

2020

Oregon POLST Registry

Annual Report

Table of Contents

Executive Summary.....	0
History: Portable Orders for Life-Sustaining Treatment (POLST) and the Oregon POLST Registry	1
Year by Year	2
Figure 1a. Cumulative POLST Forms Received and Entered by Year	2
Figure 1b. Cumulative POLST Forms Entered by Year	3
Figure 1c. Cumulative Section A Medical Orders by Form Submission Year	3
Figure 2. Emergency Call Center (ECC) Calls by Year	4
Figure 3. ECC Calls Matched by Year	4
2020 in Review	5
Form Submission.....	5
Figure 4. Monthly Receipt of Forms in 2020.....	5
POLST form submissions by authorized signers.....	5
Figure 5. Form submissions by signer type	5
Not Registry Ready (NRR) Forms.....	6
Figure 6. Sender Information and NRR Form Resolution.....	6
Table 1. NRR Sender and Resolution Rates by Year	6
POLST Registry Hotline.....	7
Figure 7. ECC Calls Received by Month.....	7
Figure 8. ECC Caller Type by Month.....	8
Figure 9. ECC Calls Received by Month (match rates)	8
OPR Business Office	9
Figure 10. 2020 by the Numbers.....	9
Utilization.....	10
Figure 11. Calls (Business Office) Received by Month	10
Figure 12. Non-Urgent (Business Office) POLST Form Requests by Month.....	10
Volunteers.....	11
Figure 13: Packets Prepared	11
Education and Outreach	12
Summary	12
Table 2. OPR Publicly Available Webinars:.....	12
New Educational Materials for Registrants	12
OPR Public Website.....	12
Interoperability, Accessibility and New Services: OPR Launches New Platform	13

Figure 14. Example of New Sender Quality Metrics Reports.....	13
OPR Research Contributions.....	14
2020 Published Research.....	14
2020 Oregon POLST Registry Staff and Partners	14
Glossary.....	15
Table 3. Glossary of terms.....	15
Workload and Call Profiles.....	16
Table 4. 2020 Workload Profile.....	16
Table 5. 2020 Call Profile	16
Maps.....	17
Figure 15. New Registrants by County 2020 Map.....	17
Figure 16. POLST Registry Hotline (ECC) Calls by County 2020.....	18

Executive Summary

2020 was a year unlike any other with unanticipated changes to every aspect of the Oregon POLST Registry (OPR) operation. In a major milestone, The Registry has entered **almost half a million forms** to date! At the same time, the world shut down with COVID-19 restrictions and OPR was faced with the challenge of transiting our team to remote working. We also observed challenges in healthcare's transition to telehealth as in-person medical care decreased in 2020. This likely influenced a decrease in POLST form submission starting in March of 2020 (Figure 4). However, the decrease in POLST submission was also influenced by an ongoing initiative spearheaded by the Oregon POLST Program, Coalition, and Quality Committee. Through this collaboration, 2020 saw a 10% decrease in the inappropriate submission of "Attempt CPR" POLST forms since 2017 (demonstrated in fig. 1c).

2020 revealed another finding, the importance of access to POLST orders during the pandemic. While there was a decrease in POLST form submission in 2020, requests for POLST orders were the highest ever. Calls to the POLST Hotline by EMS and Emergency Rooms were more than any prior year. An unprecedented **16,000 calls** have been made to the POLST hotline during a crisis over the past 11 years. Additionally, the OPR business office had more non-urgent POLST form requests and sent out more letters to our registrants of all time.

During a year of challenges, OPR also had our fair share of celebrations. After months of planning and testing, we launched our new Registry database platform in October 2020. In brief, the Registry uses upgraded technology to make POLST form entry more efficient and will include new POLST accessibility for providers and EMS personnel in 2021. A newly available service provides automated POLST quality metrics for healthcare systems. Details are available on page 13 of this report.

This year, more than any other, highlights that the success of the Oregon POLST Registry is only possible with the partnerships of our collaborators and funders. We are grateful to the Oregon Health Authority for its continued support. Additionally, we'd like to thank those who help make the Registry and our services possible: the OHSU Department of Emergency Medicine, the OHSU Emergency Communication Center, the Oregon POLST Program, Beyond Lucid Technologies, and the thousands of health care professionals who help to expand access to patient wishes for end of life treatment by submitting POLST forms to the Registry.

Please enjoy our 2020 Annual Report.

Regards,



Abby L. Dotson, Ph.D.
Director, Oregon POLST Registry
Research Assistant Professor, OHSU Emergency Medicine

History: Portable Orders for Life-Sustaining Treatment (POLST) and the Oregon POLST Registry

In 1990, a task force was convened by the Center for Ethics in Health Care at OHSU with representatives from stakeholder health care organizations to develop a new method to translate patient preferences into actionable medical orders that follow patients across care settings. This led to the development of Portable Orders for Life-Sustaining Treatment (POLST) form, and the POLST program. Since then POLST has become the standard of care for portable medical orders in most states, and programs are being developed throughout the country and internationally.

The Oregon POLST Registry project began in response to a need expressed by Emergency Medical Services (EMS) to access POLST orders when they arrived on the scene of a medical emergency, and could not immediately locate the original POLST form. The development of the Registry programming and pilot systems were funded by a grant from The Greenwall Foundation, along with additional private philanthropy. The project was a collaboration of the Oregon POLST Coalition, the OHSU Center for Ethics in Health Care, and the OHSU Department of Emergency Medicine. The legislature created and funded the Oregon POLST Registry effective July 1, 2009, and the Registry began statewide operation on December 3, 2009. The Registry is a public health registry within the Oregon Health Authority and operated through a contract with the OHSU Department of Emergency Medicine. The Registry office accepts and receives POLST forms from across all of Oregon.

The Registry's goal remains to connect health care professionals with patient treatment preferences as portable medical orders whenever and wherever they are needed.

Year by Year

Form submission (Figure 1a) and POLST form entry (Figure 1b) decreased due to COVID-19 restrictions and successful educational efforts to reduce the inappropriate use of POLST forms for healthy individuals. A steady decrease in number and percent of “Attempt CPR” medical orders is seen from 2018-2020 (Figure 1c). Registry utilization (Figure 2), match rates (Figure 3), and non-urgent requests for POLST forms continued to increase despite the decrease in form submission.

