

Hospital Capacity System



[Hospitalcapacity.com](https://www.hospitalcapacity.com)

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The Vision

- Improve patient care coordination statewide
- Rapid response and coordination for public health emergency
- One health system view with actionable data across continuum
- One source of truth to reduce redundancy in reporting
- High degree in confidence with information due to source
- Reduce reporting burden; redeploy staff time

Collaboration

- Previous system 100% manual / 300+ fields / No consistency in reporting / No shared governance
- OHSU Command Central Adaptation
- Philanthropic Dollars for Initial Version
- 85% of Acute Care Beds online in 2 Weeks
- Oregon Medical Coordination Center
- Apprise leveraged federal funding for initial development
- Further Investment from CDC/NHSN in 2023 for scaling Oregon model to other states
- HHS (BARDA) and ACEP Seeking Best Practices

Highlights

- Near Time – updated on average every 5 minutes, snapshots in time
- 100% voluntary participation for acute care hospitals
- Capacity based on staffed beds
- Direct from the electronic medical record (EMR)
- EMR Agnostic
- No Protected Health Information (PHI)
- Full Dataset Provided to OHA Daily

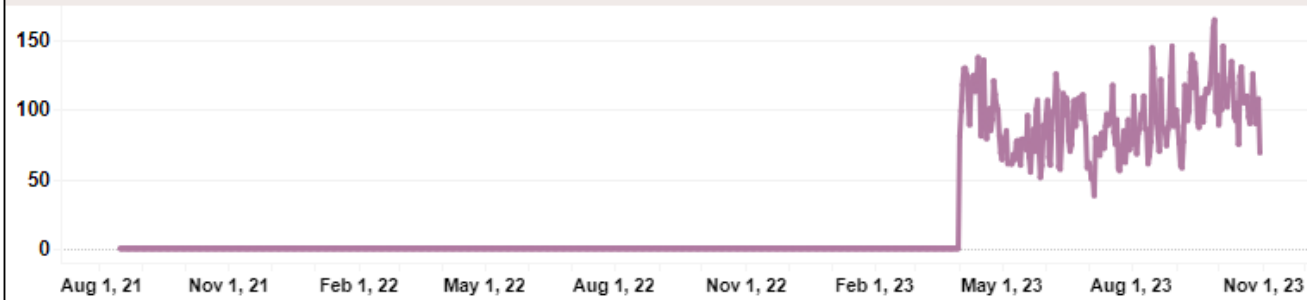
Current Suspected and Confirmed COVID Patients



Daily Trends as of 10/30/2023

Suspected and Confirmed Covid Patients **212**
 Difference from Yesterday **6**

ED Admitted Census (See data changes as of 3/31/2023)



Hover here for Notes ---> *

ED Admitted Census **69**
 Difference from Yesterday **-39**

Patient Discharge Delays (See data changes as of 3/31/2023)



Hover here for Notes ---> *

Total Patient Discharge Delays **421**
 Difference from Yesterday **-1**

- Publicly Accessible Dashboard
- Historical Lookback of Key Capacity Trends
- Daily, Covid & Pediatric Beds

Oregon's Governance Committee

Region 1

- OHSU Hospital
- Legacy Hospital
- Providence
- EMS Representation

Region 2

- Salem Health Hospital
- Samaritan Health Srvc.

