

PDC SUMMIT 2016

STUDYING THE PAST TO BUILD A BETTER FUTURE

LESSONS FROM A POST-OCCUPANCY EVALUATION



pdcsummit.org



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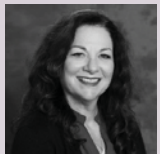
PRESENTERS:



Louis Meilink, Jr., AIA, ACHA, ACHE
Principal
Ballinger



Christina Grimes, AIA, LEED AP BD+C, EDAC
Senior Associate, Healthcare Planner
Ballinger



Cathy Weidman, MPA, BSN, RN, CNML
Director of Medical Surgical Services
The Chester County Hospital



Debbie Phillips, AIA, ACHA, EDAC
Senior Healthcare Planner
Ballinger



IDENTIFY DESIGN CONCEPTS THAT PROVIDE THE MOST IMPACT ON HCAHPS SCORES, EITHER BECAUSE OF PATIENT SATISFACTION OR THROUGH BETTER STAFF PERFORMANCE.

CALCULATE THE COST SAVINGS FROM DIFFERENT DESIGN INTERVENTIONS AND ASSESS FIRST COSTS (CONSTRUCTION) AGAINST LONGER TERM (OPERATIONAL) COSTS.

COMPARE STAFF RESPONSES FROM POE AGAINST THE INITIAL GOALS AND EXPECTATIONS FOR THE PROJECT.

LIST WHICH DESIGN INTERVENTIONS PERFORMED WELL ENOUGH TO MERIT REPETITION IN UPCOMING BUILDING CONSTRUCTION.

TO PARTICIPATE IN POLL:

TEXT TO **22333** and TYPE **BALLINGER2016**
THEN TEXT **A, B, C, OR D** TO RESPOND TO QUESTIONS

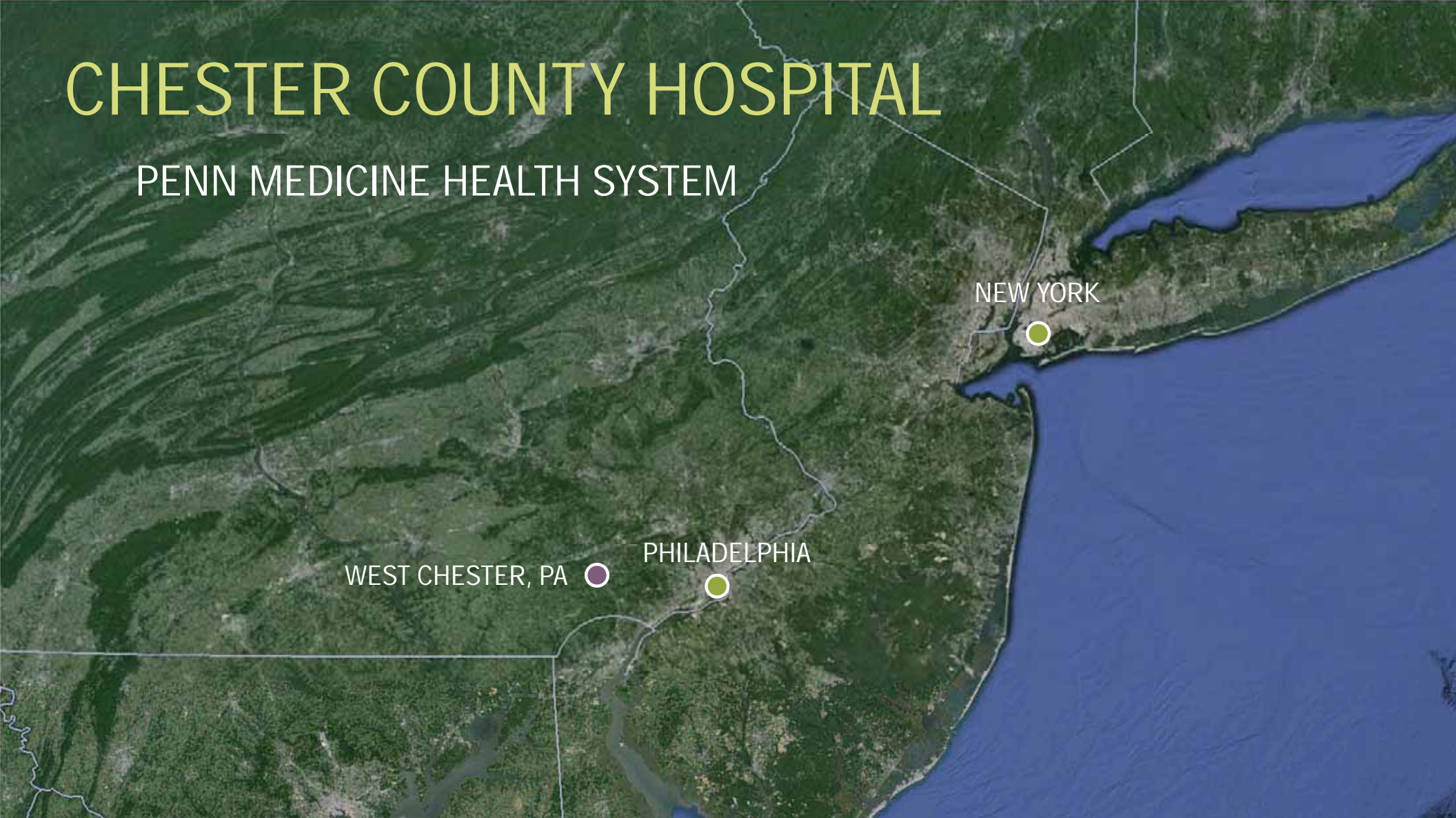


pdcs Summit.org



CHESTER COUNTY HOSPITAL

PENN MEDICINE HEALTH SYSTEM



NEW YORK

WEST CHESTER, PA

PHILADELPHIA

463,000 SF
EXISTING CAMPUS

36.26 ACRES

242 BEDS

108,000 GSF
LASKO TOWER

\$40M
CONSTRUCTION
COST

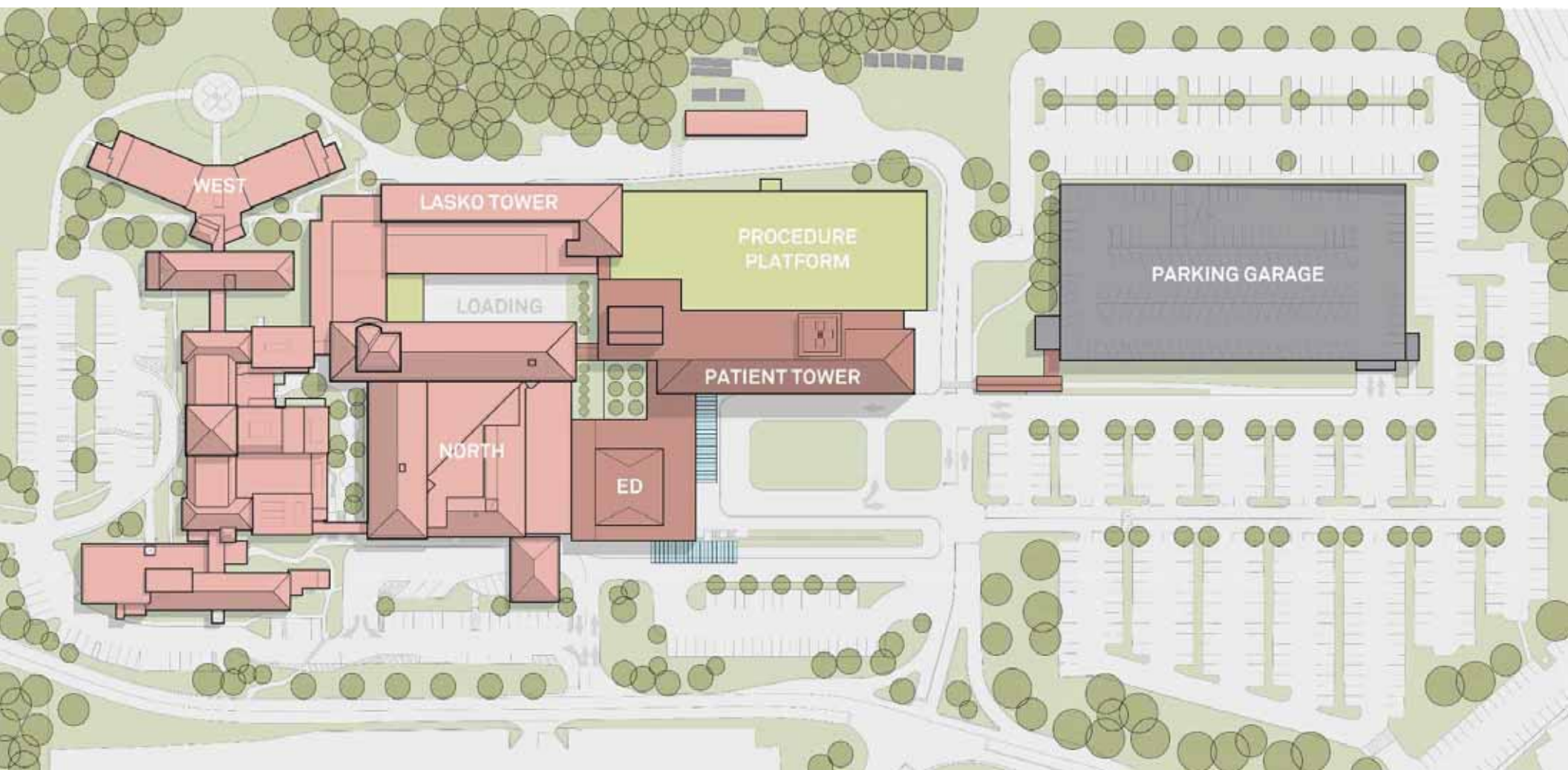
\$63M
PROJECT COST



Administrative

Clinical





WEST

LASKO TOWER

PROCEDURE
PLATFORM

LOADING

PATIENT TOWER

NORTH

ED

PARKING GARAGE

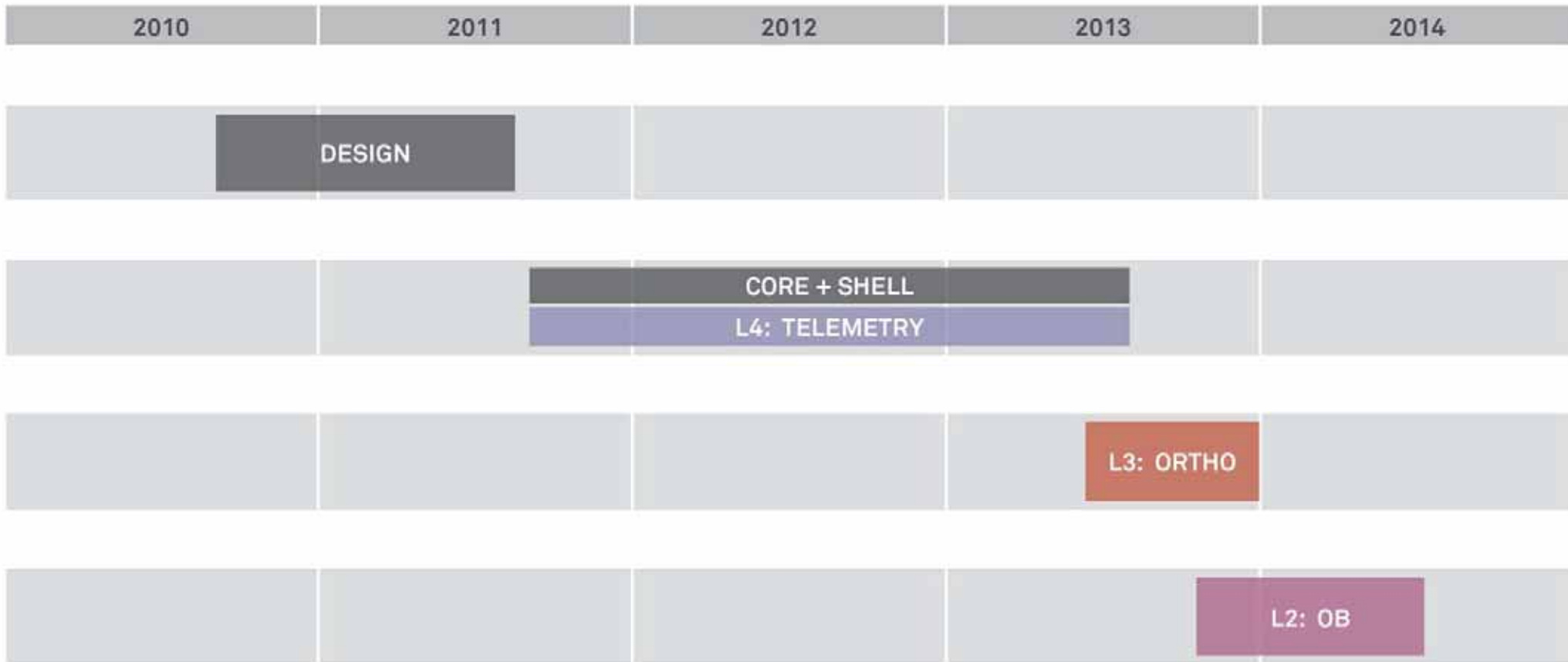








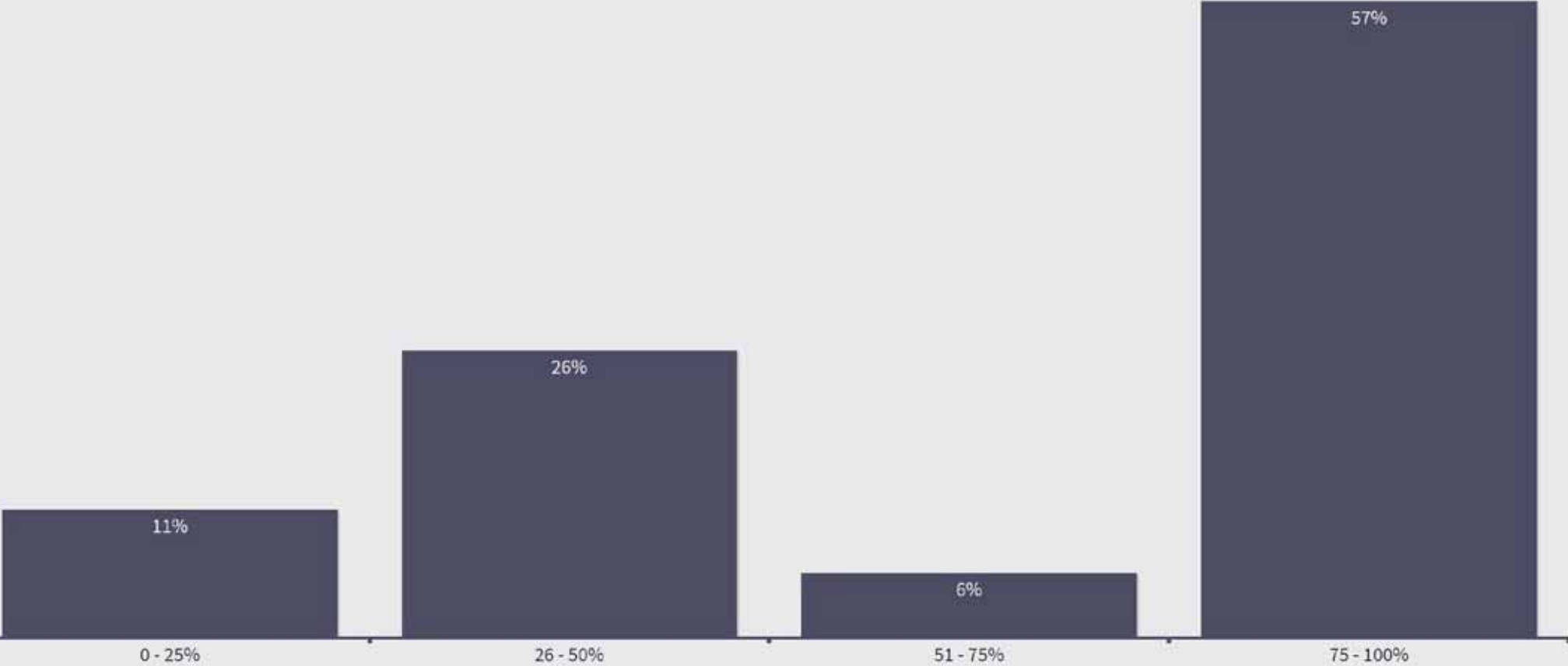
PROJECT TIMELINES





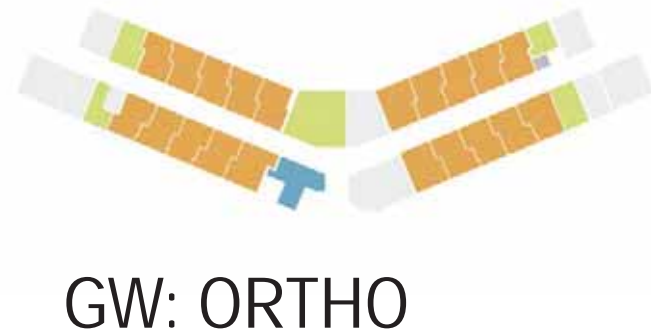
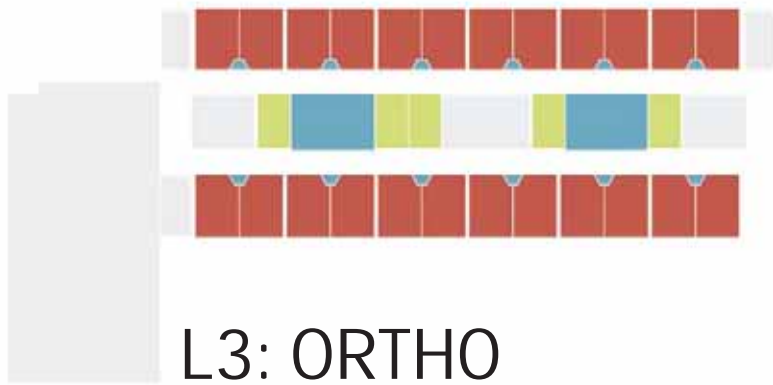
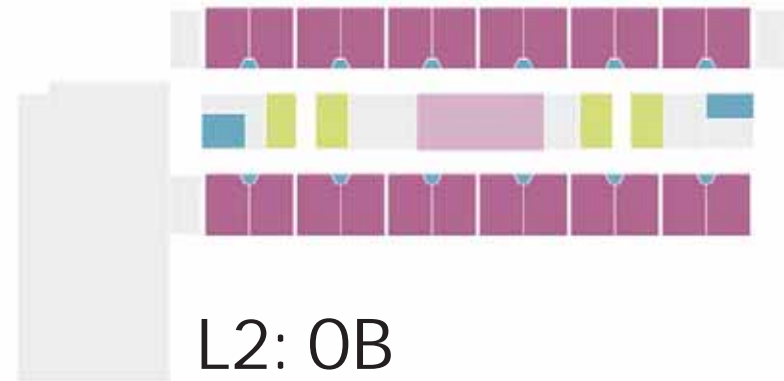
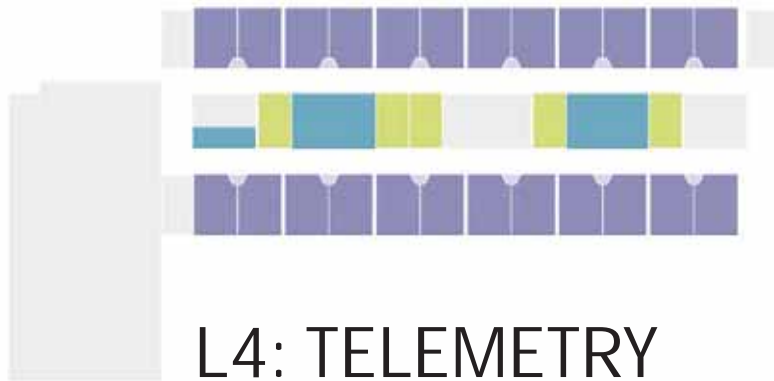
What percentage of MED/SURG units are you building with DECENTRALIZED STATIONS?