Figure 1a. Cumulative POLST Forms Received and Entered by Year

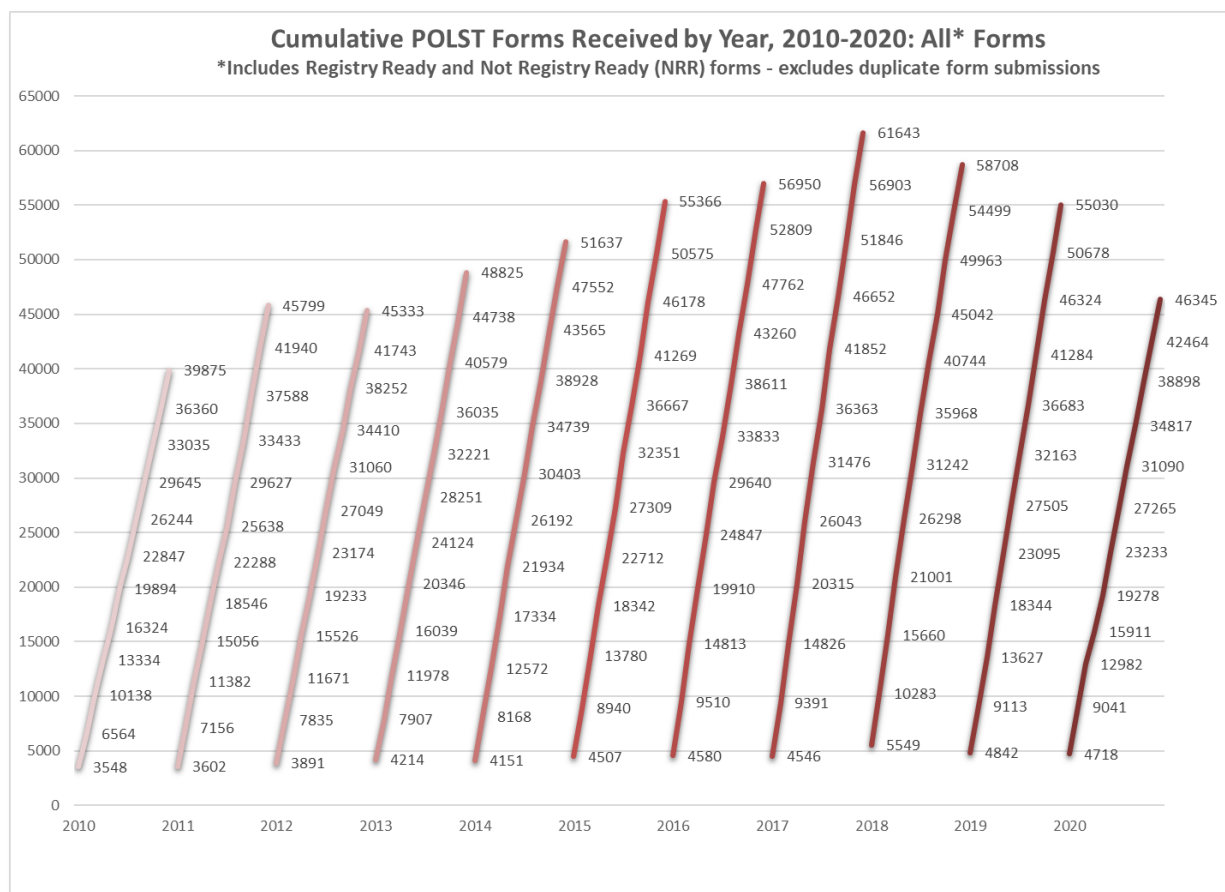
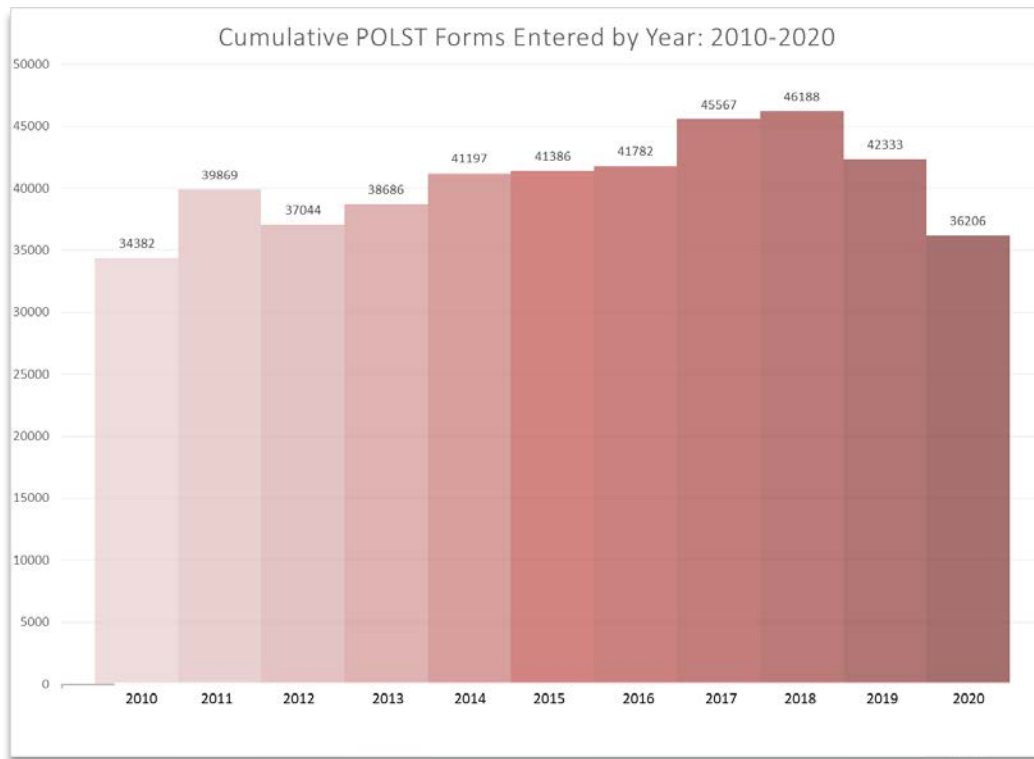


Figure 1b. Cumulative POLST Forms Entered by Year



*Note that forms entered in 2020 does NOT equal registry ready forms received in 2020 (Figure 4). Some forms entered in January of 2020 were received in December of 2019.