Region 3

- PeaceHealth Sacred Heart Medical Center

Region 5

- Asante Rogue Regional

Region 6

- Mid Columbia Medical Center

Region 7

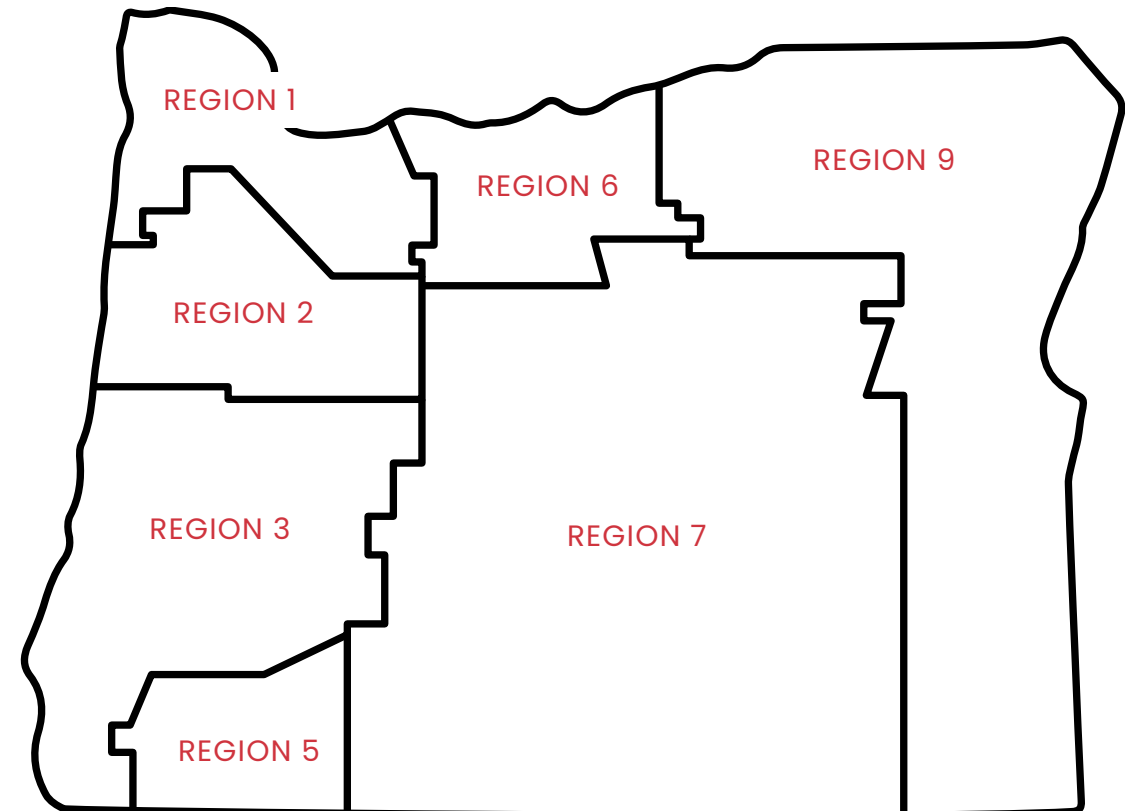
- St. Charles Medical Center

Region 9

- Grande Ronde Hospital

EMS

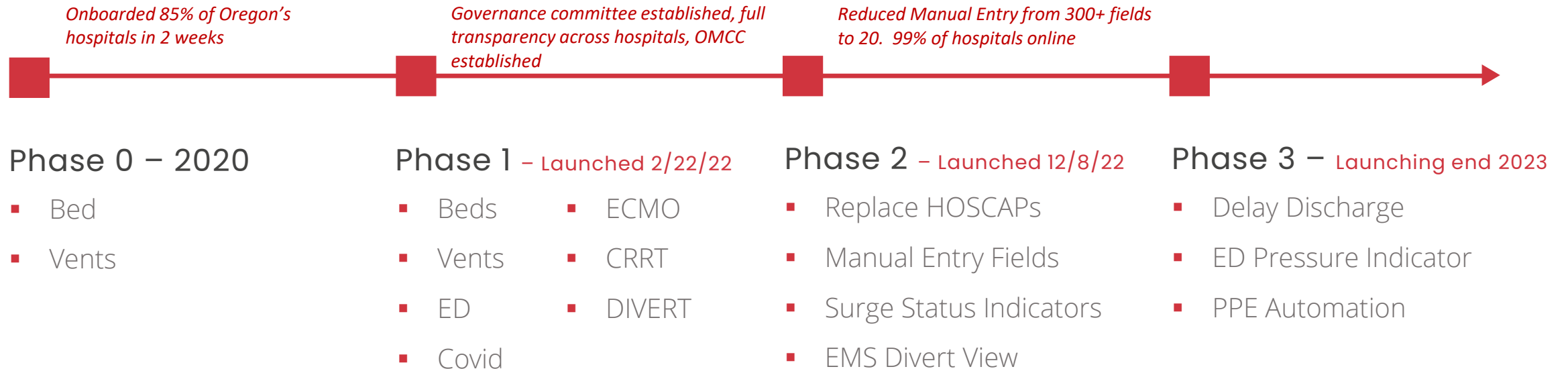
- Mercy Flights
- Multnomah County



Oregon Health Authority is an advisory to this group, not a voting member.