Text BALLINGER2016 to 22333 once to join



Total Results: 35

VALUE OF THE TEMPLATE

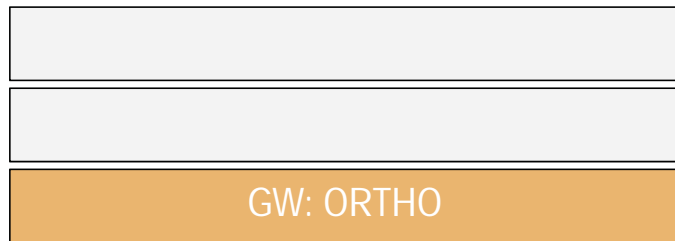


WEST BUILDING

13,295 UNIT SF
20 BEDS
210 SF / ROOM
BUILT 1962, RENOVATED 1998
1 CENTRAL NURSE STATION

 **75%**
INCREASE IN
SPACE FROM
GW TO LASKO

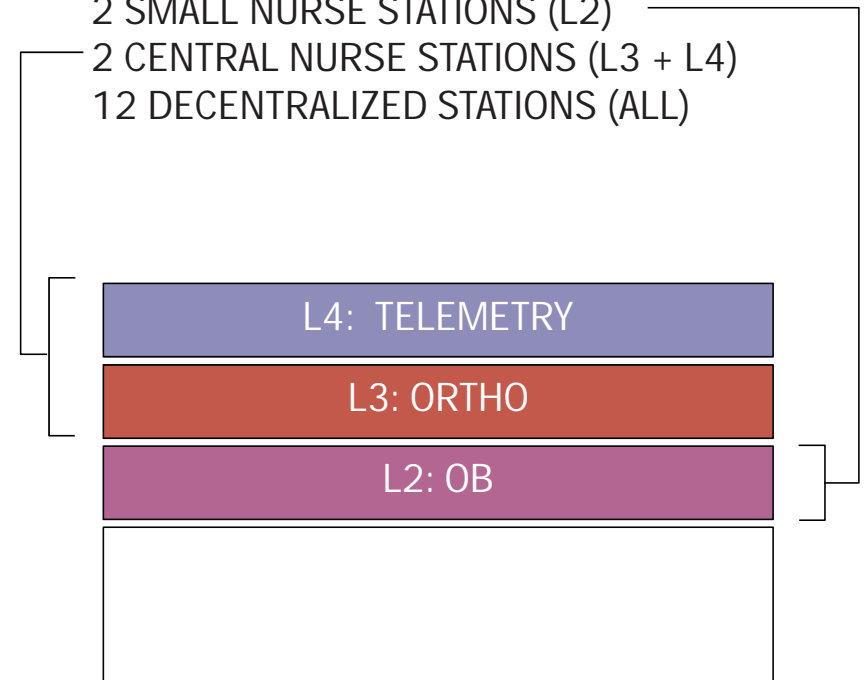
ONLY
20% 
MORE BEDS



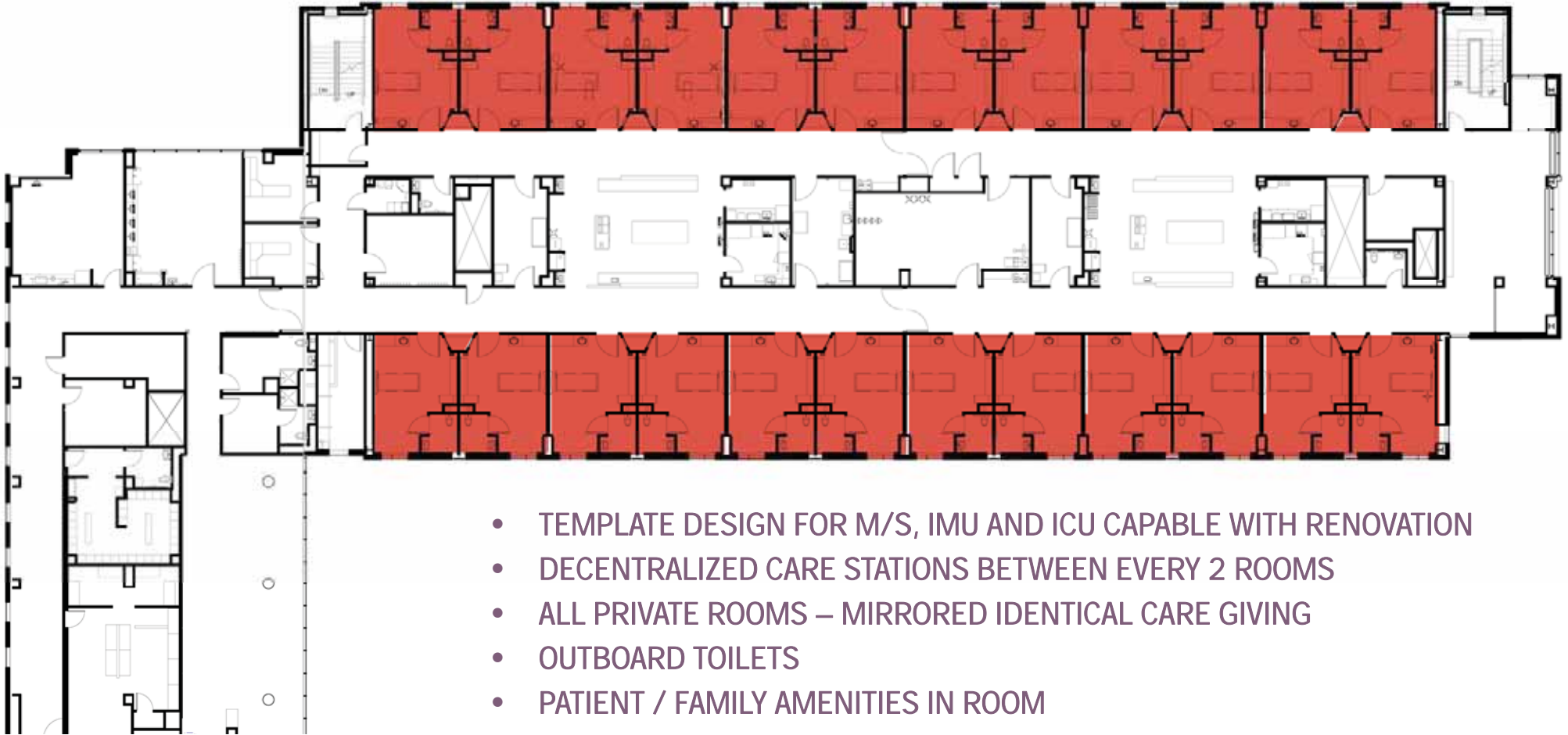
4
3
2
1
G

LASKO TOWER

23,300 UNIT SF
24 BEDS
320 SF / ROOM
BUILT 2013
2 SMALL NURSE STATIONS (L2)
2 CENTRAL NURSE STATIONS (L3 + L4)
12 DECENTRALIZED STATIONS (ALL)



5 KEY DESIGN DECISIONS



- TEMPLATE DESIGN FOR M/S, IMU AND ICU CAPABLE WITH RENOVATION
- DECENTRALIZED CARE STATIONS BETWEEN EVERY 2 ROOMS
- ALL PRIVATE ROOMS – MIRRORED IDENTICAL CARE GIVING
- OUTBOARD TOILETS
- PATIENT / FAMILY AMENITIES IN ROOM

DATA COLLECTION METHODS

SURVEY OF PATIENTS

SURVEY OF STAFF

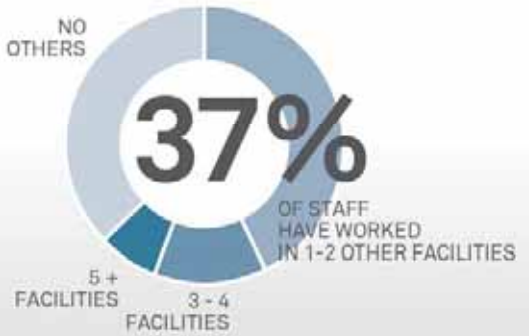
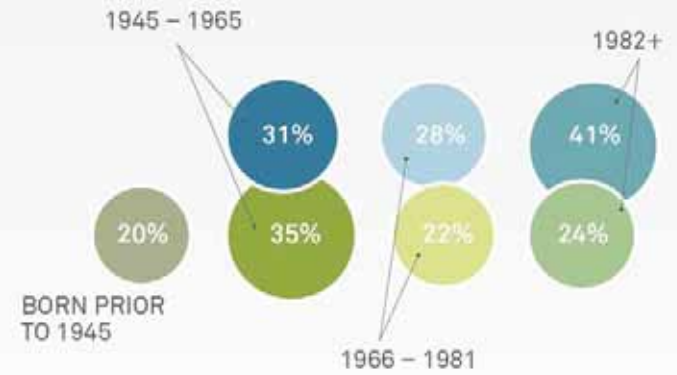
ONSITE OBSERVATION

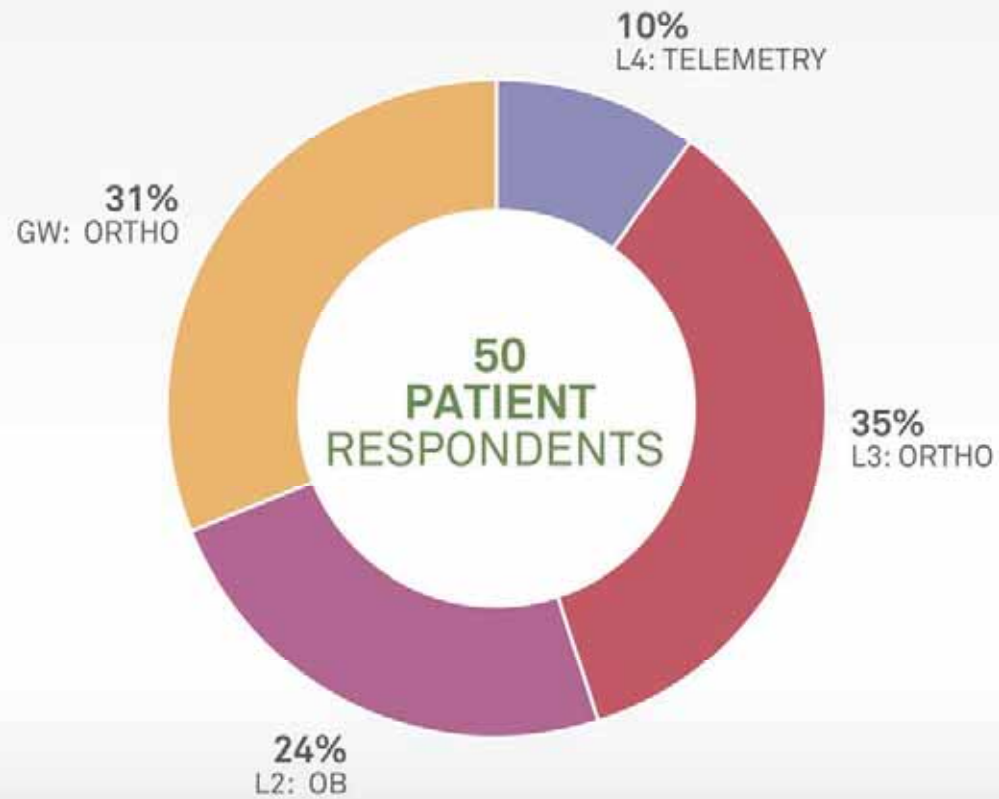
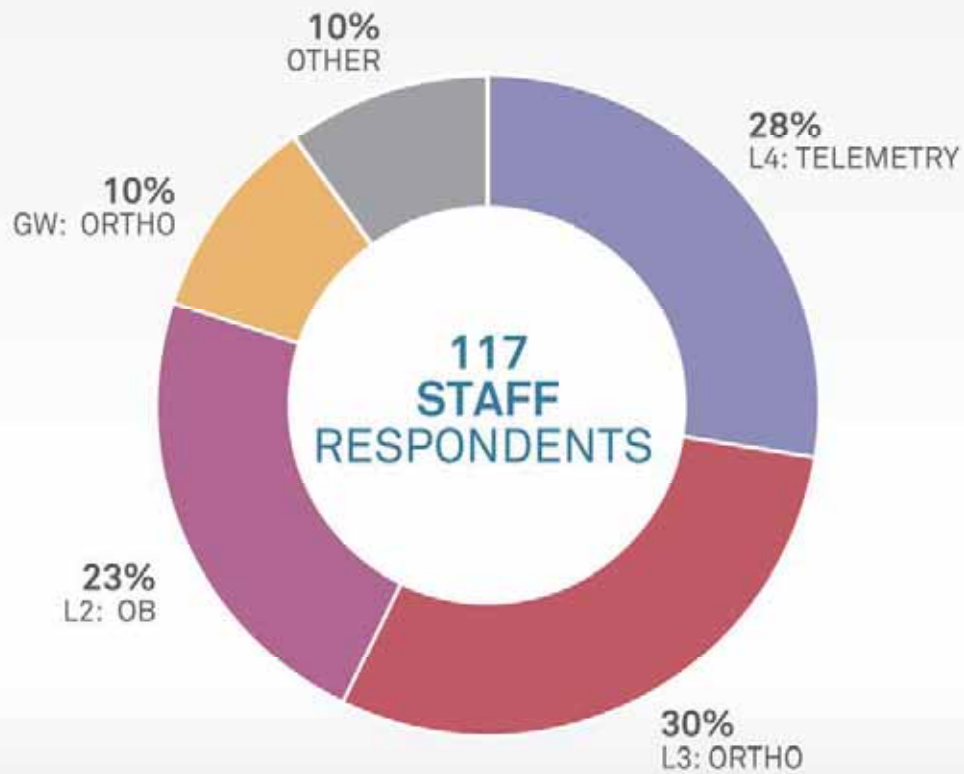
ONSITE INTERVIEWS WITH STAFF