Figure 1c. Cumulative Section A Medical Orders by Form Submission Year

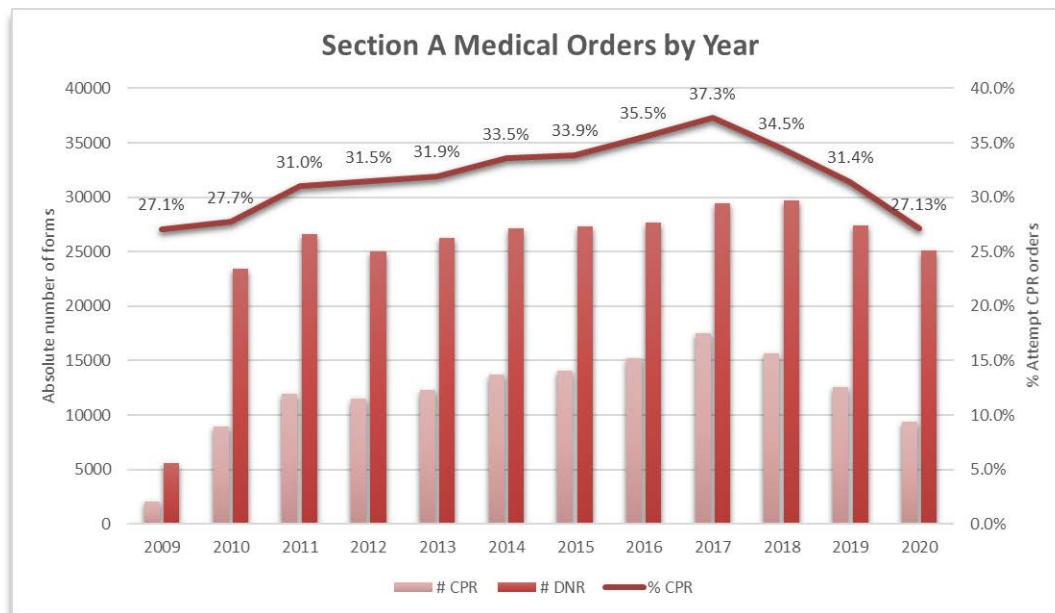


Figure 2. Emergency Call Center (ECC) Calls by Year

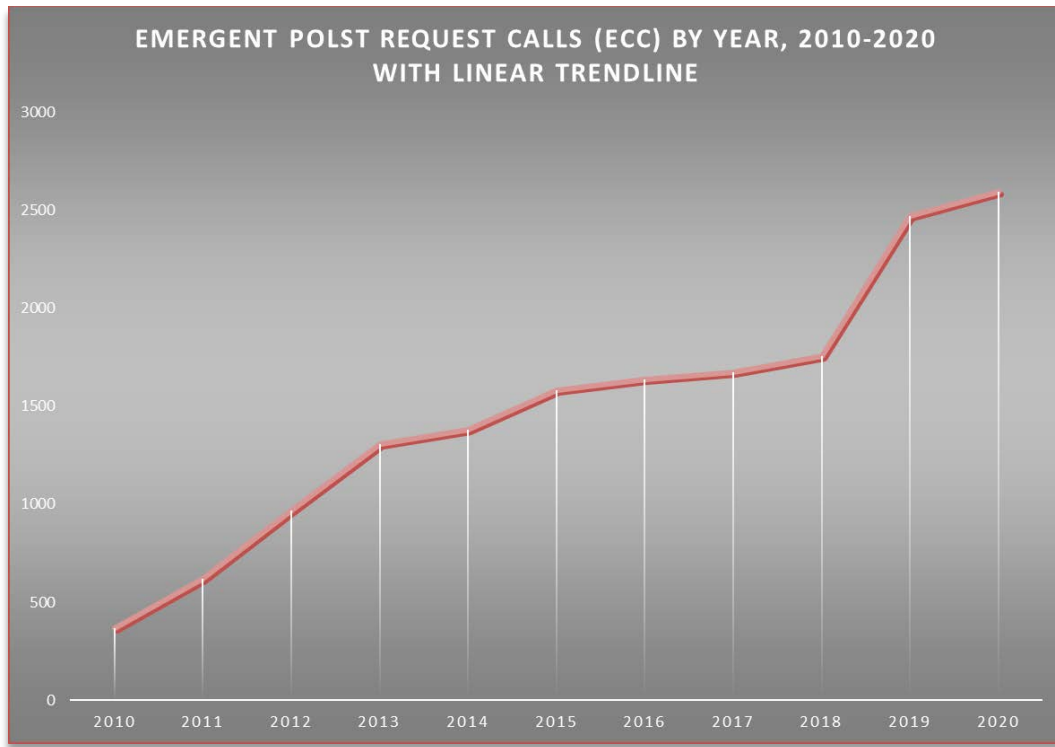
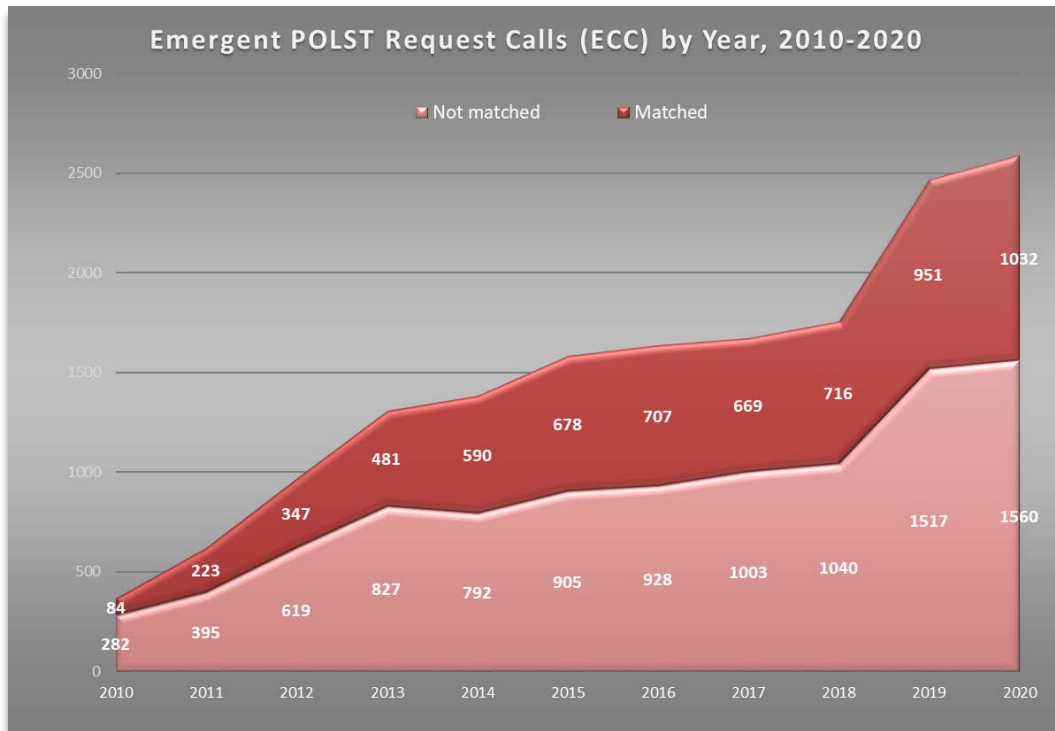


Figure 3. ECC Calls Matched by Year

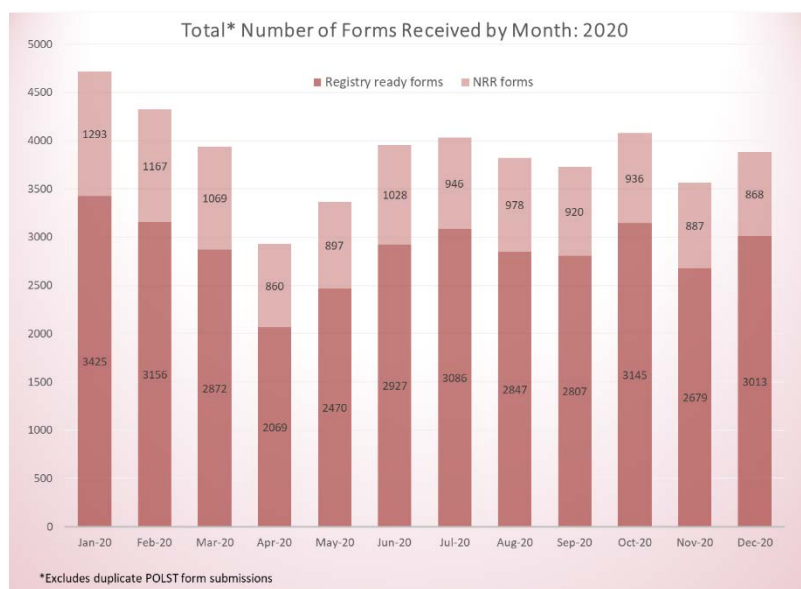


2020 in Review

Form Submission

In 2020 the Registry received 46,345 POLST forms via fax, eFax, mail, electronic secure files transfer (eSubmit), direct secure messaging (Figure 4). Of the forms received, 34,496 (74.4%) were Registry Ready while 11,849 (25.6%) were Not Registry Ready. Electronic POLST or ePOLST submission to Registry continued to increase in 2020. Oregon now has 6 healthcare systems with the capability to complete and submit ePOLSTs to OPR.

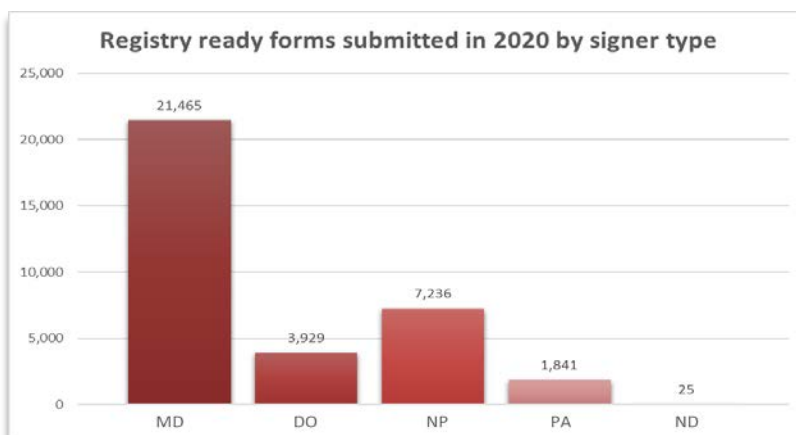
Figure 4. Monthly Receipt of Forms in 2020



POLST form submissions by authorized signers

Figure 5 illustrates the number of registry ready forms submitted to the Registry by signer type in 2020. MDs remain the highest volume of forms signed at 62% of all forms followed by NPs (21%), DOs (11%) and PAs (5%). ND submissions represented less than one percent of POLST form signers.

