M. D. Anderson Cancer Center: Gaining Capacity by Improved Patient Throughput

Gerard J. Colman, Vice President and Chief of Clinical Operations
Frank R. Tortorella, Vice President, Clinical Support Services
Renee T. Konstanzer, Project Director, Clinical Operations

THE UNIVERSITY OF TEXAS
MD ANDERSON CANCER CENTER
Making Cancer History™

M. D. Anderson Cancer Center

The mission of The University of Texas M. D. Anderson Cancer Center is to eliminate cancer in Texas, the nation and the world through outstanding programs that integrate patient care, research and prevention, and through education for undergraduate and graduate students, trainees, professionals, employees and the public.

512 Beds

$409 million in research funding in FY06

16,000 Employees

1367 Faculty

4366 Trainees

FY06 Clinical Activity	5-year Growth
21,221 Admissions	14%
155,551 Patient Days	15%
27,340 New Patients Served	28%

8.8 million square feet

Capacity Issues at M. D. Anderson

- In 2005, census overwhelms capacity and patients wait for beds in following areas:
  - Emergency Center
  - Operating Room/Post-Anesthesia Care Unit (PACU)
  - Admissions
- Limited space available to create or build additional beds
- Construction projects very expensive to plan and undertake
- Demand for oncology services will continue to increase as population ages

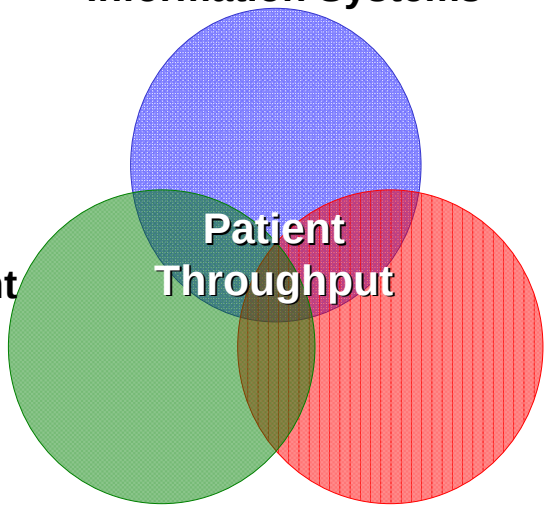
Goal of Project BED
Bringing Efficient Discharge

By focusing on short- and long-term solutions related to the discharge process, teams in Clinical Operations will make hospital beds available more quickly and gain capacity by improving patient throughput.

Administrative Team*
Admissions, Housekeeping
Patient Transportation
Information Systems

Teams:
- **Measured discharge process steps**
- **Targeted specific steps to improve**
- **Eliminated process flow obstacles**

