HIV Early Intervention Services & Outreach in Oregon

Year 2 Annual Report
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Background: Early Intervention Services & Outreach (EISO) in Oregon

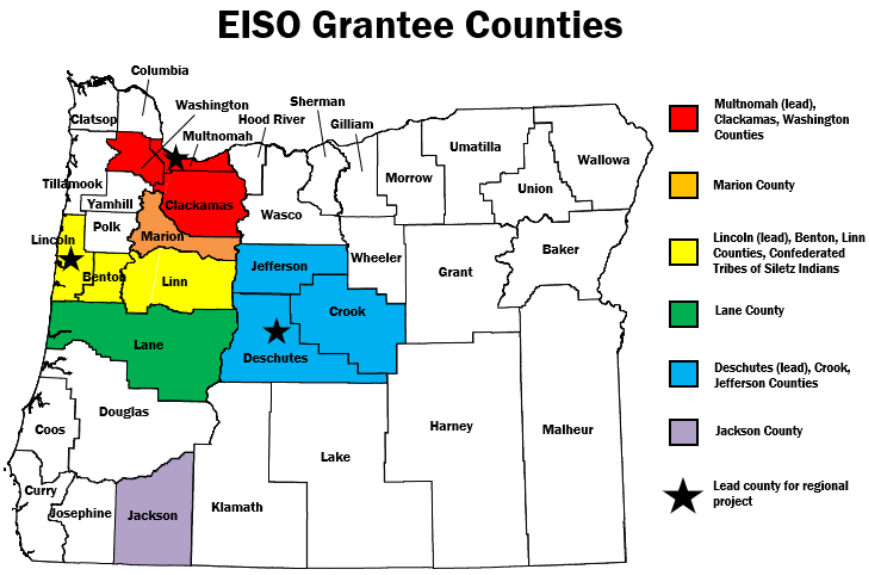
In January 2018, the Oregon Health Authority awarded contracts to six local public health authorities (LPHAs) to identify, treat, and prevent HIV and sexually transmitted infections (STI) as part of End HIV Oregon, the statewide effort to eliminate new HIV infections. HIV early intervention services & outreach (EISO services) are provided in partnership with community-based agencies and tribal nations in areas of Oregon most impacted by HIV, syphilis, and gonorrhea.

EISO provides time-limited, intensive services for people diagnosed with HIV, as well as HIV testing for people at risk, including those diagnosed with early syphilis (defined for EISO as primary and secondary syphilis) and rectal gonorrhea, to link them and their partners quickly to prevention and treatment services. EISO also supports the reengagement of people previously diagnosed with HIV who are not accessing the medical and social services needed to achieve viral suppression.

EISO funds support public health modernization in Oregon. EISO ensures adequate resources for HIV/STI prevention and treatment and fosters new approaches to infectious disease prevention, including partnerships with community-based organizations and a focus on populations experiencing disparities.

EISO Awards: 12 Counties, 1 Tribal Nation Funded for Five Years

Six LPHAs, representing 12 Oregon counties and the Confederated Tribes of Siletz Indians, received EISO funding; primary grantees for LPHA partnerships are indicated below. Contracts were first awarded in January 2018 and are renewable for up to five years. OHA allocated $20 million dollars to support EISO over the five-year period.