Figure 5. Form submissions by signer type

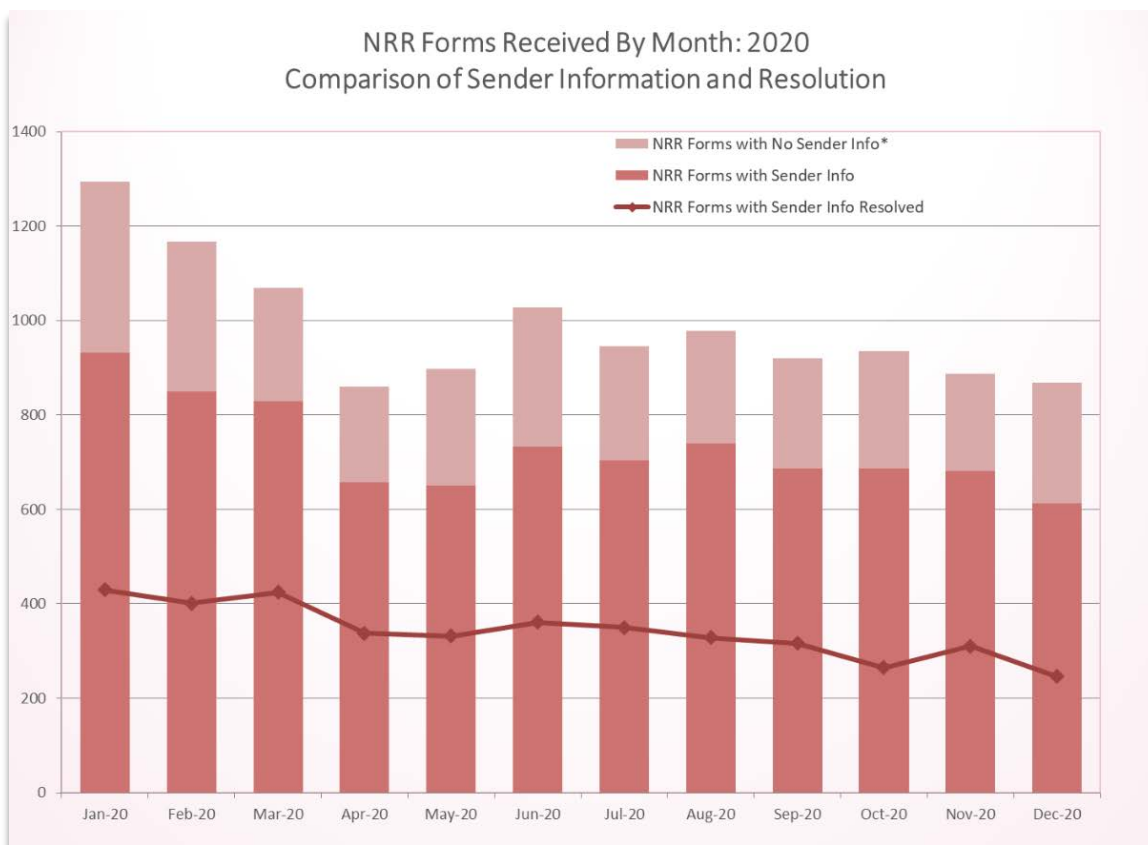


Not Registry Ready (NRR) Forms

In 2020, the Registry received 11,849 forms that were deemed NRR (25.6% of all forms). Before processing, these NRR forms are separated into two categories: those with coversheets and those without. Of the NRR forms received, 74% included a coversheet and were able to be returned for correction, with a resolution rate (return of a valid Registry-ready form) of 47%. Those with coversheets were most often deemed NRR due to missing or illegible information in one or more required fields. About 26% were submitted with no coversheet. Without a coversheet, no follow-up can be performed and the forms remain NRR and unable to be entered (Figure 6).

With continual outreach, education and available quality metrics, OPR has seen a significant rise in POLST forms that include sender, leading to the highest NRR resolution rate over the previous years (Table 1). This ensures that more POLST orders will be available when they are critically needed.

Figure 6. Sender Information and NRR Form Resolution



& Data as of 2/22/2021

*Without sender information NRR forms cannot be sent back for resolution and subsequent entry into the Registry

Table 1. NRR Sender and Resolution Rates by Year

	2014	2015	2016	2017	2018	2019	2020
Percent of NRR forms with sender information included	53	59	64	65	63	68	74
Percent of NRR forms with sender information resolved	40	44	41	36	37	38	47

POLST Registry Hotline

In 2020 the POLST Registry Hotline, operated by the OHSU Emergency Communication Center (ECC), received 2,592 emergent calls (Figure 7). This represented the highest volume of emergency POLST requests to date. The median call time was under one minute (54 seconds). Emergency departments continue to be highest volume caller type, followed by EMS (Figure 8). The match rate for ECC calls averaged about 40% (Figure 9).