Our Capacity Journey

Develop a statewide capacity and critical resource system that will provide near-time actionable data to support better state-wide coordination and replace the state's current system



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Asante Rouge Regional



Columbia River Gorge



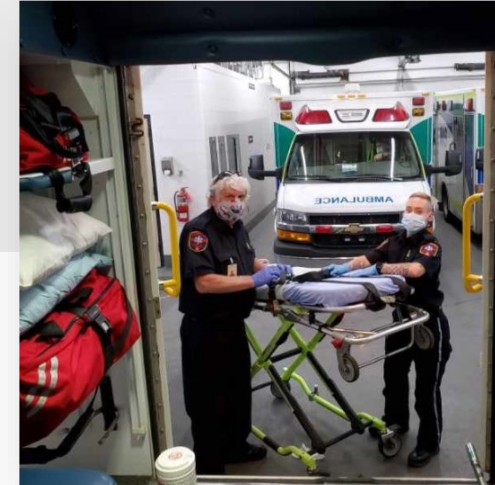
OHSU Covid Unit



Downtown Portland, Sept. 2020



Facilitating Coordination



Flexibility and Nimble

Standardized ICU Definitions:
2017 Journal of Critical Care

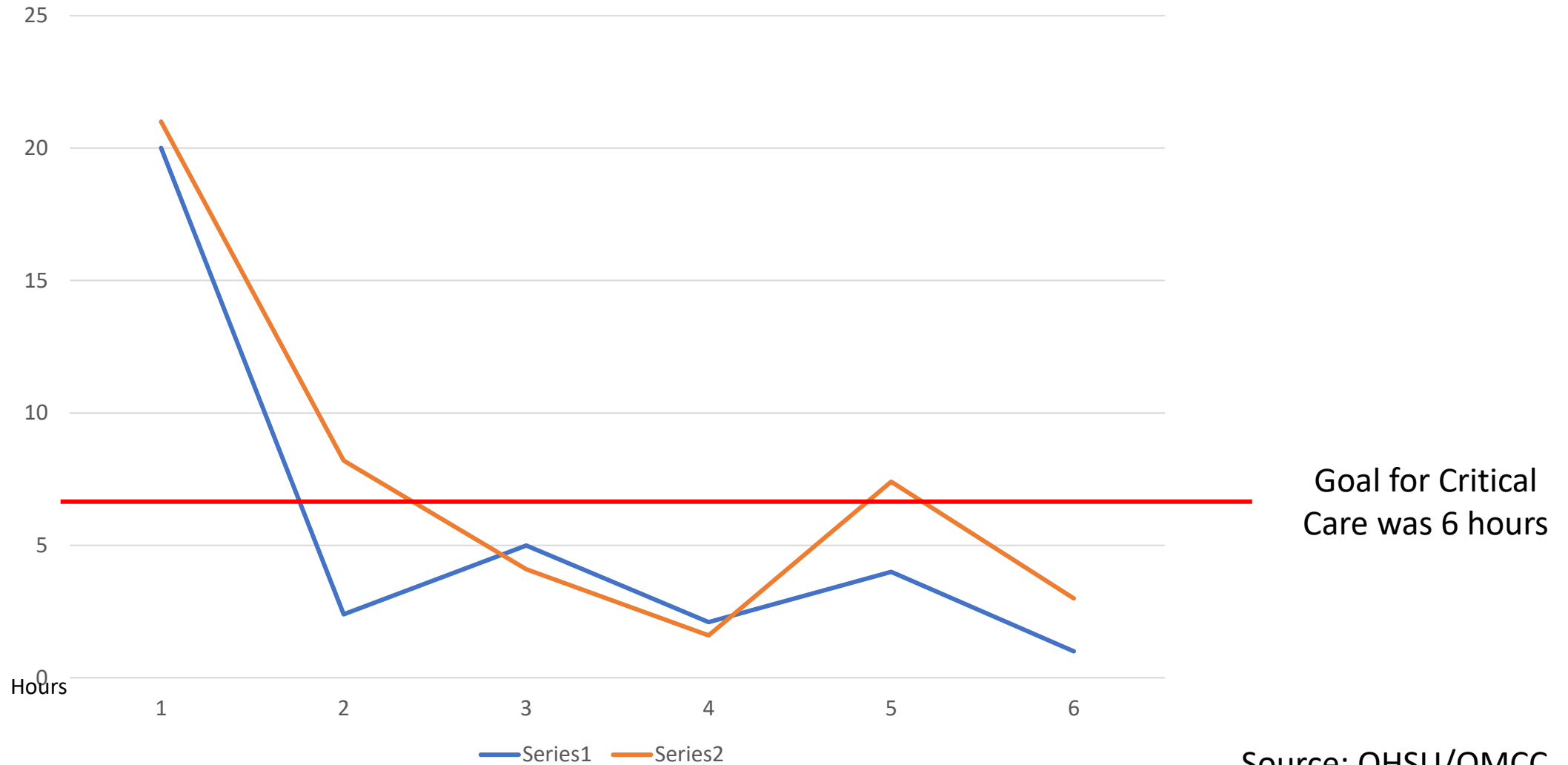
Identifying types of ICU beds

Statewide View in 2-week period

Statewide Transfer Coordination Center

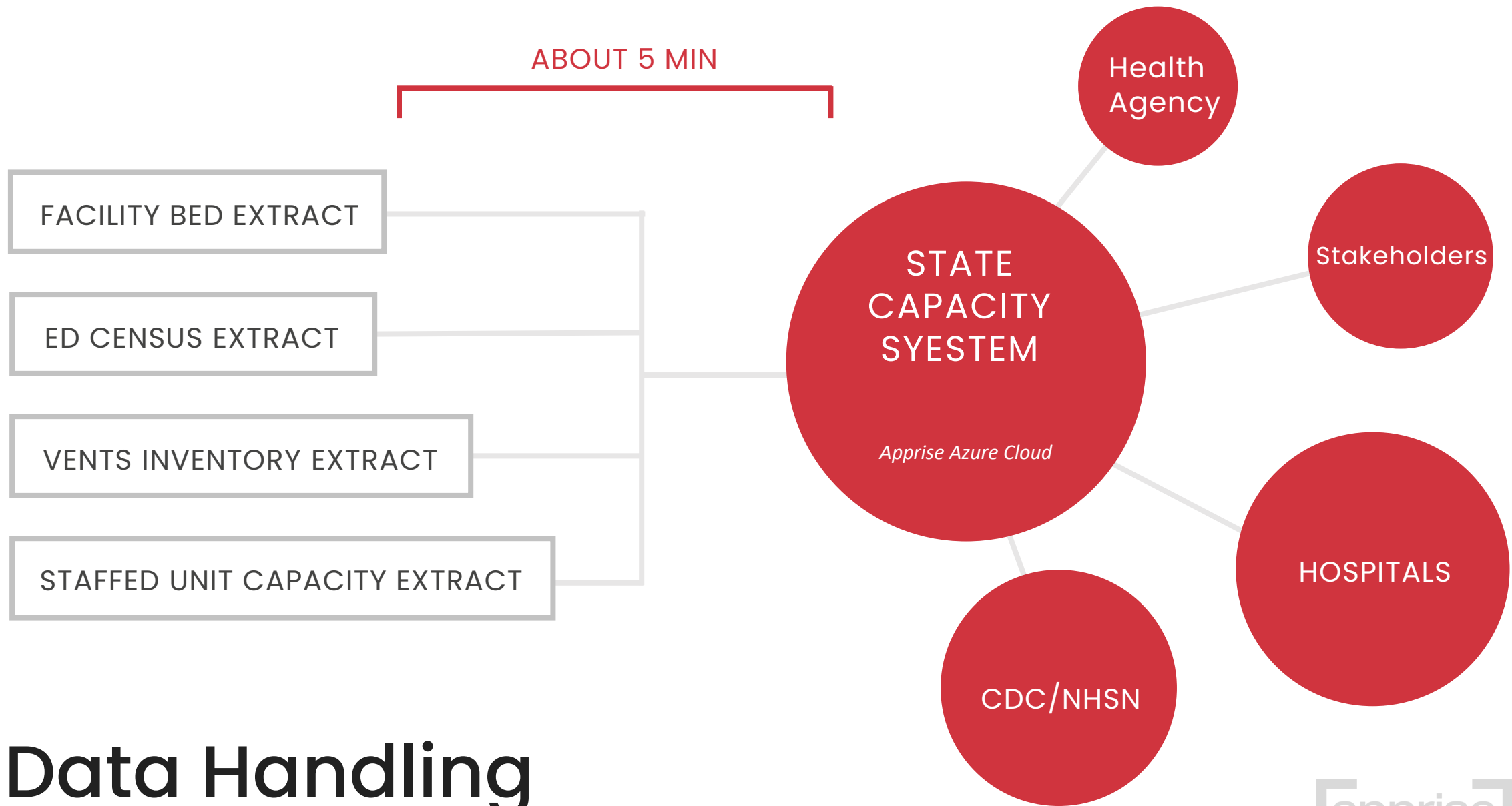
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Time to Accept: Critical Care Transfers



