Space Planning

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Cedars Sinai

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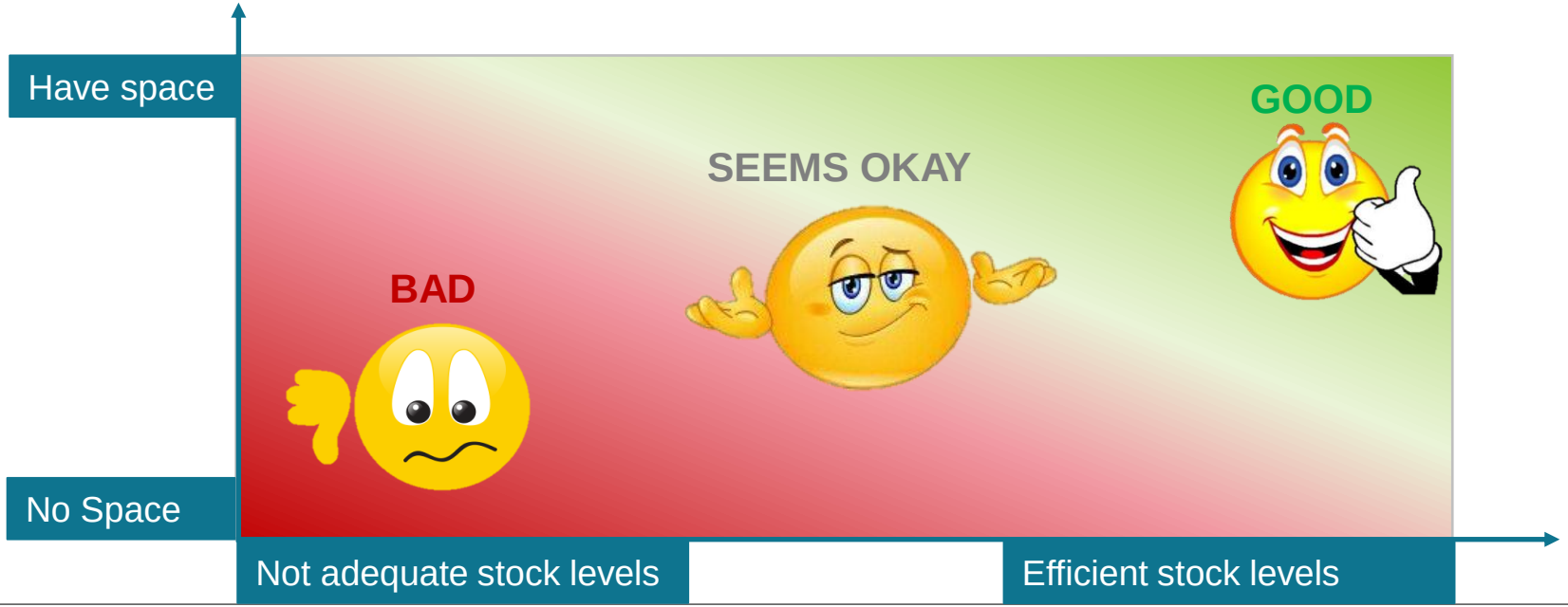
Most hospitals have set spaces & fall somewhere on the spectrum

- Where are you on the spectrum?



Even when you have a lot of space, is it ever enough?

See… It worked out… All the equipment fits…

Are you ready to play hide & seek?

I’d like to introduce you to “Teledoc”

Now let's find Teledoc… your time starts now…

Did you notice…

Disorderly due to space constraint

Locating equipment:
Loss of time & efficiency

Makeshift charging stations

Tripping hazard:
Disorganized cords on ground

We completed 2 space planning projects…

- Equipment storage
  - Review some of the factors considered
  - Cover approach taken to complete the project

- Supply storage – space requirements for an expansion project
  - Cover project approach

First project

Equipment storage:
Factors to be considered for optimal equipment layout design*

- Interlocking equipment
  - Storing together to reduce space requirement

Example of interlocking equipment

- Optimizing layout by grouping of equipment by type:
  - Simplifies retrieval, put-away, and inventory counts
  - Places equipment requiring charge near outlets
    - Reduces cord-related chaos & hazards

Optimal slot size?

- Personal fatigue and delay, PF&D
  - Plan access to every equipment type group to prevent:
    - (1) Unnecessary movement & handling of equipment & (2) adding to employee fatigue

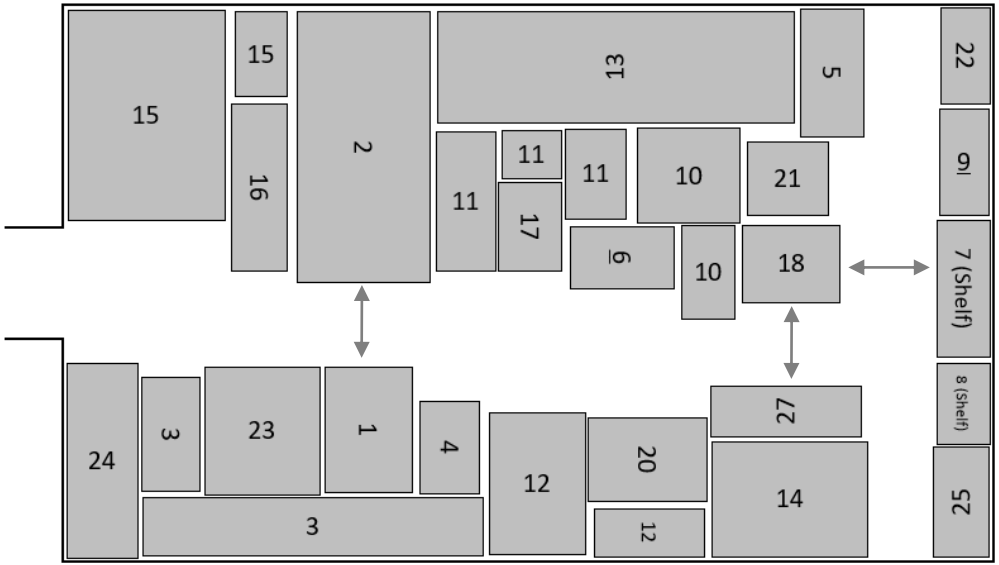
*Does not consider additional space for items requiring repair