Figure 7. ECC Calls Received by Month

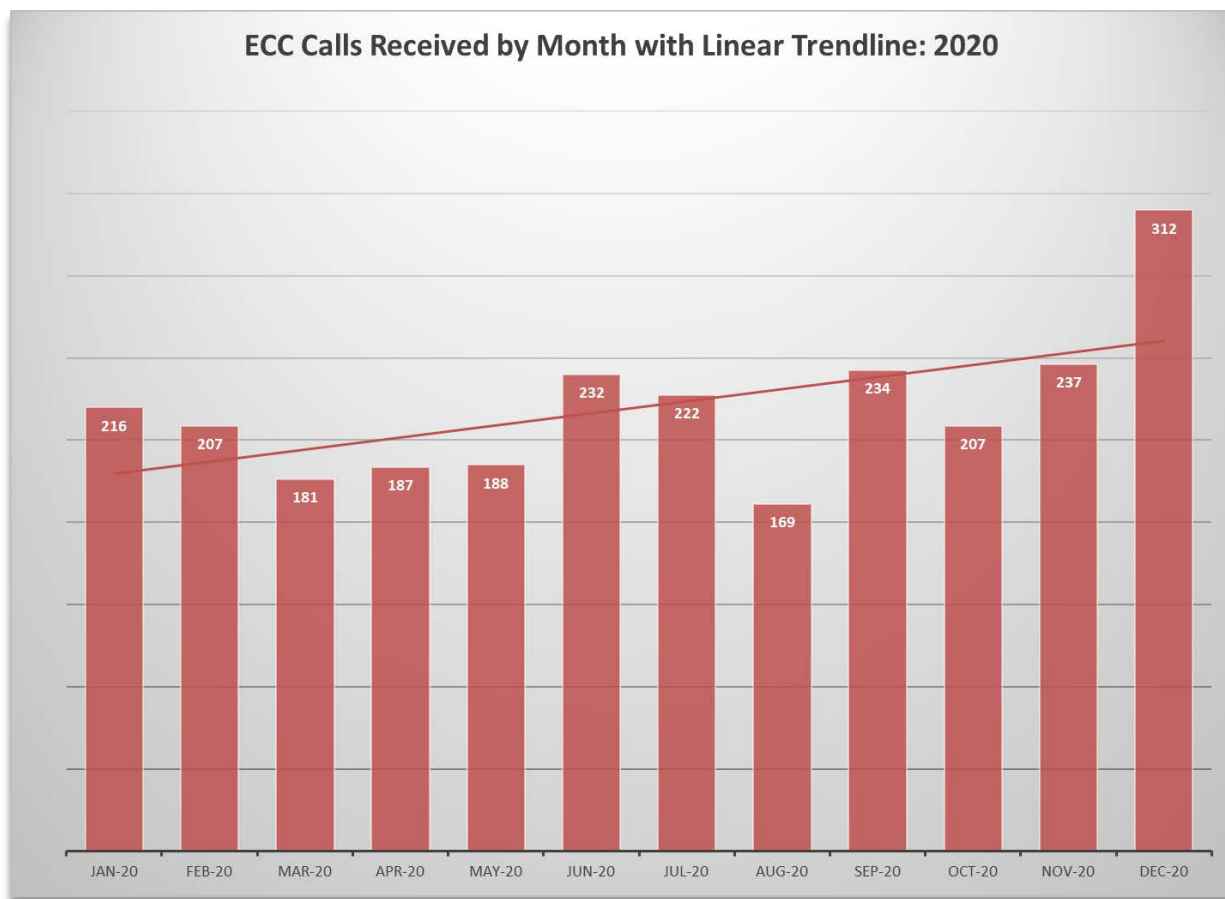


Figure 8. ECC Caller Type by Month

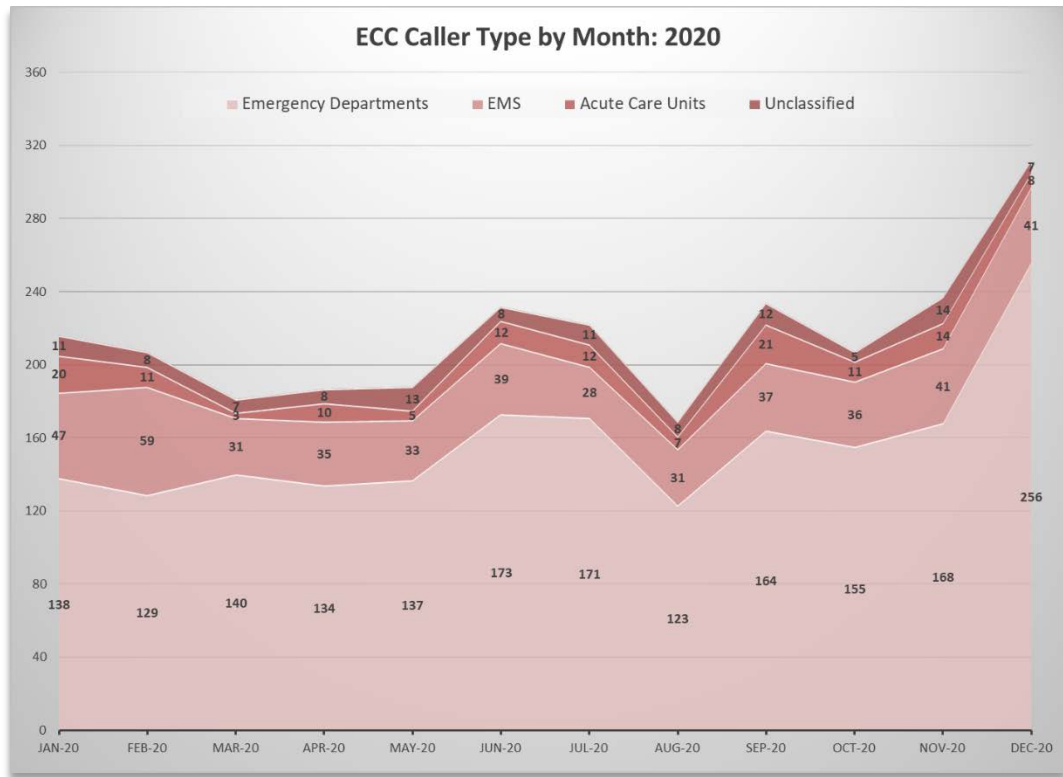
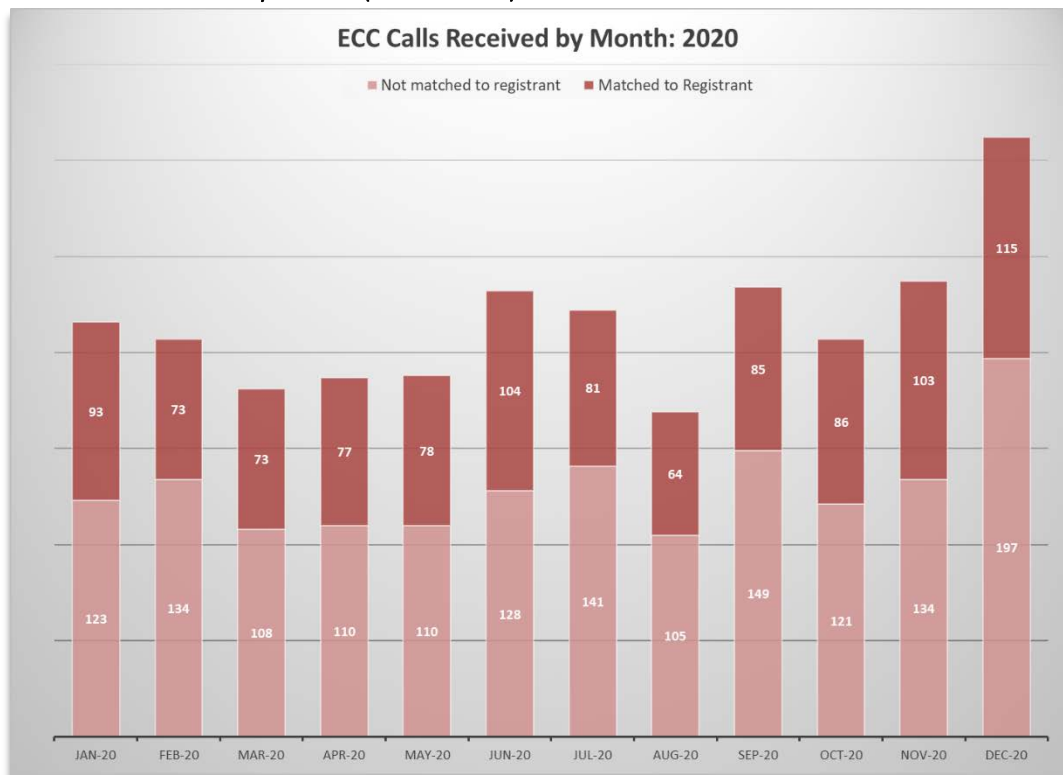


Figure 9. ECC Calls Received by Month (match rates)

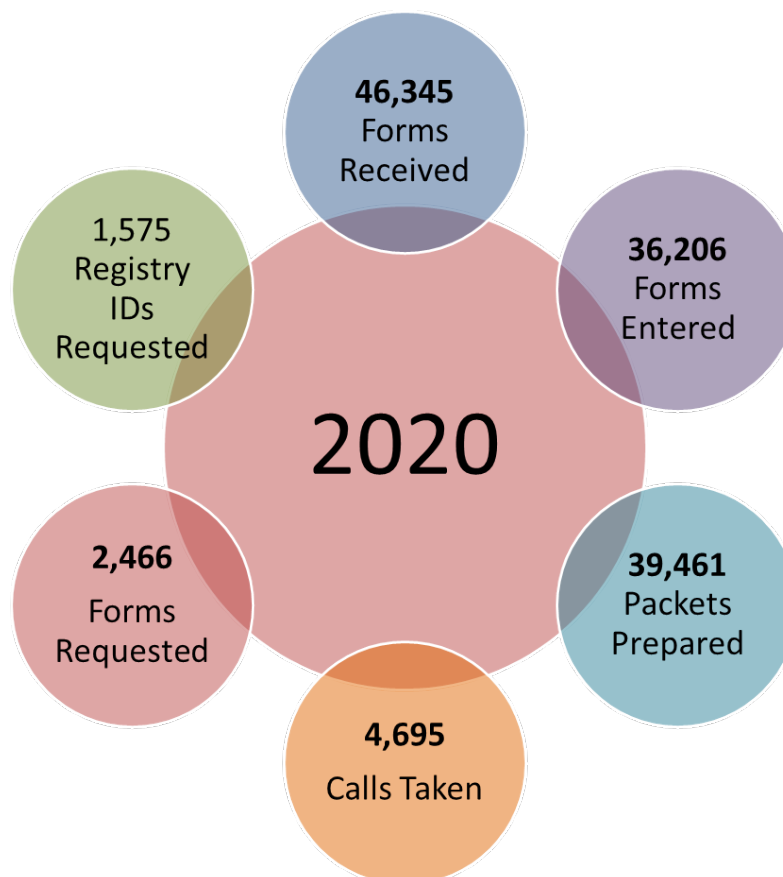


OPR Business Office

The Registry's business office can be described as the hub of operations: it is where all POLST forms are received and processed, where all registrant packets are printed, prepared and mailed, and where thousands of calls for non-urgent POLST form requests and general information are taken. The business office is staffed with a small interdependent team that processes, on average, over 4,000 POLST forms each month (with the exception of April, due to COVID-19 restrictions). Despite a drop in POLST form submissions with the pandemic, the OPR team sent out more packets, had more non-urgent POLST form requests and Registry ID request than in 2019, illustrating the increased demand to access POLST information.

Figure 10 illustrates the volume of work performed by this highly efficient group.

Figure 10. 2020 by the Numbers



Utilization

In 2020, the OPR business office fielded over 4,600 calls with 1,945 calls for non-urgent POLST form requests (an increase from 1,877 calls in 2019). OPR Business office calls are in addition to those received through the POLST Registry Hotline. 2020 saw continual steady utilization (Figure 11). A total of 2,466 individual forms were requested through the business office with a clear spike in April, the beginning of the COVID-19 pandemic (Figure 12).