RESPONDENT DEMOGRAPHICS

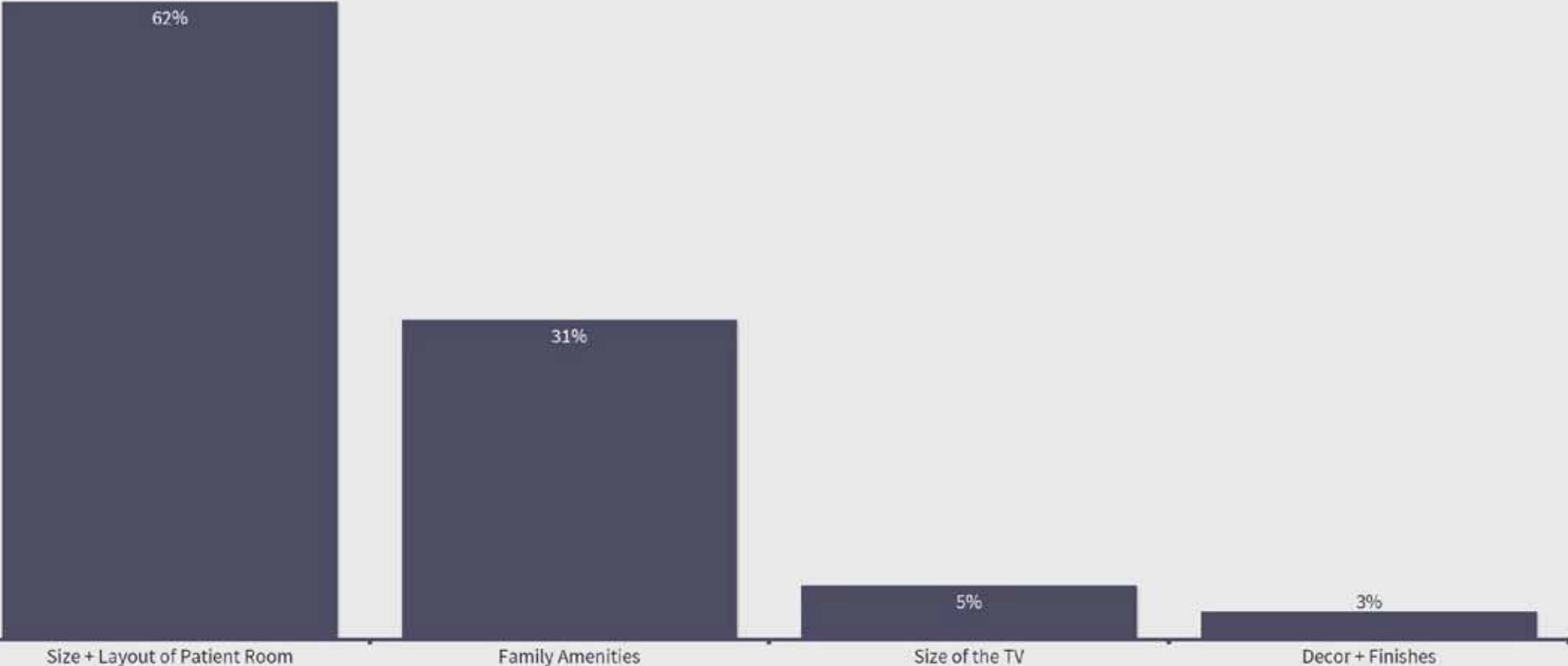
88% OF RESPONDENTS ARE NURSING STAFF





What do you think was the HIGHEST SATISFIER from the PATIENT PERSPECTIVE for the new building?

Text BALLINGER2016 to 22333 once to join



Total Results: 39

OVERALL SATISFACTION



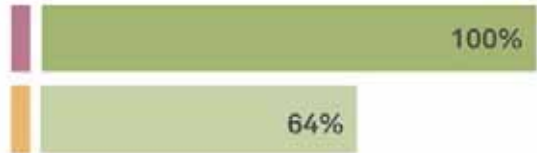
PATIENT SATISFACTION

HCAHPS





\$\$



THERAPEUTIC FEEL OF ROOMS



VIEWS TO NATURE



ACCESS TO DAYLIGHT



COLOR PALETTE

LASKO AVERAGE
 GW
 STAFF
 PATIENTS



\$\$



93% 94%

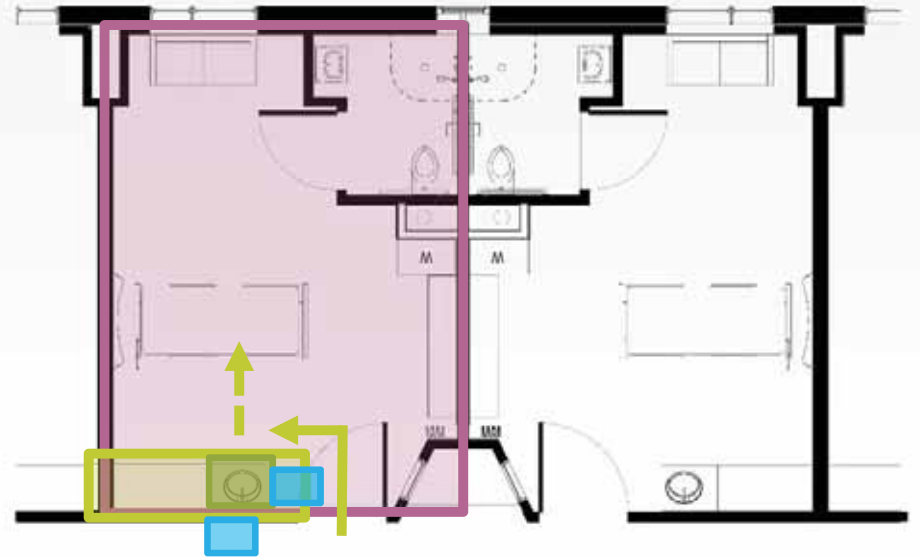
ARE SATISFIED WITH
OVERALL FAMILY
AMENITIES ON THE UNIT

FAMILY MEMBERS UTILIZE
UNIT AMENITIES





210 SF
GROUND WEST



320 SF
TYPICAL LASKO



\$\$\$

PATIENT SAFETY

HAI's HAVE DECREASED

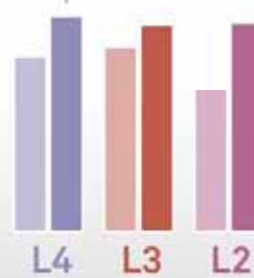
52% ↓
SINCE THE MOVE



79%

ARE SATISFIED WITH SELECTION OF MATERIALS AND HOW THEY HAVE HELD UP

90%



HCAHPS

28%



AVERAGE INCREASE IN SATISFACTION WITH CLEANLINESS



PATIENT SAFETY



PATIENT
COMMENT

**“I FEEL SAFE
IN THIS ROOM”**



CCH FALL RATES
DROPPED

28%↓

AFTER CONVERSION

STATE AVERAGE
FELL **3.31%**
DURING SAME TIME

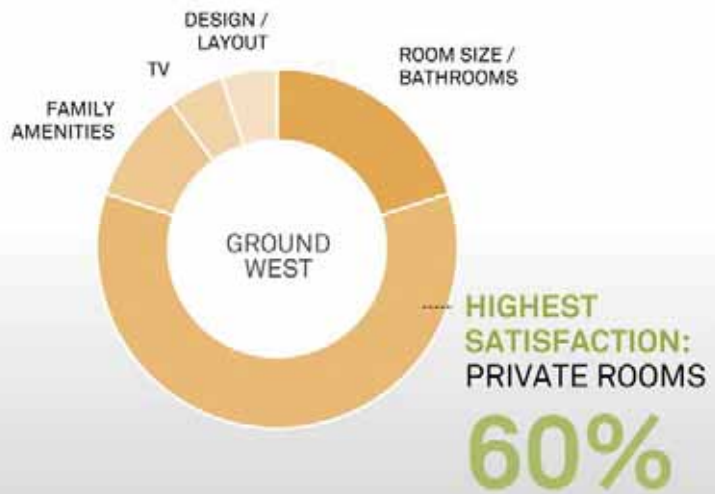
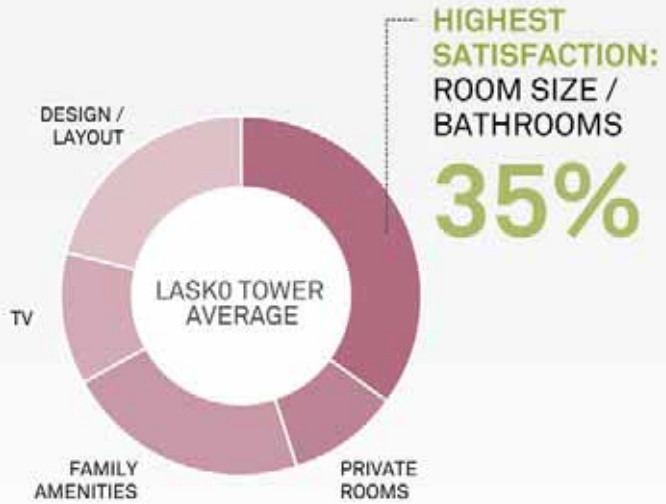


