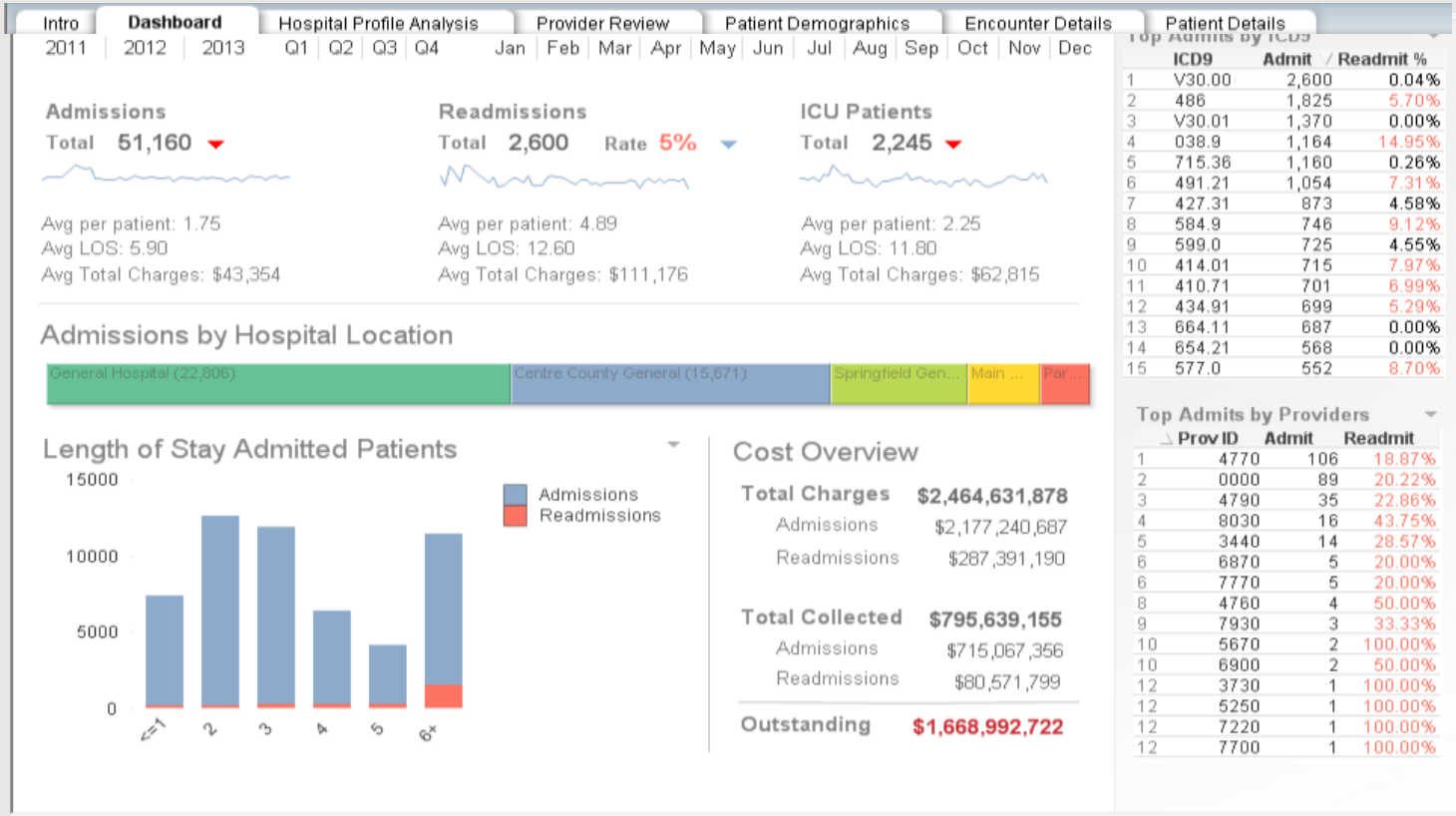
dashboards are designed to present various aspects of hospital service operation process such as timing, quantities and volumes, people, and the output.

Clinical Care dashboards are designed to monitor the care process, quality of the care provided, and the indicators of patient safety. They may include patient diagnosis, symptoms, medications, medical errors, medical incidents, ….