Goal for Critical Care was 6 hours

Source: OHSU/OMCC
2022-2023



Data Handling

Bed Status Overview

ADULT/ PEDS/SPECIALTY/BED ATTRIBUTES (NP)

OREGON CAPACITY SYSTEM													
MSA Region County State Sub-Region 1													
BEDS PPE Search by Hospital Name or Location													
OREGON		ALL BEDS	ADULT			PEDS			SPECIALTY	SURGE			
Census	Unocc	Capacity	TOTAL	ICU	NON-ICU	TOTAL	ICU	NON-ICU	TOTAL	TOTAL ACTIVE	ICU ACTIVE	NON-ICU ACTIVE	
Total			5581 80%	4551 84%	557 77%	3994 85%	158 64%	21 47%	137 68%	872 68%	44 4%	4 6%	40 4%
SALEM HOSPITAL SALEM HOSPITAL			441 85%	380 89%	44 92%	336 89%	2 20%	- 0%	2 20%	59 69%	4 1%	4 25%	0 0%
OHSU OHSU HEALTH			437 91%	353 92%	73 91%	280 92%	- 0%	- 0%	- 0%	84 90%	0 0%	- 0%	0 0%
OSV PROVIDENC... PROVIDENCE			411 89%	306 91%	34 83%	272 93%	13 72%	0 0%	13 76%	92 86%	0 0%	0 0%	- 0%
OPH PROVIDENC... PROVIDENCE			391 95%	301 96%	25 93%	276 97%	- 0%	- 0%	- 0%	90 92%	0 0%	- 0%	0 0%
SOUTHWEST ME... PEACEHEALTH			297 78%	285 81%	30 60%	255 84%	0 0%	- 0%	0 0%	12 63%	- 0%	- 0%	- 0%
RIVERBEND MED... PEACEHEALTH			284 75%	277 77%	35 76%	242 77%	7 39%	- 0%	7 39%	- 0%	5 17%	- 0%	5 17%
ASANTE ROGUE ... ASANTE			290 92%	230 93%	25 81%	205 95%	6 120%	- 0%	6 120%	54 87%	11 48%	- 0%	11 48%
BEND HOSPITAL ST CHARLES HEALTH SYSTEM			234 79%	194 93%	18 75%	176 95%	2 25%	- 0%	2 25%	38 48%	0 0%	0 0%	- 0%
SUNNYSIDE MED... KAISER PERMANENTE NW			231 103%	199 102%	32 94%	167 104%	- 0%	- 0%	- 0%	32 110%	- 0%	- 0%	- 0%

Detailed Adult Bed Status

ICU/PCU/MT/MS/OBS

OREGON		ALL BEDS	ADULT							
Census	Unocc	Capacity	TOTAL	ICU 1	ICU 2	ICU 3	ICU 3 PLUS	PCU	MT/MS	OBS
Total	6943 80%	5418 84%	74 59%	91 69%	393 77%	167 87%	427 88%	4188 85%	78 78%	
C: Multnomah	1861 86%	1248 90%	- 0%	10 80%	42 95%	126 88%	- 0%	1048 90%	22 95%	
C: Clark	723 79%	633 80%	- 0%	- 0%	98 49%	- 0%	26 65%	497 87%	12 75%	
C: Washington	683 89%	485 93%	- 0%	17 88%	7 71%	41 83%	41 88%	359 95%	20 105%	
C: Lane	618 67%	560 67%	- 0%	- 0%	62 79%	- 0%	14 0%	476 67%	8 75%	
C: Marion	567 81%	454 87%	4 50%	- 0%	48 92%	- 0%	129 91%	273 85%	- 0%	
C: Clackamas	481 95%	392 98%	- 0%	14 79%	50 92%	- 0%	38 95%	290 101%	- 0%	
C: Jackson	440 96%	363 96%	- 0%	4 100%	37 84%	- 0%	13 92%	309 98%	- 0%	
C: Deschutes	338 79%	251 91%	6 84%	- 0%	24 70%	- 0%	55 87%	166 95%	- 0%	