82%

STAFF ARE SATISFIED
WITH THE LAYOUT + DESIGN
OF PATIENT CARE AREAS
TO PROMOTE SAFETY

97%

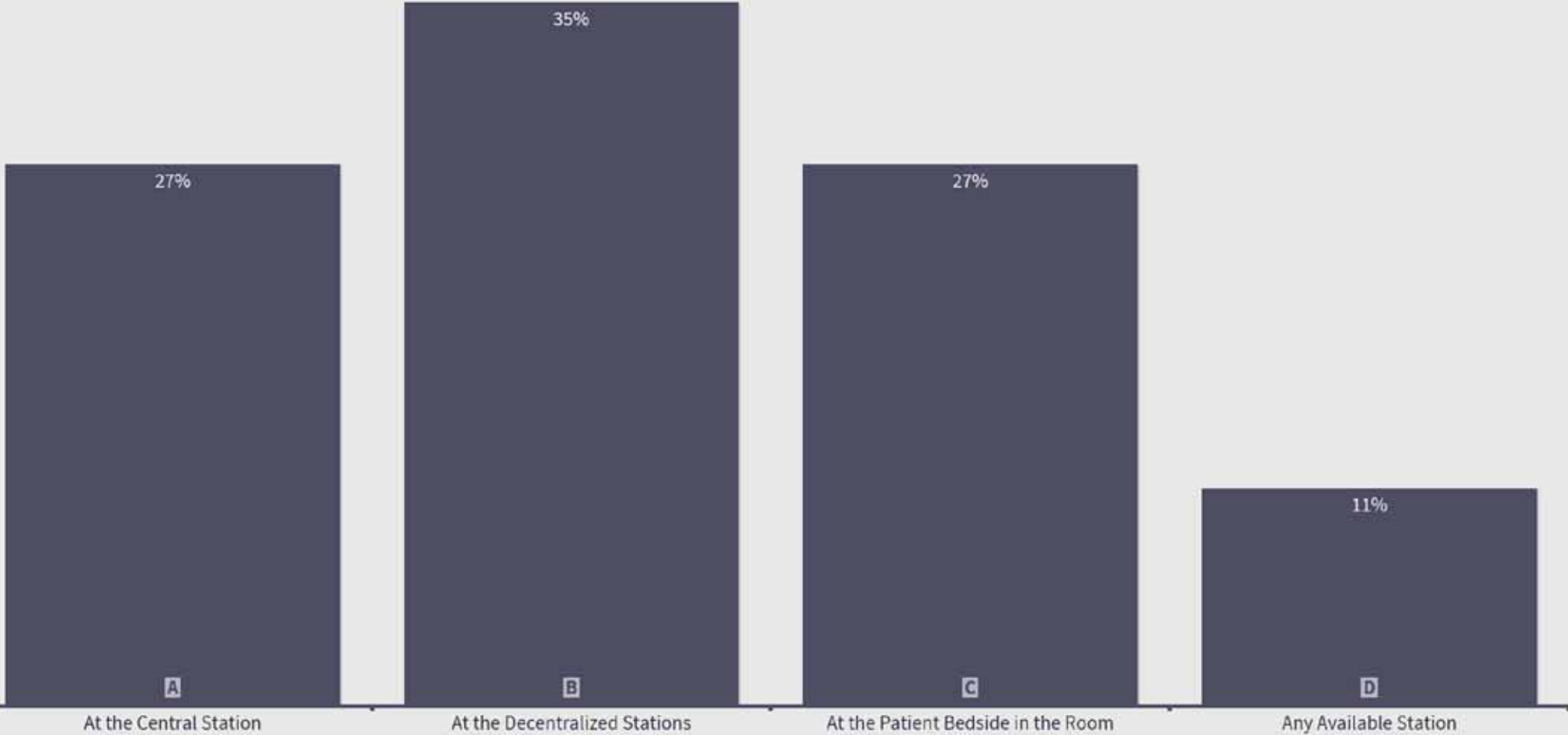
SATISFIED WITH
STANDARDIZATION
OF HEADWALLS





Where do staff PREFER TO SPEND THEIR TIME CHARTING?

Respond at PollEv.com/ballinger2016 Text BALLINGER2016 to 22333 once to join, then A, B, C, or D



Total Results: 37



SATISFACTION WITH SOUND CONTROL



AT NURSE STATION



IN CORRIDORS



IN PATIENT ROOMS



AT NURSE STATION



IN CORRIDORS



IN PATIENT ROOMS



87% 97%

ARE SATISFIED WITH SPACES FOR PRIVATE CONVERSATION

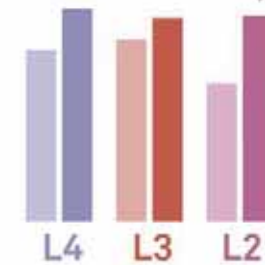
89%

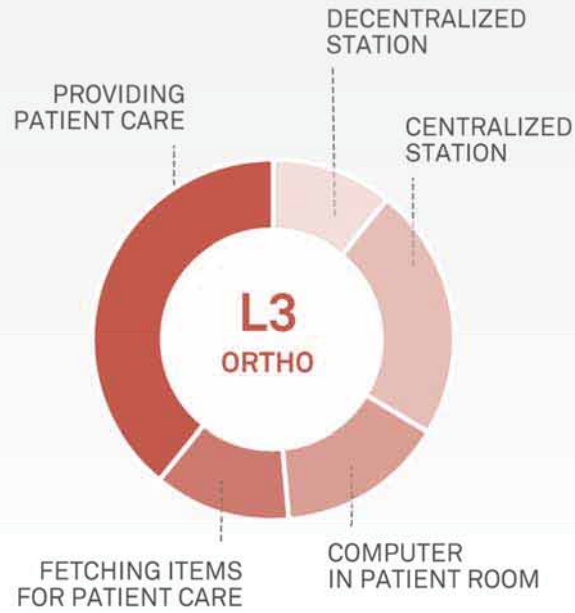
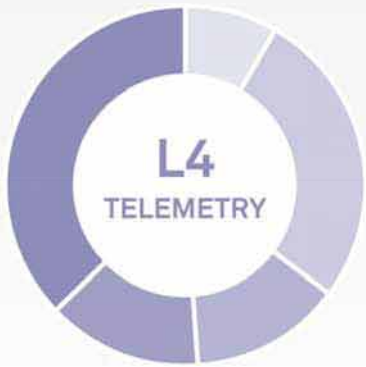


HCAHPS

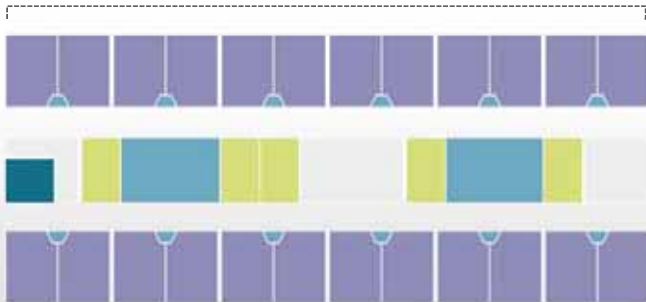
34%

AVERAGE INCREASE IN SATISFACTION WITH QUIETNESS

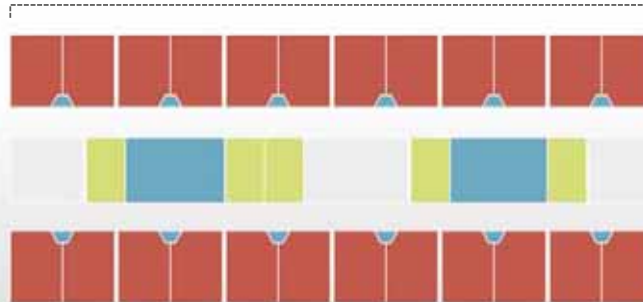




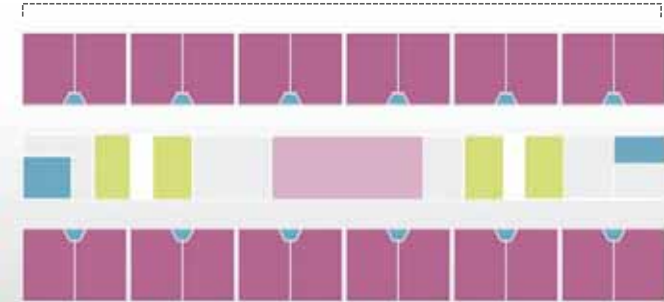
30 CENTRAL SEATS



24 CENTRAL SEATS



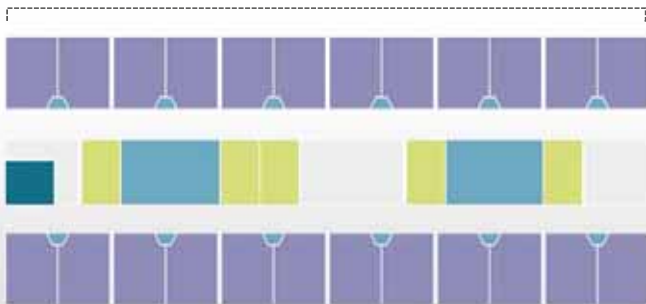
12 CENTRAL SEATS



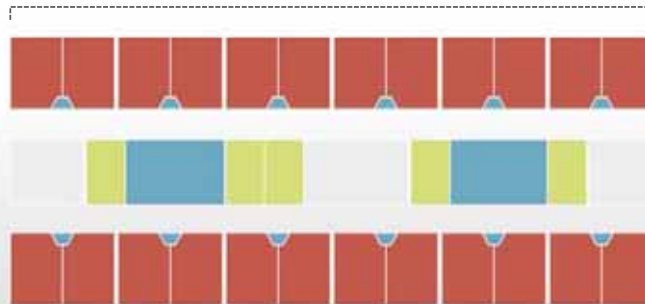
L2 SPENT
16% MORE TIME
PROVIDING PATIENT CARE
THAN L3 AND L4