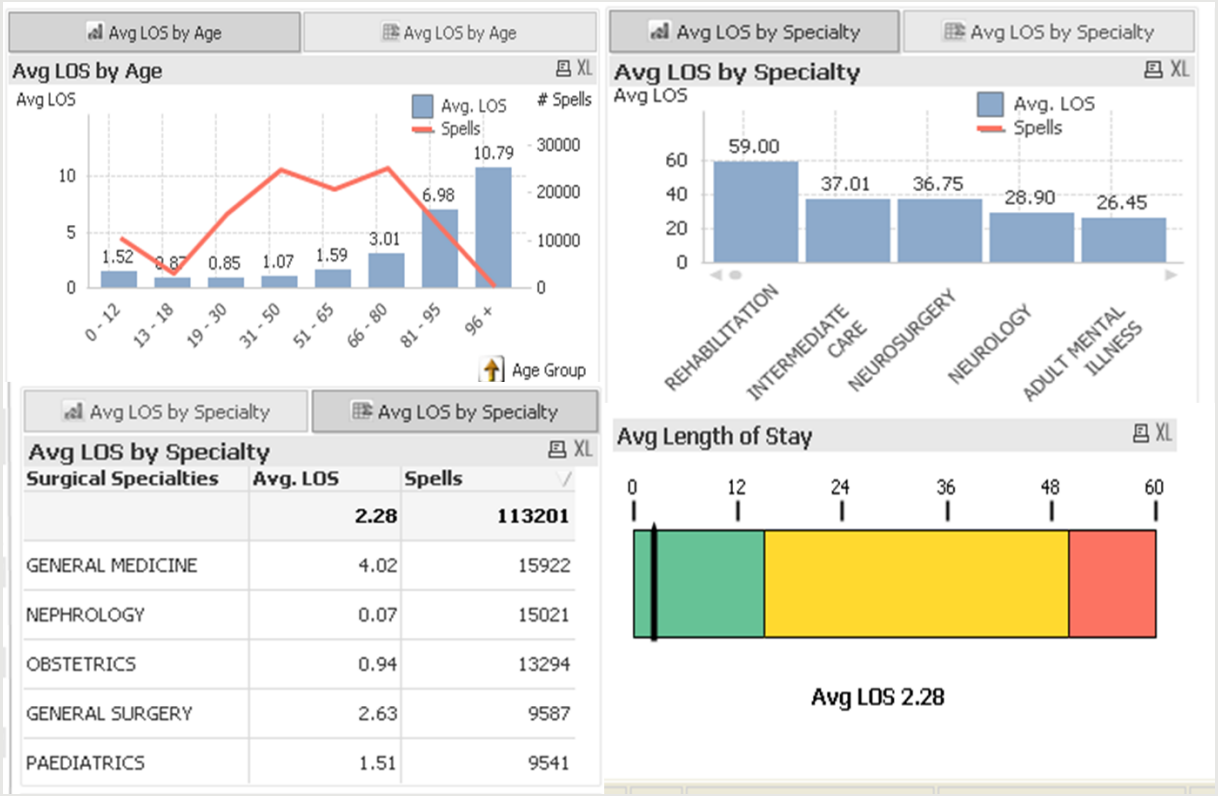

Dashboard - Healthcare Management
KloudData
The Kloud Is The Platform
External Quality Indicators
Patient Survey
Incidents
Facility
Ellensburg
Department
Cardiology
Patient Quality KPIs
Data As of: Jul 09, 2014
Incidents (% of Total Population)
Ellensburg Cardiology
Decubitus 1.89
Patient Fall 3.79
Skin Infection 0.00
Wound Healing 0.00
Legend: Okay Caution Problem
Incidents Definitions
Skin Infections: % of total patient population experiencing skin infections
Patient Falls: % of total patient population experiencing a fall
Decubitis: % of total patient population experiencing conditions from laying down in one position for extended duration (eg. bed sores)
Wound Healing Disorders: % of total patient population experiencing disorders occuring while wounds are healing
Clinical Pathway Compliance
Ellensburg Cardiology
in Hundreds
16
12
8
4
0
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Endocrinology
Nursing Standard Guidelines
Oncology
Wound Treatment
Number of Complaints
Ellensburg Cardiology
2500
2000
1500
1000
500
0
1 2 3 4 5 6 7 8 9 10 11 12
Professional Conduct
Patient Communication
Treatment & Care
Care Wait Time

Analytical dashboards are modern business intelligence dashboards designed to perform overall analysis of the hospital system data showing the overall performance, main issues, and recommended areas needing special attention