Figure 11. Calls (Business Office) Received by Month

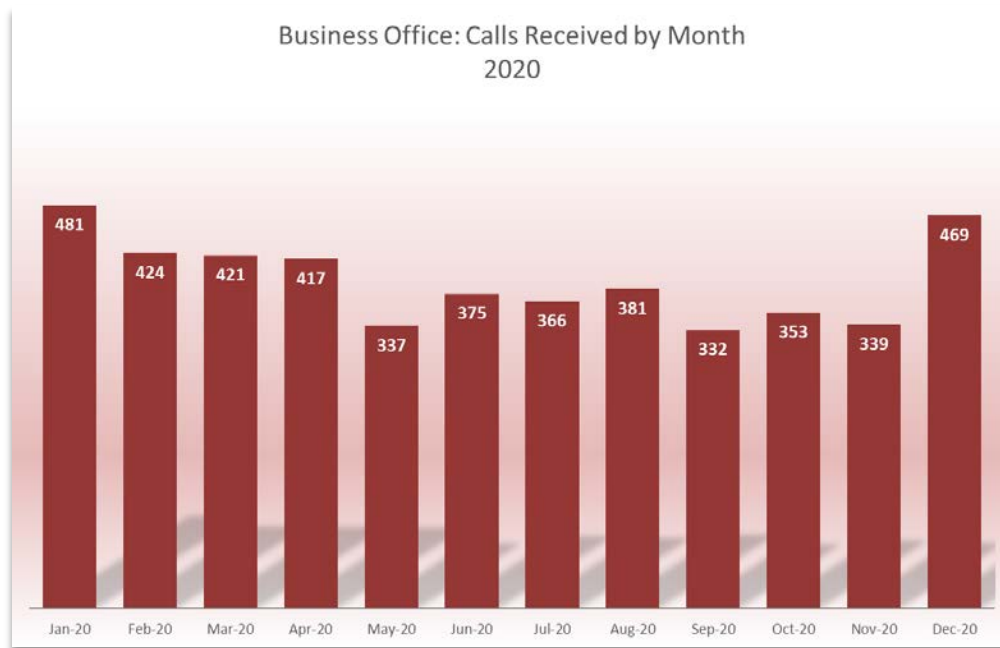
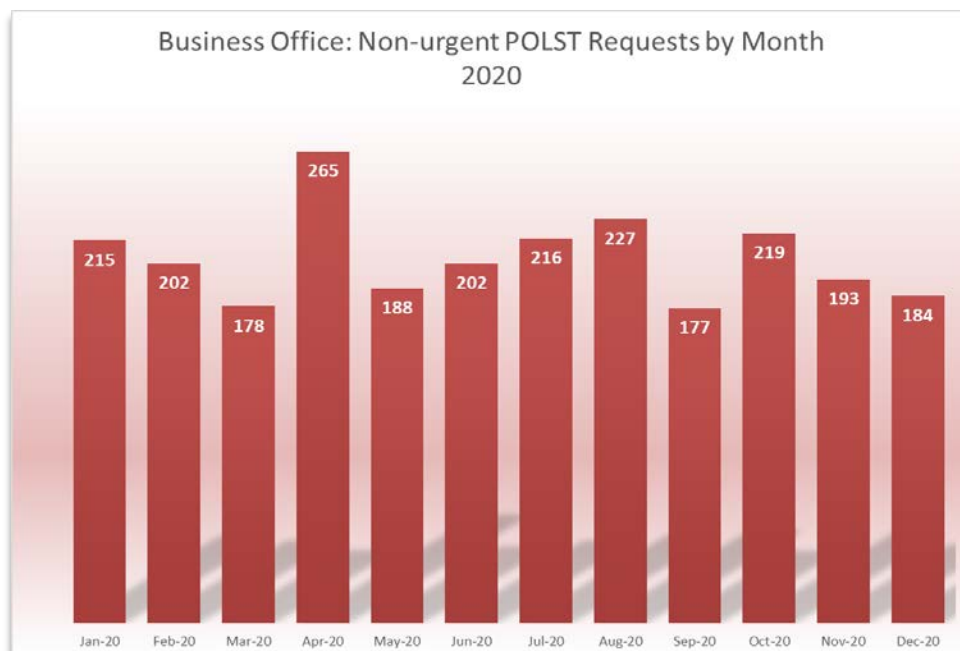


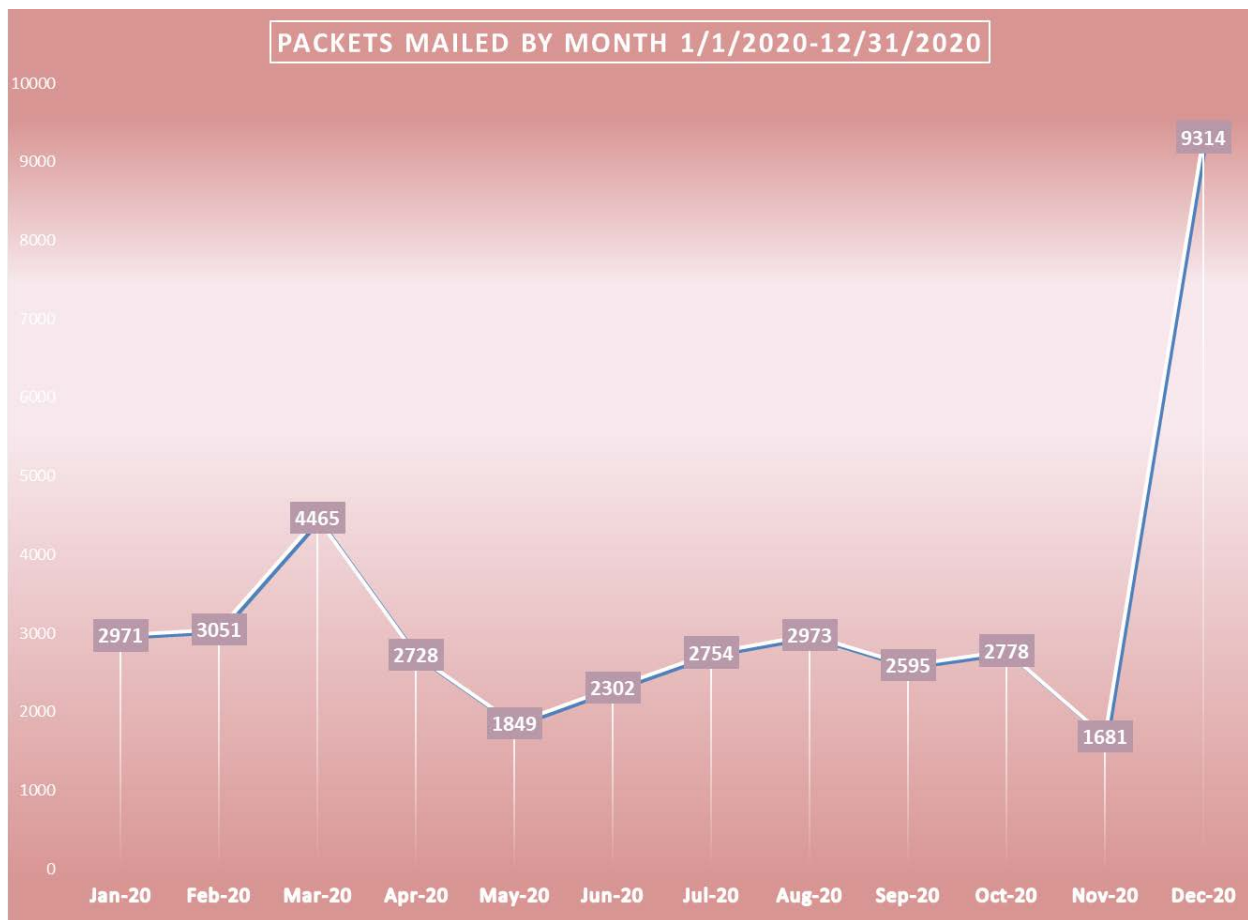
Figure 12. Non-Urgent (Business Office) POLST Form Requests by Month



Volunteers

Unfortunately, the Registry had to suspend our volunteer program during the 2020 pandemic. Packets and letters usually prepared by volunteers were done by OPR staff. Over the course of the year, the OPR team prepared and mailed 39,461 letters (Figure 13), 2,000 more than in 2019. Registry confirmation packets include a letter confirming the registrant's information and medical orders, a Registry ID magnet and a set of three Registry ID stickers. The Registry team also sends out notifications when a registrant updates their POLST orders or has a form that is about to expire from the Registry. The spike in letters mailed in December of 2020 is reflective of a one-time notification to all registrants with forms that were completed more than 10 years ago and will be archived from the Registry.

Figure 13: Packets Prepared



Interested in volunteering or know someone who is? Information can be found on the Registry website at: www.orpolstregistry.org/contribute

Education and Outreach

Summary

In today's changing healthcare system, full of new and innovative technologies, products, and techniques, the work of educators is never done. We're continually collaborating with the Oregon POLST Program and the Oregon POLST Coalition to provide invaluable assistance in educating health care professionals across the state. New challenges in 2020 moved much of our outreach to a virtual setting. We've developed a standard set of recorded training materials for EMS, healthcare provider and medical records offices. Contact polstreg@ohsu.edu for access to those resources.

We're also working with POLST leaders across the country and the Office of the National Coordinator for Health IT to develop a set of best practices and recommendations to help move POLST registry technology and accessibility forward.

Table 2. OPR Publicly Available Webinars:

Event Date	Event name	Presenters	views
1/14/2020	POLST: What's new in Oregon Available here	Abby Dotson and Susan Tolle	Viewed 467 times in 2020


New Educational Materials for Registrants

In a collaboration with the OHSU Center for Ethics in Health Care, OPR is now sending an informational [POLST brochure](#) to all new registrants in their confirmation packet. It contains information about the purpose of your POLST form and the POLST Registry, patent stories, how a POLST differs from an advance directive and who to contact for additional questions. The brochure provides information in lay language about the types of treatments that will be provided based on their POLST orders. This brochure and a copy of their POLST orders serve both educational and quality assurance functions in confirming patient preferences. OPR would like to thank the OHSU Center for Ethics in Health Care for funding the distribution of the brochures.

OPR Public Website

The Registry's public website (orpolstregistry.org) saw incredible utilization in 2020. Created in 2012 and maintained by the Registry's Director, the website hosts information for individuals, health care professionals, health information management teams, as well as helpful documents or processes for POLST form submission.