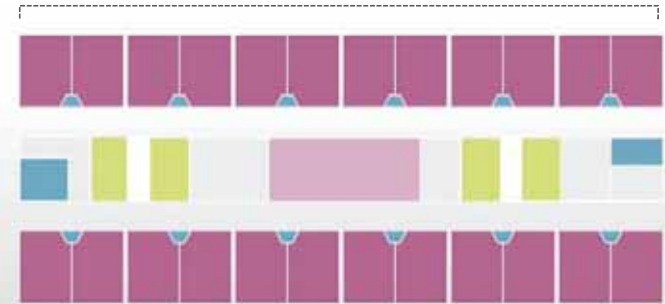
30 CENTRAL SEATS

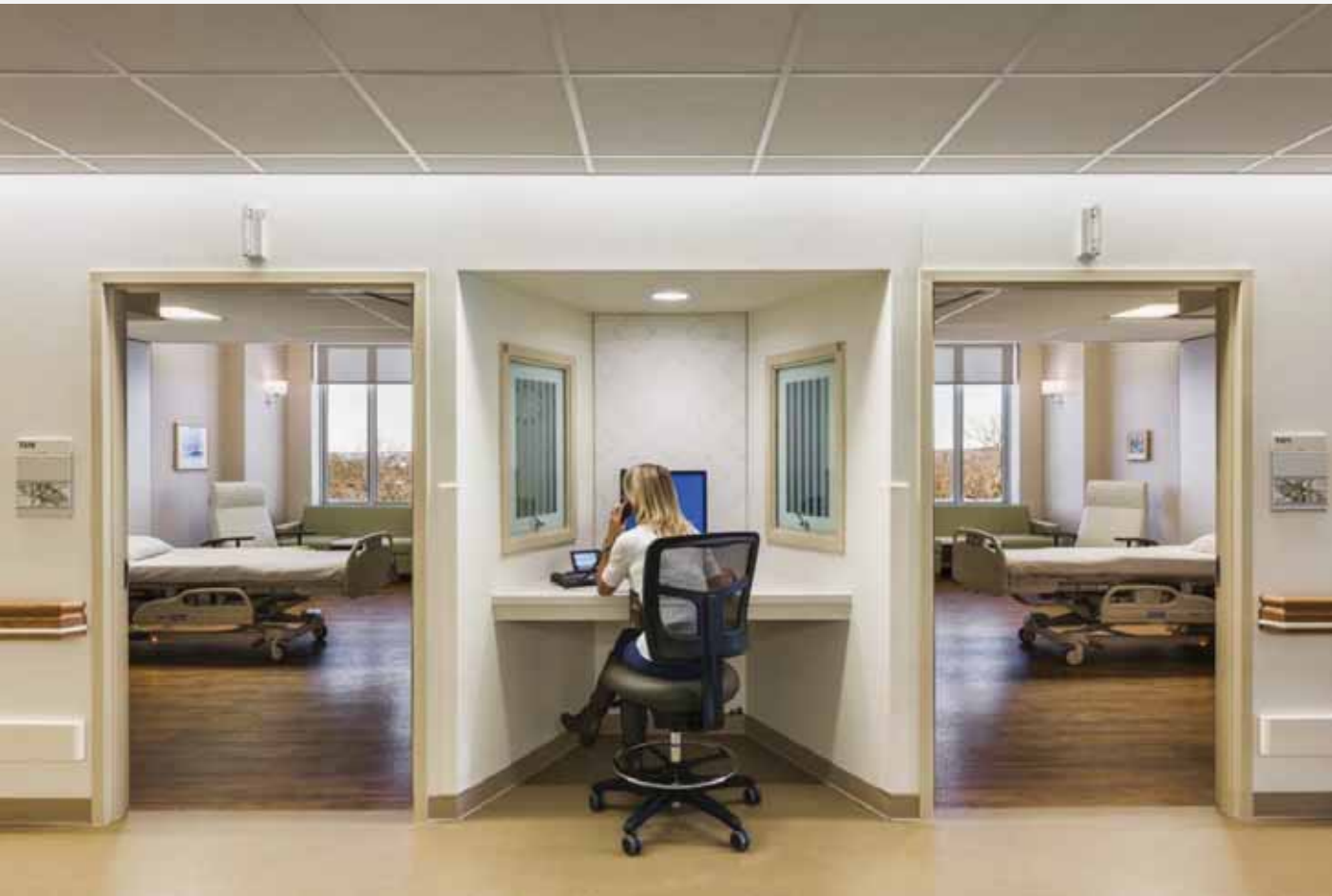


24 CENTRAL SEATS



12 CENTRAL SEATS





66%
STAFF FEEL THE
DECENTRALIZED STATIONS
IMPROVE PATIENT CARE

91%
PATIENTS SAY THE
DECENTRALIZED STATIONS
IMPROVE THE WAY
THEY FEEL CARED FOR

76%
STAFF REPORTED THEY WILL
USE ANY AVAILABLE WORKSPACE



ADEQUATE LOCATIONS FOR CHARTING

\$\$

97%

94%

100%

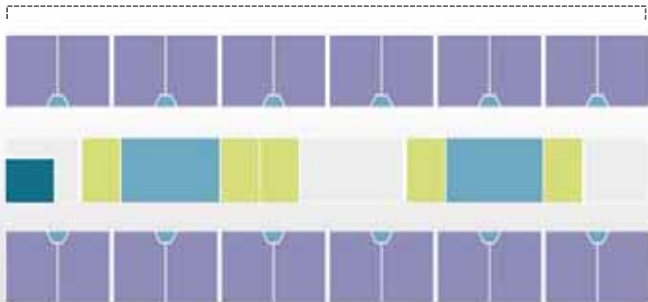
L3 SPENT
31% MORE TIME
AT THE DECENTRALIZED STATIONS
THAN L4

L2 SPENT
71% MORE TIME
AT THE DECENTRALIZED STATIONS
THAN L4

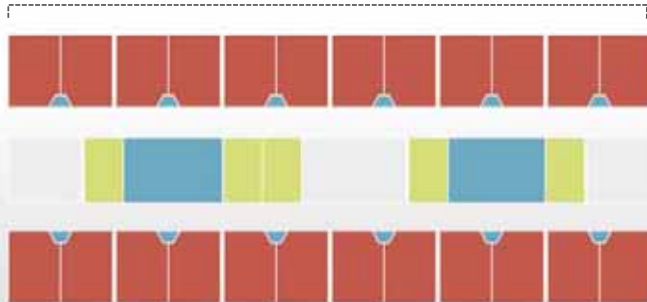
30 CENTRAL SEATS

24 CENTRAL SEATS

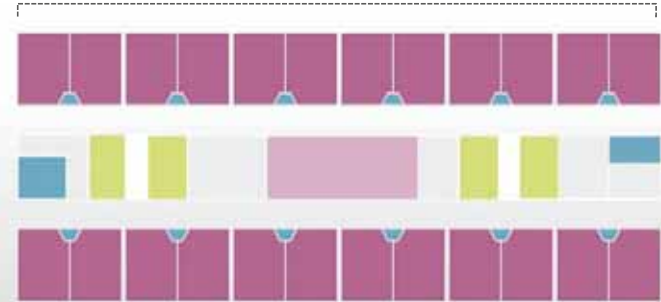
12 CENTRAL SEATS



L4: TELEMETRY



L3: ORTHO



L2: OB



TRAVEL DISTANCE BETWEEN STAFF WORK AREAS



"It is ALMOST IMPOSSIBLE TO KNOW IF SOMEONE IS IN ANOTHER NURSING STATION if you are in the other. A LOT OF WALKING BACK AND FORTH"

34%

53%

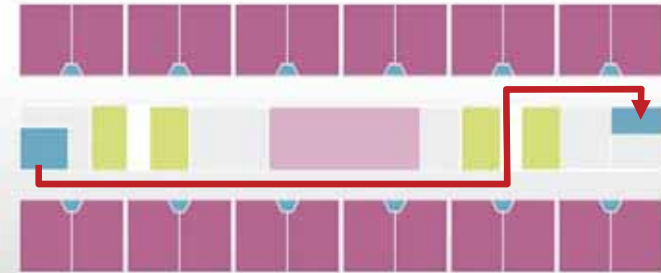
63%



L4: TELEMETRY



L3: ORTHO



L2: OB



VISIBILITY BETWEEN STAFF WORK AREAS



"It is ALMOST IMPOSSIBLE TO KNOW IF SOMEONE IS IN ANOTHER NURSING STATION if you are in the other. A LOT OF WALKING BACK AND FORTH"

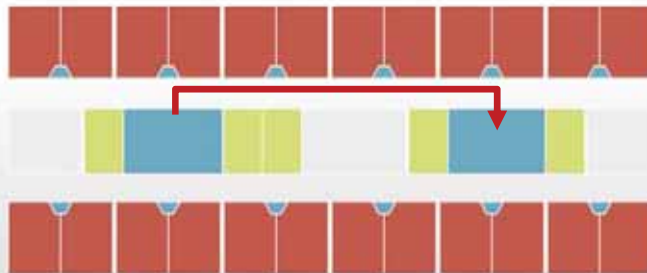
62%

78%

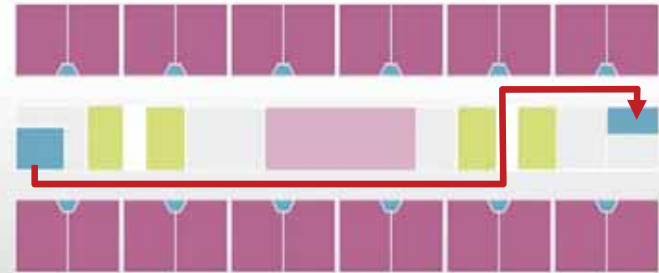
85%



L4: TELEMETRY



L3: ORTHO



L2: OB



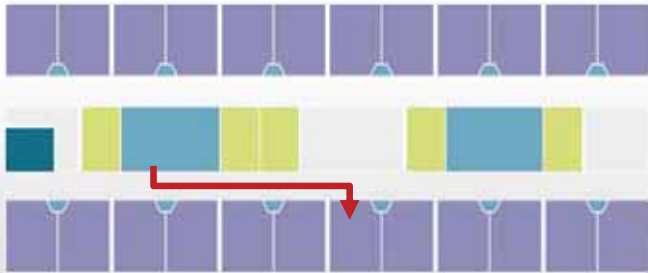
TRAVEL DISTANCE BETWEEN STAFF WORK & PATIENT CARE AREAS

\$\$

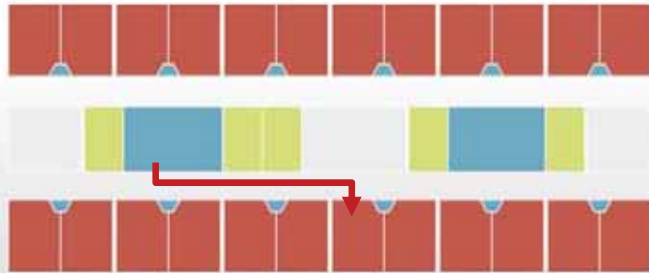
41%

78%

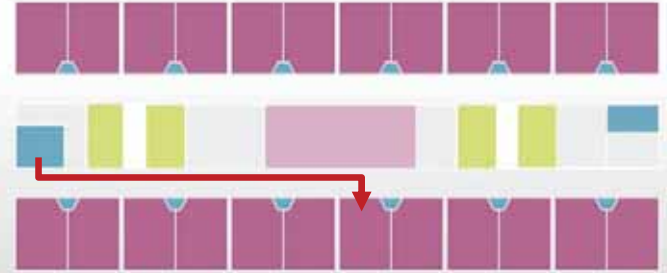
85%



L4: TELEMETRY



L3: ORTHO



L2: OB



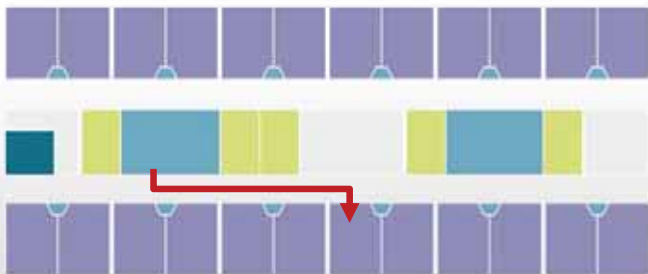
VISIBILITY BETWEEN STAFF WORK & PATIENT CARE AREAS