Analytical Dashboard: Admission Analysis



Analytical Dashboard: ALOS Analysis



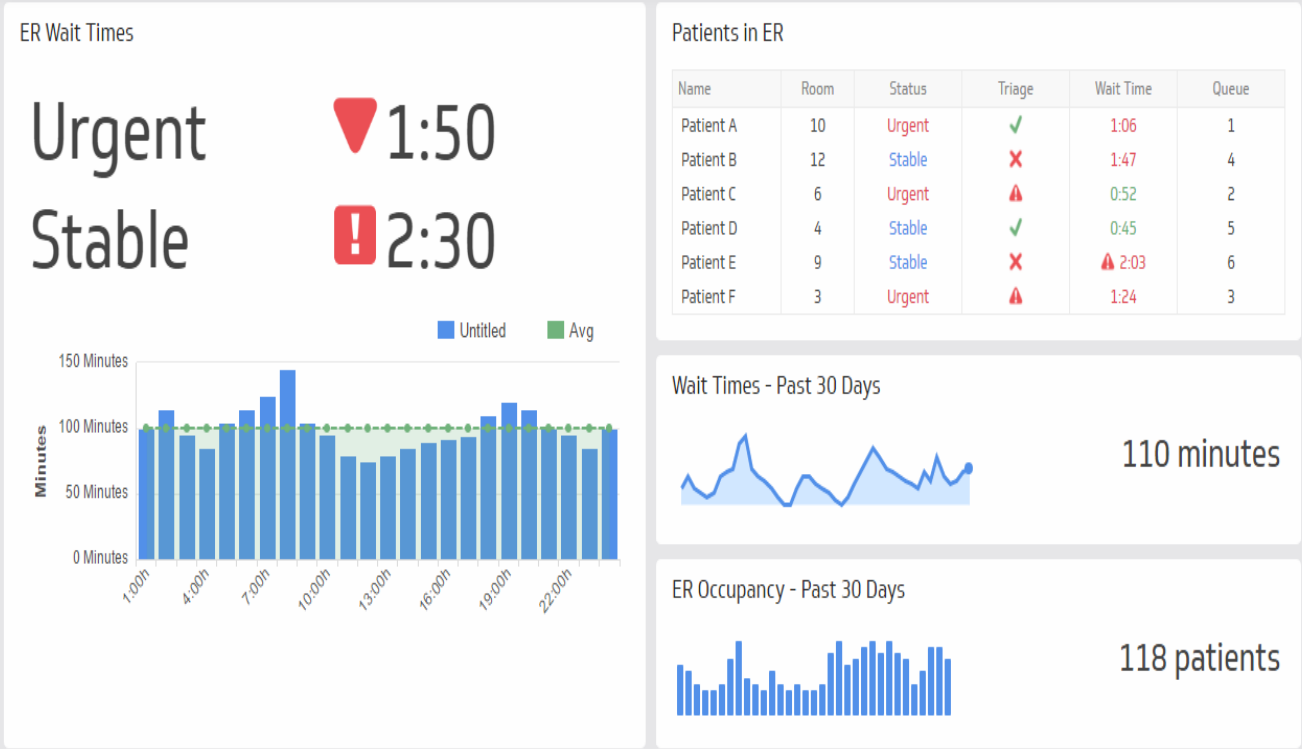
Summary

- Dashboards are the most effective tools for situation analysis and informed decision making
- We always need to remember the ten rules, when we design a dashboard for our hospital
- Picking the right data visualization type is key to dashboard success. Spend time to know them carefully

Executive dashboards

presents KPI type indicators that provide conclusive status of hospital output and outcome

Executive Dashboard: ER Status



Executive Dashboard:
Accidents and Trauma Admission Analysis

V01-X59 Accidents  Count 239,650	X85-Y09 Assault  Count 6,530	Y35-Y36 Legal interventions and operations of war  Count 135	Y85-Y89 Sequelae of external cause of morbidity and mortality  Count 1,110	Patients: 251,327 Encounters: 301,013
X60-X84 Intentional self-harm  Count 18,864	Y10-Y34 Event of undetermined intent  Count 18,134	Y40-Y84 Complication of medical and surgical care  Count 13,757	Y90-Y98 Supplementary factors related to causes of morbidity and mortality classified elsewhere  Count 746	

Summary

- Any hospital dashboard design should begin with aspect analysis which leave the dashboard design plan with an aspect cube
- There are three main aspects in every hospital dashboard, which are user, subject, and purpose
- It is desirable that hospital dashboards designed on a hierarchy through which, the management dashboard sits on top of the departmental operation, clinical, and analytical dashboards, making all one united information entity
- While operational dashboards are the most common, the executive dashboards are the MUST dashboard for today's hospital managers