OREGON
POLST
PORTABLE ORDERS FOR LIFE-SUSTAINING TREATMENT®



What is a POLST?
How can it help with my medical care?

As people with a serious illness get sicker, it is very important to:

- Think about treatment they want and do not want
- Tell their doctor* what treatments they want and do not want if they are not able to speak for themselves
- Have their doctor turn their treatment wishes into a medical order
- Know that they can change their mind at any time with their doctor

POLST is the way to do this.

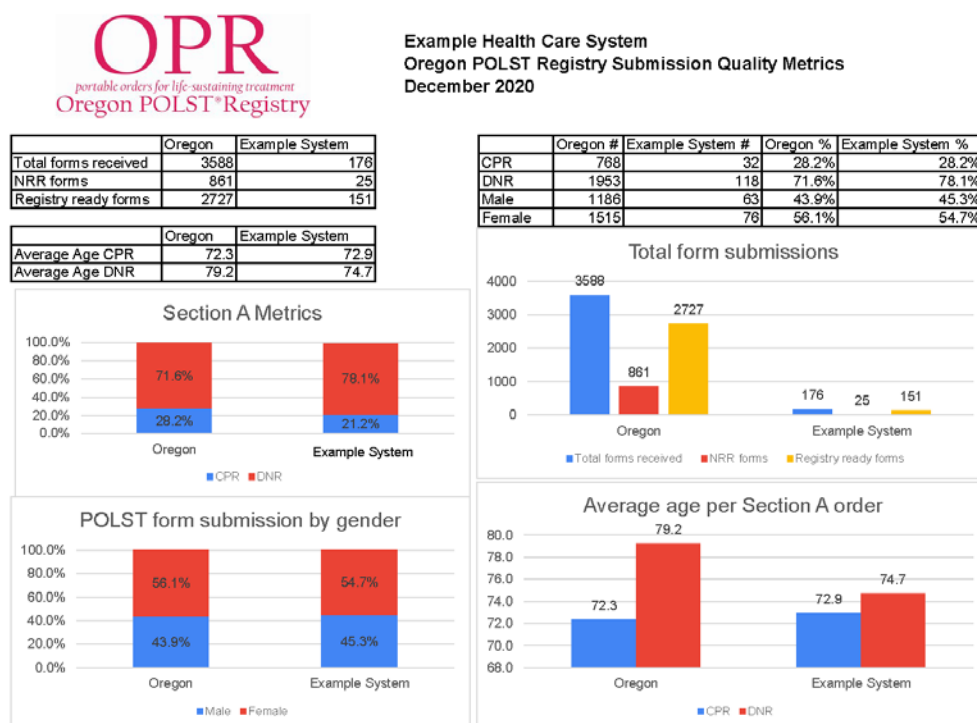
What is a POLST?
Portable Orders for Life-Sustaining Treatment is a form that turns patients' wishes for treatment into **medical orders**.

POLST is for people with serious illness such as advanced heart or lung disease, or cancer that has spread. It is also for people who are older and frail and might not want all treatment.

Interoperability, Accessibility and New Services: OPR Launches New Platform

COVID-19 emphasized how immediate access to POLST medical orders is critical, now more than ever. OPR began the process of rebuilding our technology in 2020, leading to the exciting launch of the new POLST platform in October. New features include more OCR technology to allow for more efficient ePOLST form entry to the database and automated data reporting, including quality metrics for high volume senders (Figure 14). The quality reports have been met with overwhelming excitement and appreciation as healthcare systems now have more control over their own internal POLST form quality control. The new POLST Registry platform also includes the external access for providers to POLST forms in the database and the ability to generate electronic POLST forms. Access to the provider portal will be launched in Q2 of 2021 along with education and support for users. EMS ePCR POLST technology is in development with anticipated launch in Q3 of 2021, following stakeholder feedback and beta testing. Our goal with these technology advances is to increase POLST form accessibility and better serve Oregonians who want to have their emergency-related treatment preferences known.

Figure 14. Example of New Sender Quality Metrics Reports



OPR Research Contributions

The Oregon POLST Registry provides the opportunity to study many elements of POLST, including completion of forms, orders, changes in orders over time, and utilization of the Registry system. In 2020, a major POLST research study was completed that highlights POLST concordance of care and resource utilization in Oregon. Additional studies examining POLST use, outcomes and future directions of POLST technology are currently underway. OPR also collaborated with researchers to submit grants to study POLST use during the COVID-19 pandemic.

The Registry team supports researchers by providing data after IRB reviews (by both the Oregon Health Authority IRB and a researcher's home institution) and OHA-approved Data Request form. For more information about using Registry data for research, please email polstreg@ohsu.edu.

2020 Published Research

End-of-life orders, resource utilization and costs among injured older adults requiring emergency services. Lin AL, Newgard C, Caughey AB, Malveau S, Dotson A, Eckstrom E. J Gerontol A Biol Sci Med Sci. 2020 Sep 10:glaa230. doi: 10.1093/gerona/glaa230. Online ahead of print. PMID: 32914190

2020 Oregon POLST Registry Staff and Partners

Volunteers: Our volunteer program was on hold during 2020 due to the pandemic.

Data Entry Specialists: Sylvie Huhn, Raya Johnson, Lacey Novak

Operations Manager: Judit Takacs

Technology Manager: Melissa Wong

Director: Abby Dotson, PhD

State EMS & Trauma Systems Medical Director: David Lehrfeld, MD

State HCRQI Section Manager, EMS and Trauma Systems Director: Dana Selover, MD, MPH

OHA Director: Patrick Allen

Oregon Center for Health Statistics: Jennifer Woodward, Marsha Trump

Glossary

Table 3. Glossary of terms

Terms in this report	Definition
Registry Forms or Registry Registrants:	Forms or registrants recorded in the Registry only, not all those received by the Registry office.
Not Registry Ready (NRR):	Forms received that are missing information to make them eligible for the Registry.
Active Forms:	Forms in the Registry that are ready to be searched.
Archived Forms:	Forms in the Registry that are no longer valid. These have been removed from searches.
Pending Forms:	Valid forms in the Registry that have been entered but have not been "activated" (double-checked to ensure accuracy, the last step before a form becomes searchable).
Active Registrants:	Registrants with searchable, active forms who are not known to be deceased and have not opted out.
Archived Registrants:	Registrants known to be deceased or those who have opted out of the Registry. Forms from these registrants are not searchable for healthcare professionals.
Updated Forms:	An updated form is one received for a patient already in the Registry, but with a more recent date.
Forms Received:	All forms received by the Registry, including NRR but excluding duplicate submissions
Valid Form Follow-up (VFF):	Valid form follow-up. This type of follow-up is used to clarify optional information that is too dark, too light, or illegible
Forms Created/Entered:	All forms entered into the Registry in a given timeframe but not necessarily searchable for healthcare professionals. This may include forms received in the previous month.
ECC Call Time Outliers:	Calls excluded from this data report due to excessive length. These calls are due to additional provider consult, online medical control requests, or operator error with call timer.

Workload and Call Profiles

Table 4. 2020 Workload Profile

Registrants			
	Created	24,972	343,335
	Archived	11,652	113,742
Forms		2020	Total overall
	Received	46,018	572,767
	Entered	36,206	450,666
NRR Forms		2020	Overall
	NRR forms received	11,849	122,180
	NRR forms received no sender	3,087	73.95%
	NRR forms with sender information	8,762	% of 2020 NRR w/sender information resolved
	Valid forms received	4,100	46.8%
Time to Form Entry from Date of Receipt		2020	
	Mean	5.78 days	
	Median	4 days	

Table 5. 2020 Call Profile

POLST Registry Hotline Data	2020	Total Overall	
Calls*	2,592	16,298	% of Calls with a Match
Matches	1,032	6,481	39.77%

*Includes only calls not canceled

Caller Type	2020	Total Overall	% of all Calls
EMS	458	3,710	22.76%
Emergency Department	1888	9,765	59.92%
Hospital Acute Care	134	2,239	13.74%
Other/Not Classified**	112	640	3.93%

**While all calls are now classified, this was not standard at outset.

Length of Call^	2020	Overall
Mean	62.45 sec	60.64 sec
Median	54.0 sec	51.72 sec
Max Length	209.9 sec	209.9 sec

^Excludes ECC call time outliers

Business Office Call Data *	2020	Total Overall	% of all Calls
General Calls	2,750	30,251	67.38%
Form Requests	1,945	14,648	32.62%
All calls	4,695	44,899	

*Enhanced tracking of back office calls and form requests began 4/2011

Non-Urgent POLST Requests *	2020	Total Overall	
Forms Requested	2,466	22,743	% of all Requests
Matches	1,171	10,310	45.33%

Maps

Figure 15. New Registrants by County 2020 Map

The map below illustrates the location of persons who registered their first POLST form with the Registry in 2020 and provided the Registry with address information (address information is optional). New Registrants whose forms did not include address information, or who reside outside the state of Oregon, were not able to be mapped. Address information is pertinent for the Registry and allows for the mailing of a confirmation packet to the Registrant.