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Detailed Specialty Beds

NICU/Nursery/OB/Psych/Rehab

OREGON CAPACITY SYSTEM										
OREGON		ALL BEDS	SPECIALTY							
Census	Unocc	Capacity	TOTAL	TOTAL NON-CRIB	NICU	NURSERY	OB	ADULT PSYCH	PEDS PSYCH	REHAB
Total		6943 80%	1278 68%	897 70%	230 73%	151 48%	467 62%	333 74%	11 100%	86 100%
C: Multnomah	T	1861 86%	437 79%	294 80%	101 80%	42 74%	142 62%	134 80%	- 0%	18 222%
C: Clark	T	723 79%	83 77%	75 77%	8 75%	- 0%	34 94%	22 64%	- 0%	19 63%
C: Washington	T	683 89%	180 78%	109 83%	34 74%	37 65%	59 88%	50 78%	- 0%	- 0%
C: Lane	T	618 67%	40 78%	40 78%	- 0%	- 0%	- 0%	40 78%	- 0%	- 0%
C: Marion	T	567 81%	103 63%	87 59%	16 88%	- 0%	49 57%	26 58%	- 0%	12 67%
C: Clackamas	T	481 95%	89 81%	70 83%	9 89%	10 60%	53 77%	6 100%	11 100%	- 0%
C: Jackson	T	440 96%	72 93%	39 103%	30 80%	3 100%	3 167%	18 100%	- 0%	18 94%
C: Deschutes	T	338 79%	79 48%	47 62%	32 28%	- 0%	29 62%	5 60%	- 0%	13 62%
C: Douglas	T	168 54%	34 3%	- 0%	- 0%	34 3%	- 0%	- 0%	- 0%	- 0%

ED Census Details

Adult/Peds/Census and Boarding

OREGON		ALL BEDS	ED TOTAL		ED: ADULT		ED: PEDS	
Census	Unocc	Capacity	CENSUS	ADMITTED CENSUS	CENSUS	ADMITTED CENSUS	CENSUS	ADMITTED CENSUS
Total		5584 80%	820 80%	209 0%	780 81%	209 0%	26 22%	0 0%
C: Multnomah		1597 86%	212 79%	68 0%	200 78%	68 0%	10 43%	0 0%
C: Clark		571 79%	99 94%	12 0%	86 89%	12 0%	7 64%	0 0%
C: Washington		606 89%	82 93%	24 0%	76 94%	24 0%	3 30%	0 0%
C: Lane		411 67%	48 86%	15 0%	46 87%	15 0%	0 0%	0 0%
C: Marion		462 81%	70 85%	4 0%	68 89%	4 0%	2 22%	0 0%
C: Clackamas		459 95%	99 102%	35 0%	99 109%	35 0%	0 0%	0 0%
C: Jackson		422 96%	62 86%	36 0%	61 88%	36 0%	1 14%	0 0%
C: Deschutes		268 79%	19 79%	3 0%	19 86%	3 0%	0 0%	0 0%
C: Douglas		90 54%	2 33%	0 0%	2 50%	0 0%	0 0%	0 0%
C: Benton		133 92%	11 79%	1 0%	11 85%	1 0%	0 0%	0 0%
C: Yamhill		63 55%	23 61%	3 0%	22 63%	3 0%	1 20%	0 0%
C: Josephine		100 96%	14 47%	3 0%	14 48%	3 0%	0 0%	0 0%

Census = All patients in the ED, percent is patients in the ED relative to the peak period (p95 for current hour of day)

Admitted Census = ED Boarding number, marked inpatient in the EMR, but no inpatient bed

Surge & Equipment Details

Vents/ECMO/CRRT

OREGON CAPACITY SYSTEM											
OREGON		SURGE						EQUIPMENT			
Census	Unocc	Capacity	TOTAL ACTIVE	TOTAL INACTIVE	ICU ACTIVE	ICU INACTIVE	NON-ICU ACTIVE	NON-ICU INACTIVE	VENTS	ECMO	CRRT
Total			504 747 4%		66 18 6%		438 729 4%		725 25%	6 0%	12 17%
C: Multnomah			111 287 0%		- 0 0%		111 287 0%		325 23%	6 0%	11 18%
C: Clark			17 5 0%		- 1 0%		17 4 0%		- 0%	- 0%	- 0%
C: Washington			5 11 0%		5 2 0%		0 9 0%		82 22%	- 0%	1 0%
C: Lane			54 55 9%		- 10 0%		54 45 9%		- 0%	- 0%	- 0%
C: Marion			24 290 1%		15 1 25%		9 289 0%		55 16%	- 0%	- 0%
C: Clackamas			25 2 0%		9 0 0%		16 2 0%		52 38%	- 0%	- 0%
C: Jackson			53 0 55%		- 0 0%		53 0 55%		60 17%	- 0%	- 0%
C: Deschutes			16 0 38%		8 0 0%		8 0 75%		64 13%	- 0%	- 0%
C: Douglas			- 0 0%		- 0 0%		- 0 0%		- 0%	- 0%	- 0%
C: Benton			45 0 0%		25 0 0%		20 0 0%		- 0%	- 0%	- 0%
C: Yamhill			28 0 0%		4 0 0%		24 0 0%		- 0%	- 0%	- 0%
C: Josephine			- 0 0%		- 0 0%		- 0 0%		- 18%	- 0%	- 0%