How EISO Aims to Improve Sexual Health in Oregon

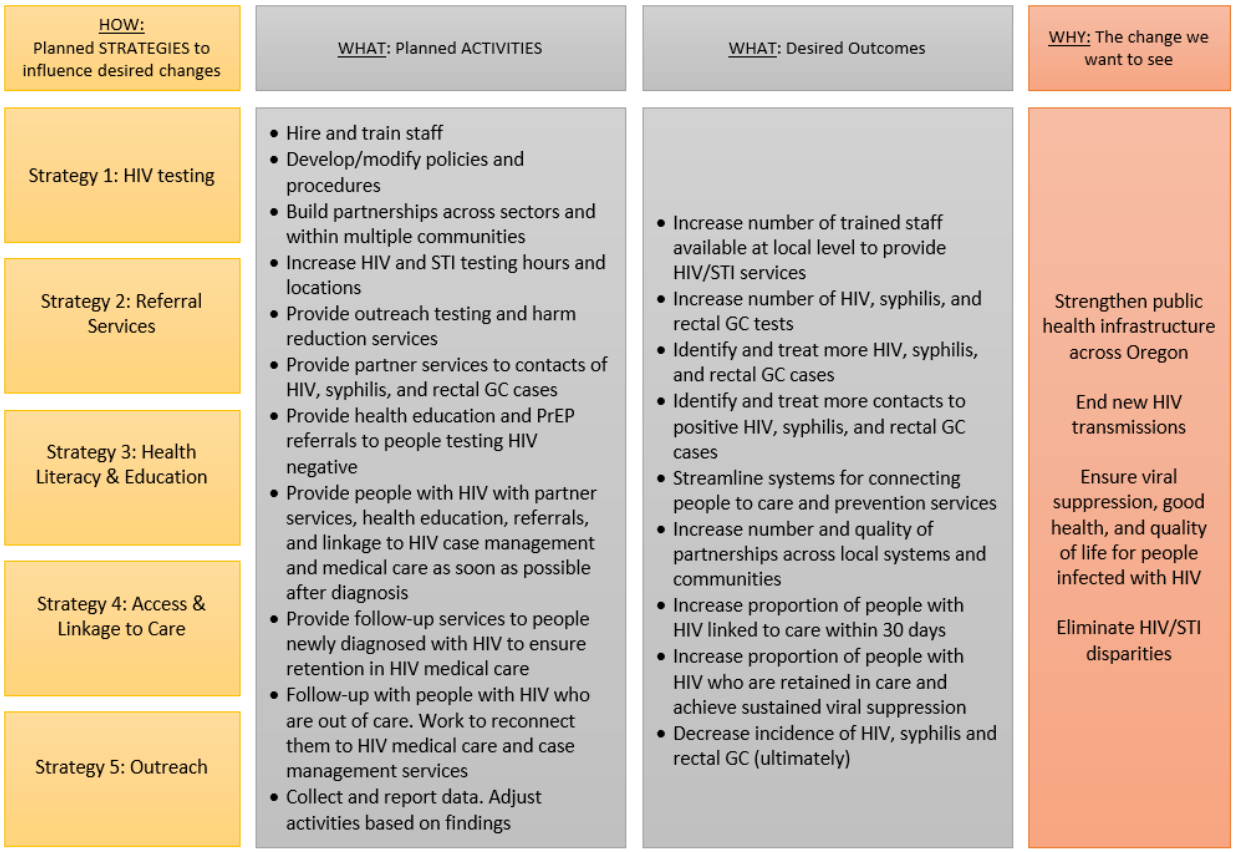
EISO funds support local public health infrastructure, including the staff and equipment needed to identify and treat rectal gonorrhea (GC), early syphilis, and HIV and link people at risk for these infectious diseases to additional prevention and care services.

Short-term goals for EISO include increased HIV and STI testing hours and locations, as well as expansion of HIV/STI partner services.

Longer-term goals include the identification and treatment of more HIV/STI cases and development of community partnerships that are foundational to health equity.

Ultimately, EISO aims to reduce HIV and STI prevalence and to promote health equity by eliminating HIV and STI disparities.

EISO Strategy Map, Oregon, 2020



HIV/STI Testing, Referrals, Health Education, and Linkage to Care (EISO Strategies 1-4)

In 2019, 178 HIV cases and more than 2,000 early syphilis and rectal GC cases were diagnosed and treated in EISO counties. This represents the vast majority of HIV (88%), early syphilis (94%), and rectal GC (98%) cases that were diagnosed in Oregon. One hundred percent of HIV cases, 99% of early syphilis cases, and 57% of rectal GC cases diagnosed in EISO counties were enrolled in EISO.

HIV Cases

Enrollment of HIV cases in EISO is excellent: of 176 people diagnosed with HIV in EISO counties, 175 were enrolled. An additional 2 people moved into EISO counties from elsewhere, for a total enrollment of 177 HIV cases (Table 1).

Table 1. Demographics of People Newly Diagnosed with HIV Enrolled in EISO, 2019 (N=177)

Demographics	N	%
Gender Identity		
Male	155	88%
Female	15	8%
Non-binary	3	2%
Transgender	3	2%
Missing	1	1%
Age Group		
15-19	3	2%
20-29	59	33%
30-39	60	34%
40-49	31	18%
50-59	17	10%
60+	7	4%
Race/Ethnicity		
American Indian/Alaska Native	4	2%
Asian	3	2%
Black/African American	23	13%
White	106	60%
Multiracial	6	3%
Native Hawaiian/ Pacific Islander	0	<1%
Hispanic/Latinx	30	17%
Unknown/Other	5	3%
MSM	124	70%
PWID	50	28%

People with HIV receive intensive services through EISO to ensure that they are linked to HIV medical care and case management, with the goal of achieving viral suppression within six

months. Seventy-nine percent (n=140) of newly diagnosed PLWH in EISO were linked to care in 30 days or less, compared to 66% from 2013-2017. Latinx clients (67%) and Black/African American clients (74%) were less likely to be linked to care within 30 days compared to white clients (80%) and clients of all other races (100%) (p = .046).

EISO staff provide referrals and health education to people newly diagnosed with HIV, particularly those with acute needs, but their focus is linkage to Oregon's HIV case management and medical care system, where people receive ongoing, comprehensive services. Eighty percent of EISO clients were linked to HIV case management; there were no differences in referrals by demographics.

SPOTLIGHT: Washington County

In response to growing disparities in new HIV infections, late stage diagnosis, and linkage to HIV care among the Latinx population in Washington County, Washington County Public Health contracted with Familias en Acción to develop a new sexual health curriculum aimed at reducing stigma associated with sexual health and HIV/STI testing in the Latinx community. Health educators and community health workers throughout the county who are currently working with Latinx clients will be trained in the curriculum, with the goal of increasing HIV/STI testing and quick linkage to care.