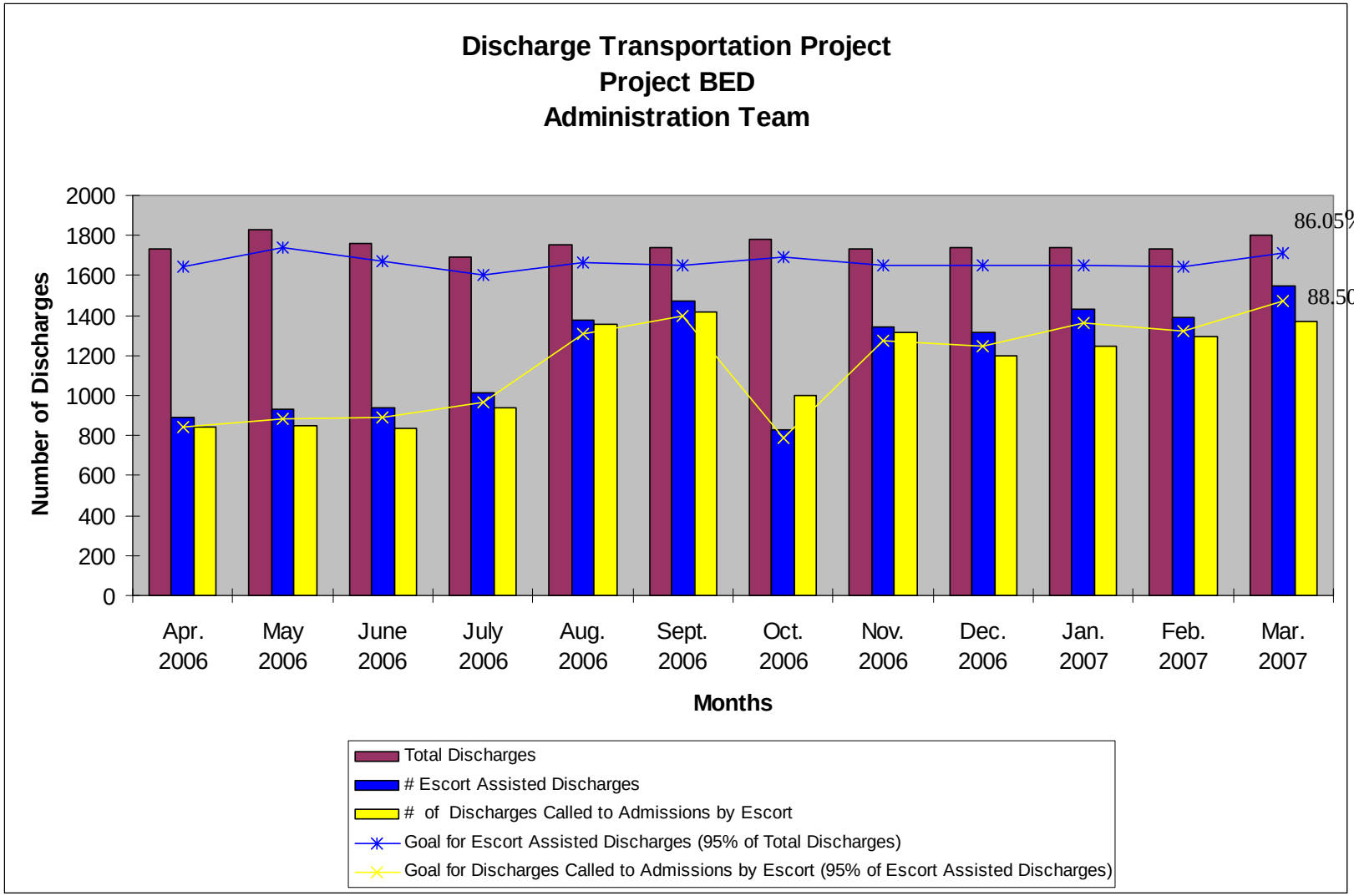
Clinical Team
Nursing
Case Management
Pharmacy



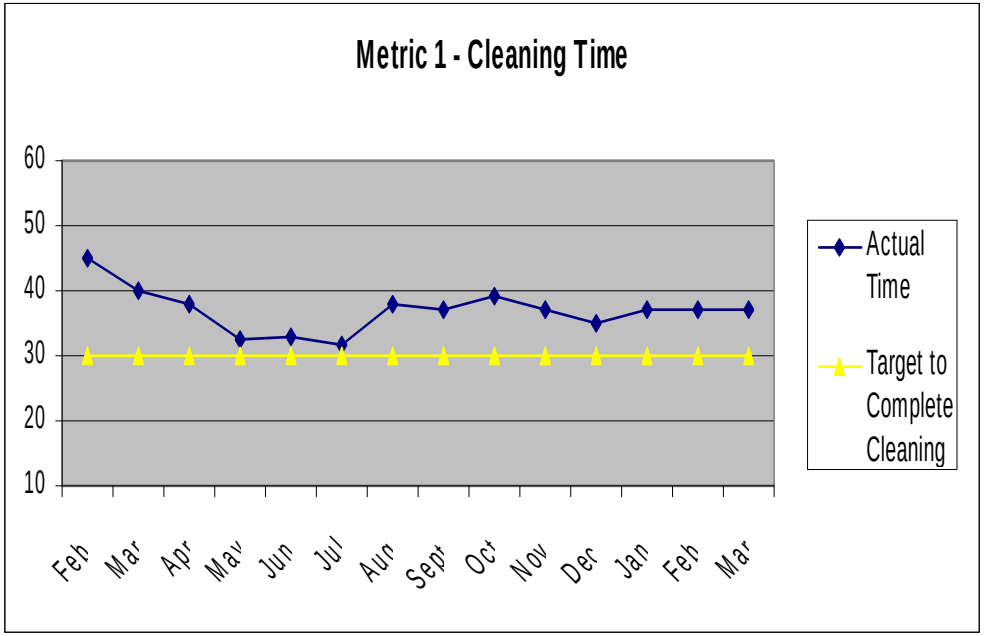
Medical Team
Medical Staff
Leadership

*This presentation focuses on the efforts of the administrative team, while recognizing the efforts of all involved.

