Work Flow Control
Improving Healthcare Productivity, Satisfaction, and Outcomes

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What this talk is about …

✔ Vastly improving healthcare efficiency
How we do it …

✓ Through work flow control systems
Work flow control systems

✔ Provide real-time, actionable information directly to each individual across an organization to help continuously coordinate and direct their activities.

✔ Fundamentally different than traditional IT focused on data entry and retrieval for after-the-fact measurement and management reporting.
What makes them successful …

✓ Four necessary components → sufficient only when highly integrated

① Real-time tracking

② Simplified input and transparent communications

③ Dynamic rescheduling and facility coordination

④ Jeopardy alerting and individual prioritization
Necessary → sufficient components

1. Track in real-time occurrence of all critical events and status of all critical resources including people, places, and equipment

2. Super-simplify end-user input and widely distribute information that is transparent and immediately actionable

3. Continuously modify master schedule to coordinate and optimize facility-wide productivity

4. Automatically alert appropriate personnel when immediate action is required to prevent delays
Historical precedence

What started as significant competitive advantage, became necessity for survival

1960’s – Continuous flow manufacturing
1970’s – General manufacturing
1980’s – Package delivery
1990’s – Transportation
2000’s – Financial/insurance services
2010’s – Healthcare
OR CONTROL system

✓ Uses real-time location system to automate tracking of critical events and activities

✓ Displays continuous, real-time status updates of procedures, patients, rooms, staff assignments, and critical equipment

✓ Automatically updates master schedules in real-time coordinating physicians and staff within and outside the facility

✓ Generates jeopardy alerts identifying the non-occurrence of critical events required to maintain on-time starts and efficient throughput
Real-time coordination across all necessary groups and departments

Anesthesiologists
Anesthesia Group
CRNAs
Surgeons
Surgeon Offices
Pre-admissions Testing
Admissions
Pre-Op
PACU
NICU
Post-Op
Transportation
Patient Families

Critical Equipment Inventory
Patient Status
Circulators
Technicians
Housekeepers
Radiology
Pharmacy
Core Lab
Microbiology Lab
Pathology Lab
Histology Lab
Emergency Room
Blood Bank
Housekeeper consults ORC hall display, sees case in OR 6 is delayed, proceeds to help colleague turn OR 15 needed in 4 minutes.

Surgeon receives ORC text that patient has wheeled into OR 4, she immediately proceeds to scrub.

Pre-op nurse consults ORC, sees next patient is now registered, she immediately proceeds to get patient.

Family gets ORC page, their case is closing, they proceed to meet surgeon for consult.

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ER nurse schedules emergency add-on in ORC, ORC automatically notifies all parties and asks for acknowledgement of add-on.

Pharmacy enters meds ready for OR 12 case, enters note asking for weight of patient for case in OR 9, pre-op nurse calls in weight.

Path lab glances at ORC, sees case in OR 8 began at 9:53, expects tissue sample now.

Time: 10:05:37
✓ **OR CONTROL** documented operational benefits

- On-time first start of the day – improved 28%
- Patient wait times – reduced 35%
- To-follow turn times – reduced 50%
- Improved case throughput and reduction in overtime
- Improved focus on patients even with 30% volume increase
CFO justification

✓ OR CONTROL – hard dollar business case

✧ Documented ROI of over 350% in first three months

✧ Improved case throughput, $5,500 margin/case

✧ Identification/collection of uncaptured revenue

✧ Capital expenditure delay on expansion of facilities

Increase admissions and revenue retention
✓ **OR CONTROL** – mitigating costs and risks

- One-way interface with existing systems
- Does not duplicate or alter existing clinical reporting
- Requires minimal end-user training (similar to ATM)
- Requires less than 80 total clinical staff hours to deploy
- Requires less than 160 total IT staff hours to deploy
Will healthcare transformation occur …

✓ Overcoming inefficiency, improving quality

✓ Optimist / pessimist / possibilist

✓ It can be done (DCMC, MEDVAMC)

✓ Miniscule effort/resources needed compared to other healthcare initiatives