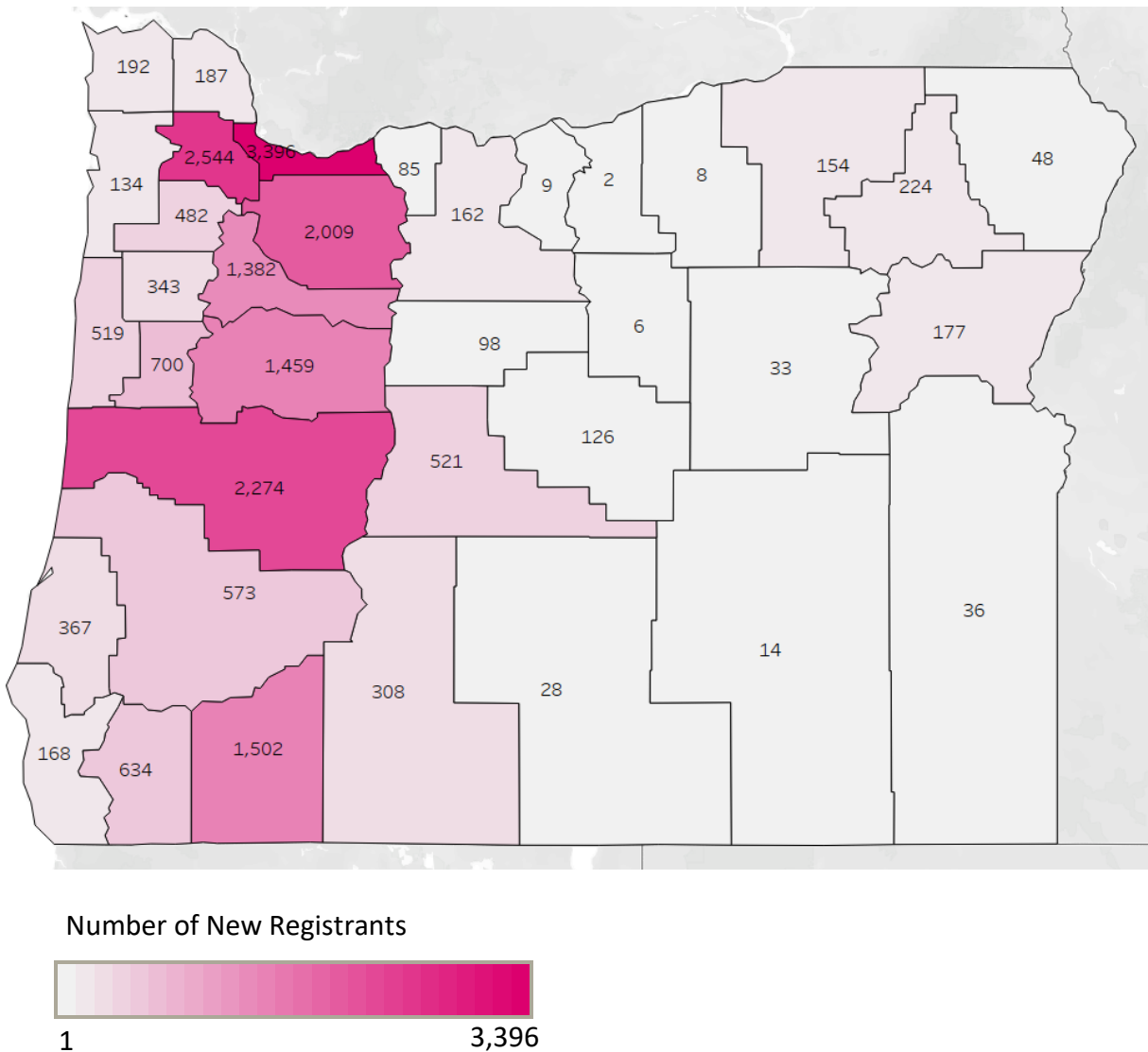
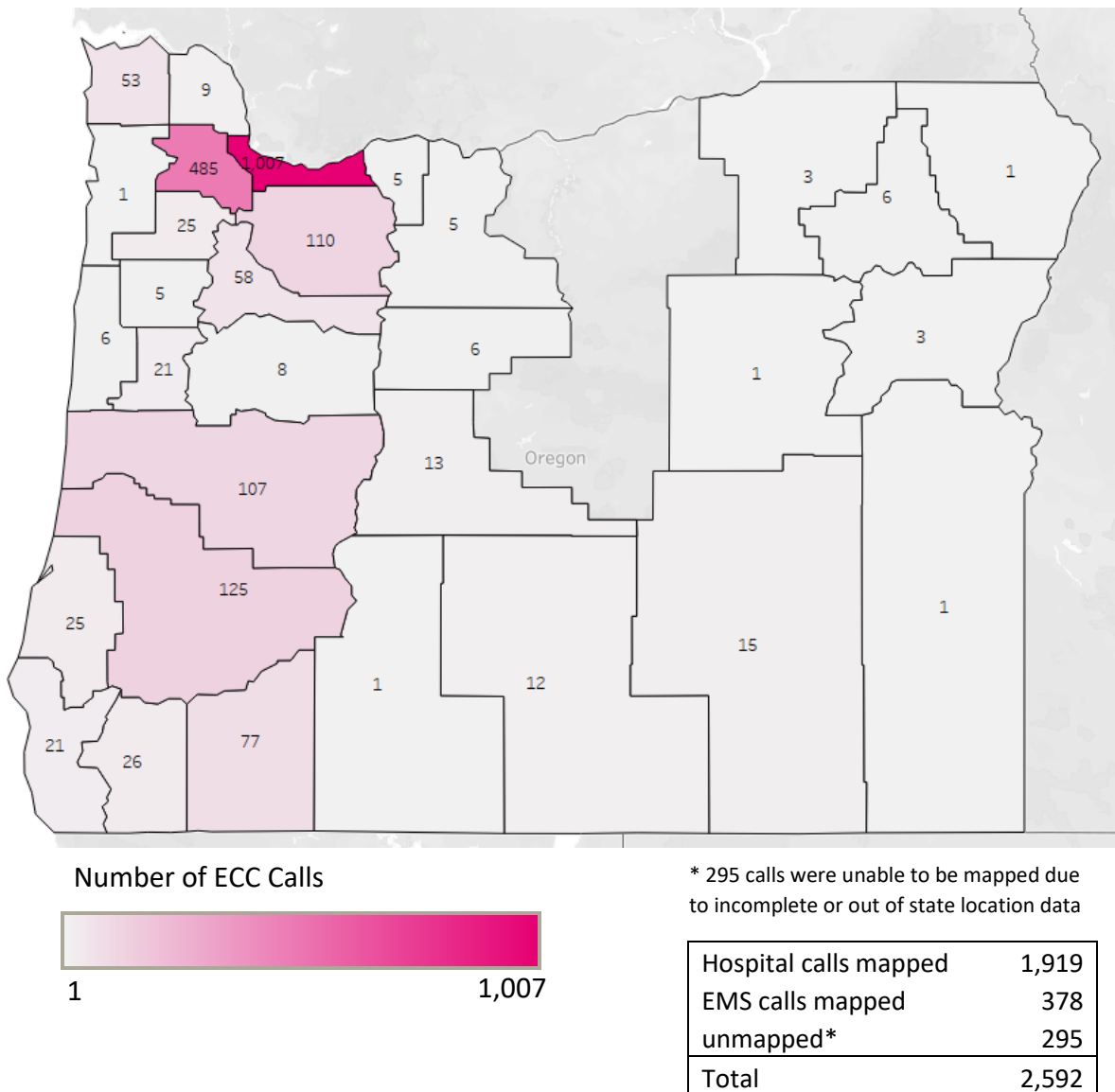


Figure 16. POLST Registry Hotline (ECC) Calls by County 2020

This map highlights the increased utilization of the Registry especially along the I-5 corridor. It is important to note that three counties (Gilliam, Sherman, and Wheeler) near the Oregon-Washington border are without an area hospital.



OREGON POLST REGISTRY

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