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Divert Status Bed View

Active divert status by unit

OREGON		MSA	Region	County	State	Search by Hospital Name, Address			
OREGON		DIVERT	ALL BEDS	ADULT		PEDS		SPECIALTY	BED ATTRIBUTES
Census	Unocc	Capacity	TOTAL	ICU	NON-ICU	ICU	NON-ICU	TOTAL	NP
Total			7500 84%	600 84%	6900 84%	40 84%	12 84%	1800 84%	740 84%
C: Baker			300 92%	64 86%	536 92%	32 48%	50 48%	115 48%	25 48%
C: Benton			430 86%	73 86%	380 86%	54 86%	60 86%	150 86%	43 86%
C: Clackamas			675 84%	64 84%	550 84%	31 84%	68 84%	125 84%	51 84%
Meridian Park Medical C... Legacy Health			250 94%	24 96%	96 84%	10 84%	50 84%	65 84%	20 84%
					80 84%	11 84%	61 84%	52 84%	15 84%
					90 84%	10 84%	45 84%	55 84%	18 84%
					65 84%	9 84%	35 84%	45 84%	12 84%
C: C					200 84%	41 84%	32 84%	120 84%	25 84%
C: C					440 84%	43 84%	100 84%	135 84%	32 84%
C: C					300 84%	44 84%	24 84%	117 84%	15 84%
C: C					400 65%	0 0%	0 0%	75 0%	10 0%
C: C					650 84%	15 84%	93 84%	225 84%	102 84%
C: D					575 84%	47 84%	75 84%	198 84%	65 84%

MERIDIAN PARK MEDICAL CENTER 2 DIVERT ALERTS

ALERT	ELAPSED TIME
OTHER Other	1h 45m
LAST MODIFIED	User123 10/25/2021 09:30
DIVERT REASON	Cannot accomodate new patients.
ALERT	ELAPSED TIME
STEMI STEMI Divert	50m
LAST MODIFIED	User123 10/25/2021 10:25
DIVERT REASON	No STEMI beds available

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Expanded EMS View

OREGON CAPACITY SYSTEM									
MSA Region County State Sub-Region 1									
BEDS PPE Search by Hospital Name or Location									
OREGON ↓									
Ambulance Trauma STEMI Stroke CT Lockdown Evacuation									
R1: Western (3) (1)									
WESTSIDE MEDICAL... KAISER PERMANENTE NW			1h 34m	2h 5m	N/A	1h 13m			
OSV PROVIDENCE S... PROVIDENCE			2h 32m			N/A			
OHSU HMC OHSU HEALTH			4h 56m		N/A	N/A			
LEGACY MERIDIAN P... LEGACY HEALTH			22m	1d 3h 45m	N/A	59m			
R1: South (3)									
SUNNYSIDE MEDICA... KAISER PERMANENTE NW					N/A				
OWF PROVIDENCE ... PROVIDENCE					N/A				
OMW PROVIDENCE ... PROVIDENCE									
R1: Shore/WA (3)									
R1: North (2) (1)									
R1: Eastern (2)									
R1: Central (4) (2)									
Non-Region1 (33) (2)									

Expanded EMS View & Banner Notifications

OREGON CAPACITY SYSTEM
MSA **Region** County State Sub-Region 1

B
P
D
M
Search by Hospital Name or Location
i

Notification For: State-Wide
Subject: Evacuation

Details:
This is a statewide notification for severe flooding and evacuation of costal areas. Be advised that Emergency Preparedness and Public Health will be dispatched to coordinate patient movement with the Hospital Association staff.