You will also need quantity & dimensional information

No.	Equipment	proximity	storage qty	dims	symbol	slot length	slot width
1	Crash cart	close	2	39 x27	1	0.81	1.13
2	Philips cardiac Monitors	close	8	29 x 29		1.21	2.42
3	Capsuletech Monitors	close	8	25 x 25		1.04	2.08
4	GE MAC VU360 ECG	close	2	26 x 20		0.54	0.83
5	Sonosite SII Ultrasound System	close	2	27 x 27		0.56	1.13
6	Sonosite X-Porte Ultrasound System	close	2	23 x 27		0.96	0.56
7	Transport Monitor (Zoll Defib)	close	23	23 x 10		0.48	1.25
8	Lucas CPR System	close	5	23 x 12		0.48	0.75
9	Level 1 Rapid Infusion	close	2	21 x 23		0.44	0.96
10	Verathon Glidescope	close	3	41 x 23		1.71	0.96
11	BladderScanner	close	6	20 x 27		1.25	1.13
12	Consent iPad	close	11	21 x 21		1.29	1.31
13	Martti iPad	close	18	24 x 24		2.21	1.50
14	Privacy Screen	close	8	25 x 17		1.04	1.42
15	IV Pole	close	17	23 x 23		2.30	1.44
16	Karl Storz Endoscope CMAC	distance ok	3	24 x 24		0.50	1.50
17	Teladoc Robot	distance ok	2	27 x 19		0.56	0.79
18	Infant Scale	distance ok	2	33 x 22		0.69	0.92
19	Mobile Phone Charging Tower (new)	distance ok	5	17 x 17		0.35	1.77
20	YAG Laser	distance ok	2	26 x 36	20	1.08	0.75
21	Thermogard	distance ok	2	31 x 18		0.65	0.75
22	Cast Cutter	distance ok	2	21 x 21		0.44	0.88
23	Giraffe Carestation	distance ok	2	28 x 51		1.17	1.06
24	Mobile Surgical Light	distance ok	3	28 x 30		1.75	0.63
25	Acuvein vein finder	distance ok	2	24 x 24		0.50	1.00
26	Crib	distance ok	2	35 x 66		1.46	1.38
27	Mobile Phone Charging Tower (old)	distance ok	3	22 x 22		1.38	0.46

The final output is an efficient layout…

Optimized



- ✓ All equipment easily accessible
- ✓ Critical equipment in 1 close by room
- ✓ Equipment requiring power/charging placed near outlets

Accounted for interlocking for equipment numbers 12, 13 & 15

Great! But what TPS?

Total Product Stock you'll need to provide quality patient care

- Are you holding too much stock?
- Maybe not enough?
- Is the space really not enough, or are inventory levels off?

Methodology for supply storage space planning…

- Recorded measurement of spaces & storage locations
- Collected & validated inbound, on-hand & outbound/usage data, including dollars & cubic volume
  - This is where you'll need to store and build item dimensions data sets
  - If possible, correct for nested products
- Assigned ABC item classifications to your products
- Collected & leveraged current patient stats to evaluate current on-hand, plus determine future levels
- Designed and ran usage model; ran sensitivities on patient growth scenarios
- Calculated sq. ft. requirements for product storage, staging & put-away

Determine your inventory landscape & days on hand…

Leveraged current & anticipated future patient stats to:
1. Back into on-hand levels required in future state
   - Leveraged to calculate sq. ft. and racking needs
2. Evaluate whether current on-hand levels are right-sized

Inbound: Weekly Average

Calculate Current

- Units: ~## K
- Cubic feet: ~###
- Dollars: ~$##K

On-hand Levels:

Current

Metric	ft³	Units	Dollars
Total	###	#,###	$$$
C-lockers, current, ## count, actual	###	###	$$
Carts (IV & Isolation), ## count, capacity	###	###	$$
Storage Areas 1 & 2, capacity	###	###	$$
Clean Utility Rooms 1 & 2, capacity	###	###	$$

Outbound

Anticipated Future

Anticipated need of ~#,### ft3 / week
- This should equate to y days of supply
- Based on a x% increase in patient census
- Patient census defined as seen + lwbs
- lwbs = Left without being seen
  - Avg daily overall census: ~## +/- X patients
  - Avg daily patients seen: ~## +/- X patients
  - Avg daily who left without being seen: ~## +/- X patients

Detailed work behind calculating current capacity

Example of detailed capacity layouts compiled

Capacity	Total Bay Count	# of Diff Sized Bays	**Total Bay Cu.Ft**	Total Bins Cu.Ft
	##	##	#,###