Escort-Assisted Discharges



Housekeeping Room Turnaround Times 06 - 07



Goal for blue line

March 2007
Highest Cleaning Time 44 min
Lowest Cleaning Time 23 min
Mean Cleaning Time 37 min

EFFORT	OUTCOME
Design the process to meet institutional bed initiative goals	Alignment to institutional goals
Involve the customer in defining process	Customer satisfaction
Received historical data from customer	Alignment
Change work schedule to match customers needs	Alignment
Write new Work Instructions (WI)	Constancy and consistency
Added mechanical and electrical checks to WI	Constancy and consistency
Involve infection control in WI review / approval	Alignment to institutional goals

Discharge Nurse Role Created
Ongoing Projects

- Discharge Assessment
  - Establish expected discharge date based on historical length of stay (LOS)
  - Assess patients for resources and services needed after discharge
  - Standardized checklist
- Identify learner(s) and apprise unit staff of those to engage
- Medication Reconciliation – review maintenance meds and anticipate
- Application of Acute Care Criteria
- Hand-off Communication – provide summary to next provider
- Discharge Preparation Checklist
- Transition Home Measures – apply acute care criteria daily

Improved Throughput Adds Incremental Capacity

"Effective" Beds Gained from Length of Stay (LOS) Reduction[1]

Hospital Size / LOS Reduction	200 beds	300 beds	400 beds	500 beds	600 beds
0.25 day	8	12	16	20	25
0.50 day	16	25	33	41	49
0.75 day	25	37	49	61	74
1.00 day	33	49	65	82	98
1.25 days	41	61	82	102	123
1.50 days	49	74	98	123	147

For the average 500-bed hospital, reducing LOS by a half day is the equivalent of adding 41 new beds to the facility.

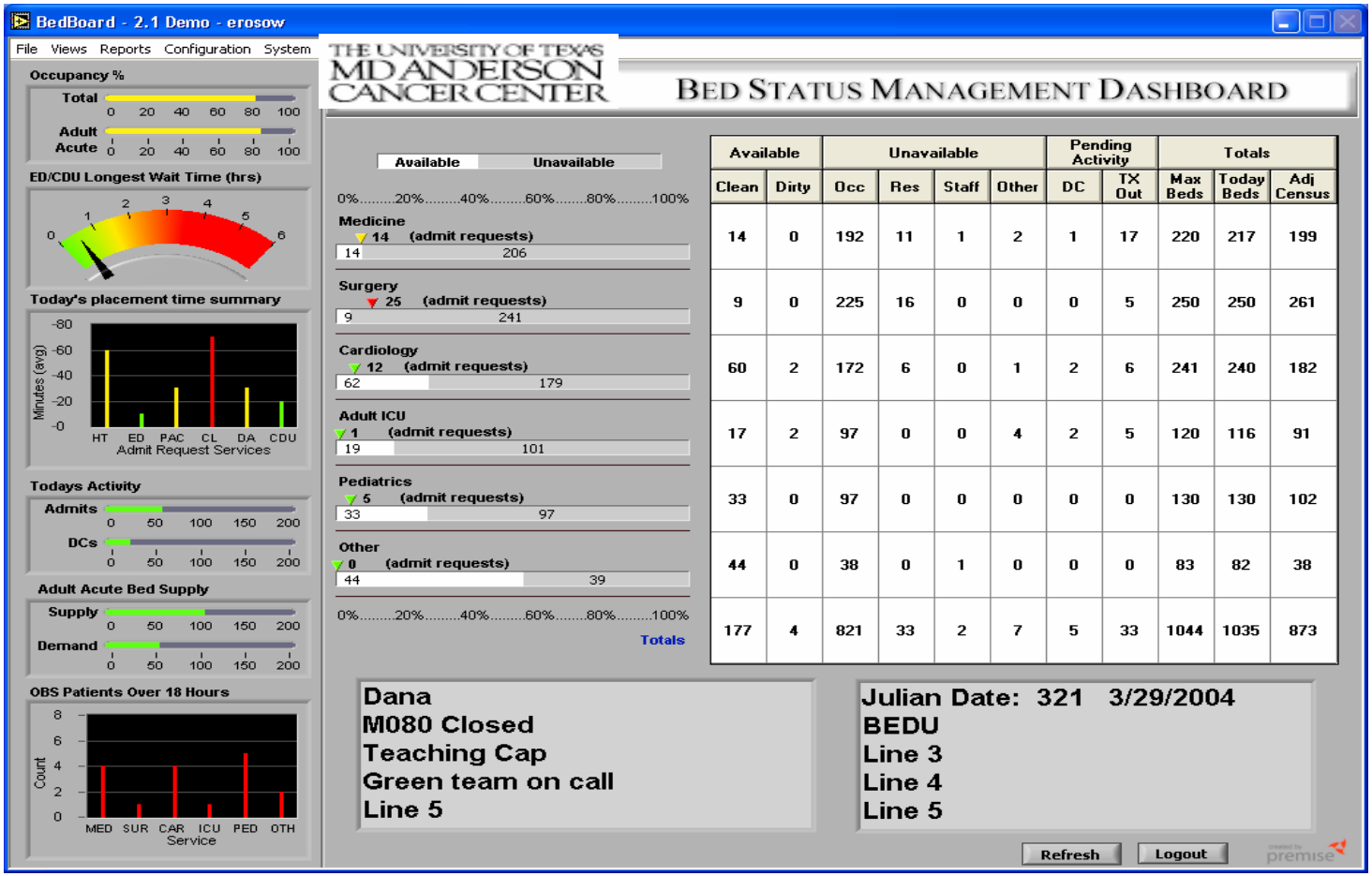
At M. D. Anderson, for the month of October 2006, a half-day reduction in LOS would translate into $4.5 million.[2]