Created On: 06/20/2023 15:22
Modified On: 06/20/2023 15:22
Modified By: OR_AppriseAdmin

OREGON	AMBULANCE	TRAUMA	STEMI	STROKE	CT	LOCKDOWN	EVACUATION	COMMENT
R1: Portland			2 Alert(s)					
LEGACY GOOD SAMARITAN MEDICAL CENTER LEGACY HEALTH								
DOERNBECHER CHILDREN'S HOSPITAL OHSU HEALTH								
ST JOHN MEDICAL CENTER PEACEHEALTH								
OHSU HMC OHSU HEALTH		N/A	12d 10h					
LEGACY MERIDIAN PARK MEDICAL CENTER LEGACY HEALTH		N/A						
WESTSIDE MEDICAL CENTER KAISER PERMANENTE NW		N/A	N/A					
UNITY CENTER FOR BEHAVIORAL HEALTH LEGACY HEALTH		N/A	N/A	N/A	N/A			
LEGACY MOUNT HOOD MEDICAL CENTER LEGACY HEALTH		N/A	N/A					
PROVIDENCE WILLAMETTE FALLS PROVIDENCE		N/A	N/A					
AHTM AHTM			N/A					

OHSU HMC

DIVERT TYPE	DIVERT REASON	ELAPSED TIME	LAST MODIFIED
STEMI	11h 33m	12d 10h	GE_Tuality_SuAdm 06/08/2023 04:34

Banner Guide

OREGON CAPACITY SYSTEM (OCS)

Goal

To effectively communicate important information to OCS users for the safety of our providers and the communities we serve.

Purpose

The purpose of these banner notifications is to quickly communicate an emergency and or timely information in order to mobilize expert assistance.

Method

Three user groups have been established: the OHA, all Regional Hospitals, and the Apprise/OCS teams. These groups are responsible for OCS banner notifications to the users.

Banner	Banner Description
RED	Red banner indicates earthquake, bombing, mass casualty event.
ORANGE	Orange banner indicates significant disruption to overall operations.
YELLOW	Yellow banner indicates a weather-related event that impacts operations like flooding.
BLUE	Blue banner indicates government updates like changes to public health emergency.
WHITE	White banner indicates updates from the Oregon Capacity System such as downtime.

Looking Ahead

- Oregon is a national role model
- Launch Hawaii Capacity System Nov. 15
- Anticipate additional states by Q2 through CDC
- Discharge delay automation
- ED pressure score – assigned physician
- Post acute care capacity data specifications
- Best practice planning sessions

COMING SOON

Emergency Department Pressure Visibility

The Hospital Capacity System has created a method to identify pressure in Emergency Departments (ED).

By monitoring the number of boarders, staffed beds, capacity, and dozens of other factors, our near real-time system can help reduce patient delays for admission in the ED.



A white computer keyboard is partially visible in the upper left corner, with keys like 'shift', 'control', 'option', 'command', 'Z', 'X', 'C', 'V', 'B', 'N', 'M', 'U', 'I', 'O', 'P', and 'command' visible. A black stethoscope is positioned diagonally across the center of the image, with its chest piece on the left and its earpieces extending towards the bottom right. The background is a plain, light-colored surface.

What Users are Saying

“Interest in OCS continues to be strong. New groups and individuals are wanting to be engaged and access the system for awareness purposes. As we move into the prelude to wildfire season, extreme heat, etc. the timely information within OCS is proving to be mission critical.” **Nick May** *HSPR Information Systems Coordinator*

“Having eyes on all hospital bed information is really helpful and helps us coordinate care for our patients” **Laura Morin**, *Transfer Center Nurse Manager Salem Health*

“It is a much better system (than HOSCAP/EM Resource), excellent launch to prepare us. It is great to have hospitals and EMS in one location that does not require manual entry.” **Amber McGirr**, *Director of Operations Sky Lakes Medical Center*

“The screens are easy to interpret, the preparation work and attention to detail reflects good planning. There is a marked decrease for hospital status from the field to the 911 call center too.” **Jonathan Jui** *Multnomah County EM Medical Director*

Apprise Capacity System Team



ANDY VAN PELT
CEO



ELYSSA TRAN
SENIOR VP



HELENE ANDERSON
VP CAPACITY OUTREACH



JOHN RENZEMA
DIRECTOR OF IT



EDWARD LEE
BUSINESS ANALYST



AARON QUALLS
BUSINESS ANALYST



CHRIS POTTER
SENIOR PROGRAMMER



JASON HERSHEY
VP FINANCE