\$\$

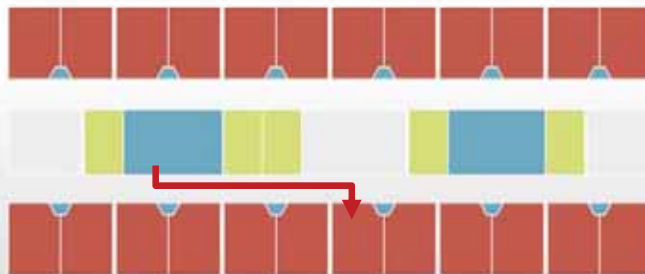
76%

86%

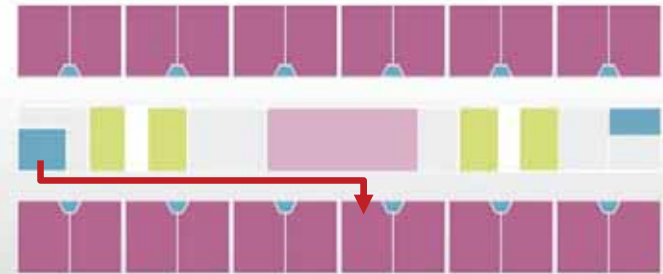
93%



L4: TELEMETRY



L3: ORTHO



L2: OB

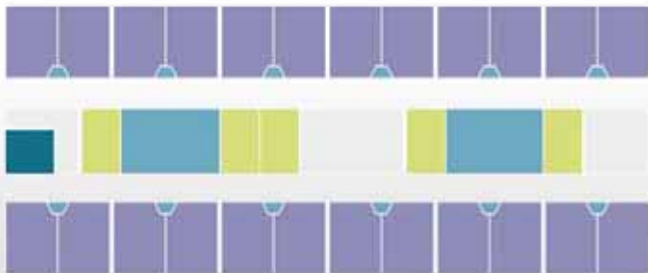


PROXIMITY OF SUPPLIES TO THE PATIENT ROOMS

\$



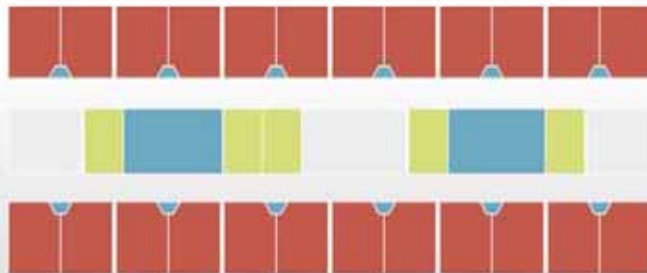
L4 REPORTED
13.5%
FETCHING ITEMS



L4: TELEMETRY



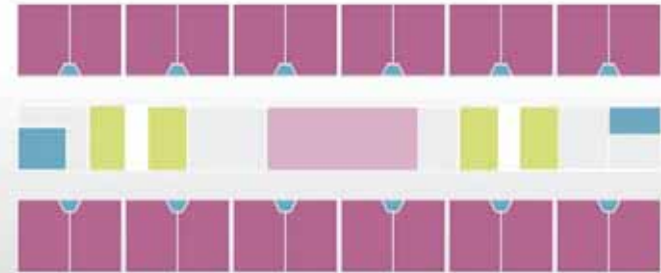
L3 REPORTED
12.5%
FETCHING ITEMS



L3: ORTHO



L2 REPORTED
16.4%
FETCHING ITEMS



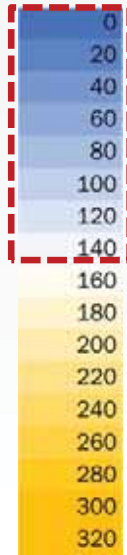
L2: OB



PROXIMITY INDEX BETWEEN STAFF WORK AREAS

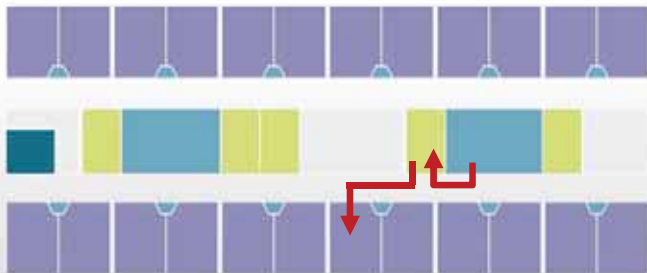
ROOM	Clean Supply	Soiled Utility	Meds	Equipment
401	99.25	199.27	179.12	259.92
402	67.42	169.42	147.75	228.08
403	71.67	114.17	92.50	173.50
404	104.50	103.00	81.83	162.17
405	168.08	81.25	116.75	140.75
406	198.08	98.42	146.92	129.42
407	168.08	261.92	116.75	202.92
408	68.50	134.50	148.50	74.33
409	68.67	163.00	93.83	104.00
410	92.25	186.92	73.08	127.58
411	141.92	235.75	90.58	176.75
412	173.17	267.67	122.33	208.67
413	173.08	267.25	144.58	196.25
414	140.58	234.58	112.08	163.42
415	93.25	187.08	95.42	116.92
416	71.33	165.00	116.00	94.83
417	69.25	135.08	171.42	64.08
418	101.25	124.08	203.25	79.75
419	173.25	74.58	143.92	116.08
420	141.17	56.33	111.00	126.00
421	93.67	93.33	95.83	163.00
422	71.00	114.67	116.50	184.67
423	84.25	175.58	171.75	239.58
424	98.00	200.50	201.67	270.00

ROOM	Clean Supply	Soiled Utility	Meds	Equipment
401	53.17	153.18	133.03	213.83
402	31.83	133.83	112.17	192.50
403	47.83	90.33	68.67	149.67
404	69.83	68.33	47.17	127.50
405	112.50	25.67	61.17	85.17
406	132.50	32.83	81.33	63.83
407	112.50	206.33	61.17	147.33
408	32.83	98.83	112.83	38.67
409	46.00	140.33	71.17	81.33
410	68.00	162.67	48.83	103.33
411	112.50	206.33	61.17	147.33
412	132.83	227.33	82.00	168.33
413	133.50	227.67	105.00	156.67
414	112.00	206.00	83.50	134.83
415	69.33	163.17	71.50	93.00
416	48.17	141.83	92.83	71.67
417	33.50	99.33	135.67	28.33
418	54.67	77.50	156.67	33.17
419	133.00	34.33	103.67	75.83
420	112.00	27.17	81.83	96.83
421	69.83	69.50	72.00	139.17
422	47.50	91.17	93.00	161.17
423	47.50	138.83	135.00	202.83
424	52.83	155.33	156.50	224.83



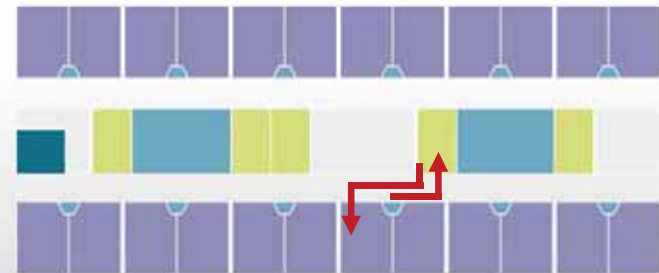
OVERALL
26%
REDUCTION IN
TRAVEL DISTANCES
BY SITTING AT THE
DECENTRALIZED
STATIONS

CENTRAL STATION



L4: TELEMETRY

DECENTRALIZED STATION



L4: TELEMETRY



PROXIMITY INDEX BETWEEN STAFF WORK AREAS

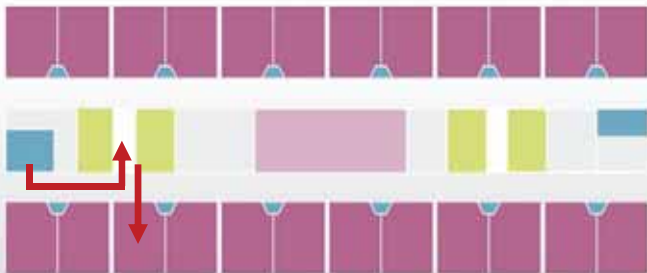
ROOM	Clean Supply	Soiled Utility	Meds	Equipment
201	64.92	118.25	96.08	334.08
202	51.58	106.08	82.42	321.42
203	89.33	110.17	89.00	299.83
204	121.42	142.08	120.75	289.42
205	186.42	205.25	185.75	267.58
206	257.50	238.50	217.17	256.33
207	190.92	246.92	227.25	244.08
208	157.92	214.75	194.75	211.42
209	103.92	151.08	130.92	147.75
210	114.67	130.67	110.83	115.17
211	135.17	152.17	132.33	81.00
212	146.58	163.08	143.25	92.42
213	139.92	136.25	156.25	85.92
214	69.08	125.58	145.58	74.25
215	108.42	104.42	124.92	111.25
216	96.92	124.25	144.75	142.75
217	150.75	187.75	207.75	205.58
218	184.67	221.17	241.33	239.00
219	272.25	270.58	292.25	270.75
220	237.92	237.42	259.25	322.25
221	175.25	174.58	195.42	343.42
222	142.75	141.92	164.08	353.42
223	107.00	137.33	158.67	375.50
224	117.25	147.42	169.58	386.42

ROOM	Clean Supply	Soiled Utility	Meds	Equipment
201	55.33	108.67	86.50	324.50
202	33.50	88.00	64.33	303.33
203	49.50	70.33	49.17	260.00
204	70.83	91.50	70.17	238.83
205	114.33	133.17	113.67	195.50
206	175.00	156.00	134.67	173.83
207	79.33	135.33	115.67	132.50
208	57.33	114.17	94.17	110.83
209	24.50	71.67	51.50	68.33
210	46.33	62.33	42.50	46.83
211	87.33	104.33	84.50	33.17
212	109.33	125.83	106.00	55.17
213	108.67	108.00	125.00	54.67
214	27.33	83.83	103.83	32.50
215	44.67	40.67	61.17	47.50
216	23.00	50.33	70.83	68.83
217	55.67	92.67	112.67	110.50
218	78.33	114.83	135.00	132.67
219	135.33	133.67	155.33	133.83
220	112.00	111.50	133.33	196.33
221	70.67	70.00	90.83	238.83
222	48.50	47.67	69.83	259.17
223	34.33	64.67	86.00	302.83
224	55.50	85.67	107.83	324.67