[1]Assumes initial LOS of 5.2 days, 85 percent occupancy; savings based on simple LOS reduction. Source: Health Care Advisory Board, 2006.
[2]M. D. Anderson Cancer Center Institute for Performance Excellence, 2006.

Electronic Bed Management Project Timeline

Phase	Go Live	Impact
Phase I – Transportation **Transport Dashboard**	4/30/07	All users call to request patient escort, and dispatchers use Transport Dashboard to enter job requests and dispatch escorts.
Phase II – Transportation and Housekeeping **Transport Dashboard & BedXpress**	6/13/07	All users input requests for transport jobs; bed turnover notifications automated. All inpatient units use BedXpress for room turnover. Housekeeping receives dirty bed pager notifications and views bed status.
Phase III – Electronic Bed Management **Bed Management Dashboard**	8/22/07	Nursing and Admissions will use for patient placement and pending discharges. Electronically tracked patient room status will provide automatic notification to Housekeeping, Transportation, Admissions and Nursing. Bed status information will be immediately accessible to leadership.

Electronic Bed Management
Bed Status Dashboard



Available		Unavailable				Pending Activity		Totals		
Clean	Dirty	Occ	Res	Staff	Other	DC	TX Out	Max Beds	Today Beds	Adj Census
14	0	192	11	1	2	1	17	220	217	199
9	0	225	16	0	0	0	5	250	250	261
60	2	172	6	0	1	2	6	241	240	182
17	2	97	0	0	4	2	5	120	116	91
33	0	97	0	0	0	0	0	130	130	102
44	0	38	0	1	0	0	0	83	82	38
177	4	821	33	2	7	5	33	1044	1035	873

Select Project BED Metrics

Effort	Goal/Benchmark	Actual Performance	Status
Short-Term: Patient Transportation would provide **escort-assisted discharges** to transport all discharged patients from rooms	95% of discharges would be escort-assisted	86% achieved in March 2007	Increased from initial measure of 52%, efforts continuing
Short-Term: Housekeeping developed room turnaround teams to standardize process, clean and make minor room repairs	30 minute cleaning time, 10 minute travel time, quality score 90%	37 minute cleaning time, 3-5 minute travel time, quality above 90%	Continuous improvement in cleaning time, exceeding goals on other measures
Short-Term: Evaluation and selection of **Electronic Bed Management System**	Selection of a electronic solutions partner	Criteria reviewed and vendor selected	Institution currently in go-live status, will be fully implemented in August of 2007
Long-Term: Reduce institutional **length of stay (LOS)**	Sustained reduction in LOS	Preliminary reduction in LOS at clinical division level	Anticipate institutional LOS reduction with full implementation of long-term strategy, including electronic bed management

References and Contacts

References:

Health Care Advisory Board, 2006.

M. D. Anderson Cancer Center Institute for Performance Excellence, 2006.

Premise Corporation, (Dashboard), 2007.

Contacts:

Renee Konstanzer

rkonstan@mdanderson.org

Frank Tortorella

ftortor@mdanderson.org

Gerard Colman

gcolman@mdanderson.org