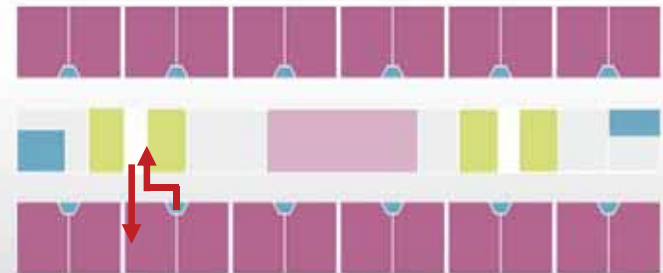
OVERALL
41%
REDUCTION IN
TRAVEL DISTANCES
BY SITTING AT THE
DECENTRALIZED
STATIONS

CENTRAL STATION



L2: OB

DECENTRALIZED STATION



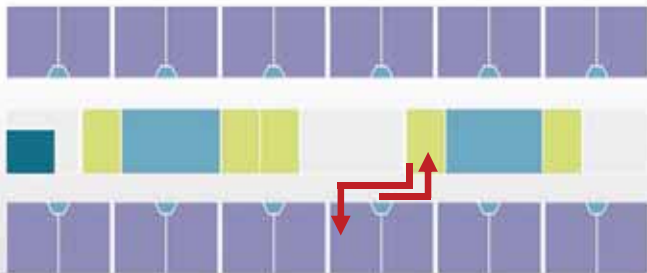
L2: OB



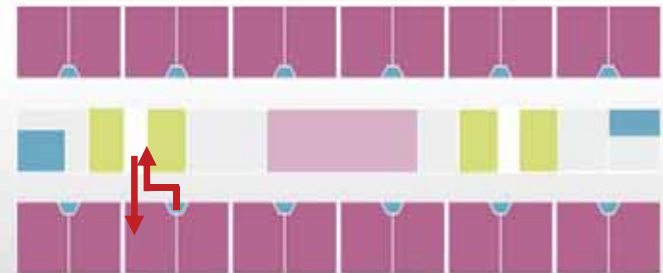
PROXIMITY INDEX

ROOM	Clean Supply	Soiled Utility	Meds	Equipment
401	53.17	153.18	133.03	213.83
402	31.83	133.83	112.17	192.50
403	47.83	90.33	68.67	149.67
404	69.83	68.33	47.17	127.50
405	112.50	25.67	61.17	85.17
406	132.50	32.83	81.33	63.83
407	112.50	206.33	61.17	147.33
408	32.83	98.83	112.83	38.67
409	46.00	140.33	71.17	81.33
410	68.00	162.67	48.83	103.33
411	112.50	206.33	61.17	147.33
412	132.83	227.33	82.00	168.33
413	133.50	227.67	105.00	156.67
414	112.00	206.00	83.50	134.83
415	69.33	163.17	71.50	93.00
416	48.17	141.83	92.83	71.67
417	33.50	99.33	135.67	28.33
418	54.67	77.50	156.67	33.17
419	133.00	34.33	103.67	75.83
420	112.00	27.17	81.83	96.83
421	69.83	69.50	72.00	139.17
422	47.50	91.17	93.00	161.17
423	47.50	138.83	135.00	202.83
424	52.83	155.33	156.50	224.83

ROOM	Clean Supply	Soiled Utility	Meds	Equipment
201	55.33	108.67	86.50	324.50
202	33.50	88.00	64.33	303.33
203	49.50	70.33	49.17	260.00
204	70.83	91.50	70.17	238.83
205	114.33	133.17	113.67	195.50
206	175.00	156.00	134.67	173.83
207	79.33	135.33	115.67	132.50
208	57.33	114.17	94.17	110.83
209	24.50	71.67	51.50	68.33
210	46.33	62.33	42.50	46.83
211	87.33	104.33	84.50	33.17
212	109.33	125.83	106.00	55.17
213	108.67	105.00	125.00	54.67
214	27.33	83.83	103.83	32.50
215	44.67	40.67	61.17	47.50
216	23.00	50.33	70.83	68.83
217	55.67	92.67	112.67	110.50
218	78.33	114.83	135.00	132.67
219	135.33	133.67	155.33	133.83
220	112.00	111.50	133.33	196.33
221	70.67	70.00	90.83	238.83
222	48.50	47.67	69.83	259.17
223	34.33	64.67	86.00	302.83
224	55.50	85.67	107.83	324.67



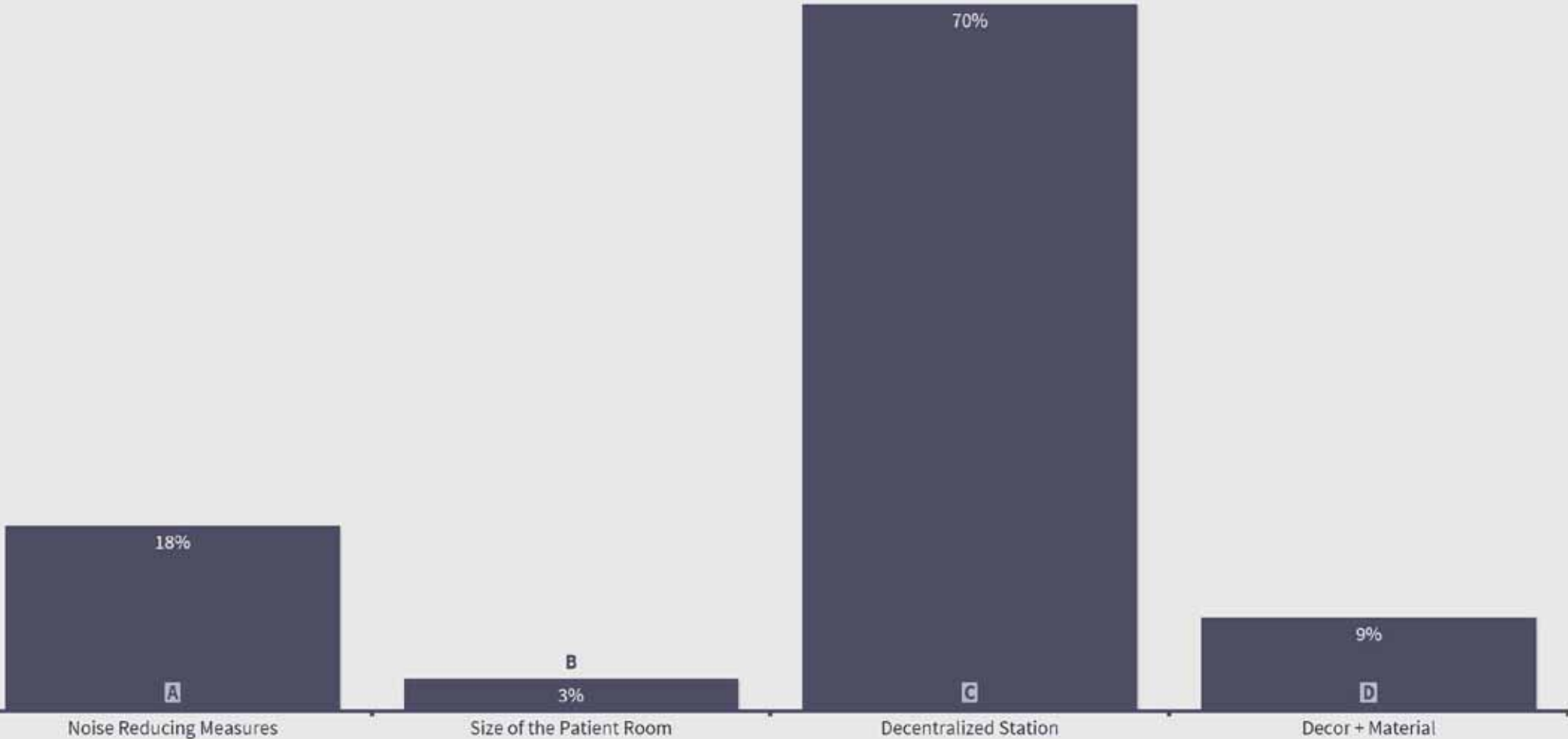
L4: TELEMETRY



L2: OB

Which intervention had the HIGHEST IMPACT for the LEAST COST

Respond at PollEv.com/ballinger2016 Text **BALLINGER2016** to **22333** once to join, then **A, B, C, or D**



Total Results: 33

MATERIAL COST/BENEFIT

FIRST COST	OPS COST	MAINT.	ACOUST.	SAFETY	
\$\$\$	\$	☹️	+		EPOXY FLOORING
\$\$	\$\$	☹️			TILE
\$	\$\$\$	☹️			VCT
\$\$	\$	😊	+		SHEET VINYL
\$	\$\$	☹️			PLASTIC LAMINATE
\$\$	\$	😊			SOLID SURFACE
\$\$	-	☹️			ACOUSTIC TILE
\$\$\$	-	☹️	+		ACOUSTIC TILE - ENHANCED

OVERALL COST/BENEFIT

FIRST COST	OPS COST	MAINT.	ACOUST.	SAFETY	
\$	\$\$\$	☹️		-	PAINT
\$\$	\$\$\$	☹️	+		FLOORING
\$\$	\$\$	😊		+	CASEWORK
\$\$\$	\$	😊	+	+	LAYOUT: PRIVATE ROOMS
\$	\$	😊	+	+	LAYOUT: DECENTRALIZED STATION
\$	\$	😊	+	+	LAYOUT: SUPPLY LOCATIONS
\$\$	\$	😊			LAYOUT: FAMILY AMENITIES
\$\$\$	\$	😊	+		BUILDING EXTERIOR

WHAT REPEATS IN NEXT PROJECT?

- LARGE WINDOWS
- +/- 320 SF FOR SINGLE PATIENT ROOM & BATHROOM
- DECENTRALIZED STATIONS IMPROVED WORKFLOW
- MATERIAL : SOLID SURFACE, RESIN FLOOR



“We have a **BEAUTIFUL PLACE TO WORK**”

WHAT WOULD WE CHANGE?

- DIFFERENT CONFIGURATION OF MAIN NURSING STATION
- VERIFY TRAVEL DISTANCES FOR FREQUENTLY FETCHED ITEMS



“**ONE UNIFIED NURSES** station would make our lives so much easier”

PDC SUMMIT 2016

STUDYING THE PAST TO BUILD A BETTER FUTURE LESSONS FROM A POST-OCCUPANCY EVALUATION