Among those linked to care, 82% had two or more viral load tests. Median days to viral load suppression was less than two months (57.5 days); however, 23% of cases had missing viral load data.[1] There were no differences in viral suppression by demographics.

SPOTLIGHT: Multnomah County

In 2019, EISO supported the Multnomah County HIV Health Services Center (HHSC) quality improvement project to increase viral suppression through rapid start antiretroviral therapy. HHSC developed a system for offering people diagnosed in the previous 12 months and who are ART naïve an intake appointment and ART initiation within 5 days of first contact with the clinic. The project improved clinical outcomes for clients: 91% of those enrolled received ART within 0-5 days of screening, average number of days to viral suppression decreased, and 83% were virally suppressed at last test. EISO helped facilitate warm hand-offs between newly diagnosed clients and the HHSC intake coordinator.

[1] Viral suppression data were missing for various reasons, including reporting delay; that is, cases being diagnosed late in the calendar year, with not enough time to get viral load testing done before data were pulled.

Delayed diagnosis is an important metric for ending new HIV transmissions in Oregon: timely diagnosis allows people with HIV to be linked to medical care, receive health services to improve their quality of life, and become virally suppressed. This interrupts the chain of HIV transmission. Twenty-four percent of HIV cases in EISO counties had delayed diagnosis (e.g., AIDS diagnosis concurrent with or within 12 months of HIV diagnosis), compared to 33% from 2013-2017.

Outreach (EISO Strategy 5)

Outreach Services, as defined by HRSA/Ryan White Program Guidance, are services "aimed at identifying persons with HIV who may know or be unaware of their status and are not in care."

Given high rates of HIV/STI coinfection in Oregon, HIV testing of STI patients and partner services for HIV/STI are highly effective ways of identifying people with HIV who do not know their status. These are EISO's primary strategies for identifying persons with HIV who are unaware of their status.

In addition, EISO grantees reach out to communities in digital spaces, host events, or partner with community-based agencies to support events in nonclinical settings. This increases awareness of EISO services, and it improves access to HIV testing and prevention services for people experiencing disparities, since they might not seek testing in a clinical setting.

STI Testing and Treatment of People Newly Diagnosed with HIV

Because of high rates of HIV/STI coinfection in Oregon, integrated testing (for HIV, syphilis and gonorrhea) is a priority. Most people newly diagnosed with HIV were tested for other STIs by EISO staff, positivity rates among those tested were high, and partner services identified a high number of contacts. Specifically:

- 64% were tested for other STIs (113/177). Among those tested, 11% (n=12) were positive for syphilis and 22% (n=25) were positive for gonorrhea.
- 88% (n=155) received partner services, including an interview about sexual and needle-sharing contacts and offers to help contacts access testing and treatment.
- 41% of those offered partner services identified one or more contacts with enough information to facilitate follow-up, for a total of 127 identified contacts (0.71/index case of EISO-enrolled HIV).

There were no differences in STI testing and treatment by age, sex at birth, gender identity, or race/ethnicity among people newly diagnosed with HIV.

HIV Testing and Treatment of People with Early Syphilis

Oregon is experiencing a syphilis epidemic and syphilis and HIV coinfection is common. In 2019, 785 early syphilis cases (primary and secondary) were diagnosed in EISO counties. All but six early syphilis cases identified in EISO counties were enrolled in EISO (99%) (Table 2).

Table 2. Demographics of People with Early Syphilis Enrolled in EISO, 2019 (N=779)

Demographics	N	%
Sex at Birth		
Male	628	81%
Female	151	19%
Gender Identity		
Male	330	42%
Female	86	11%
Non-binary	3	<1%
Transgender	4	<1%
Missing	355	46%
Age Group		
15-19	11	1%
20-29	198	25%
30-39	255	33%
40-49	162	21%
50-59	109	14%
60+	44	6%
Race/Ethnicity		
American Indian/Alaska Native	16	2%
Asian	19	2%
Black/African American	55	7%
White	475	61%
Multiracial	13	2%
Native Hawaiian/ Pacific Islander	3	0%
Hispanic/Latinx	146	19%
Unknown/Other	52	7%
MSM	383	49%
PWID	149	19%

The number of primary and secondary syphilis cases diagnosed and treated in EISO counties increased 47% between 2017 and 2019: from 535 to 785 cases. Counties with substantial increases in 2019 were: Lane (75 cases, 134% increase), Jackson (67 cases, 116% increase), Multnomah (411 cases, 54% increase), and Clackamas (49 cases, 29% increase).

Syphilis diagnosis presents an opportunity for HIV testing, PrEP referrals, partner services, and linkage or relinkage to HIV medical care, depending on a patient's HIV status.

Eighty-two percent of EISO-enrolled early syphilis cases received partner services (n=639). MSM (92% vs. 75% non-MSM, p <.001) and PWID (90% vs. 85% non-PWID, p <.05) were more likely to have received partner services.

Among those receiving partner services, 42% (n=271) identified one or more contacts with enough information to facilitate follow-up, for a total of 454 identified contacts (0.58/index case of EISO-enrolled early syphilis). Clients age 15-29 (compared to clients over 30) and those whose sex at birth was female were more likely to identify contacts (p <.001 for both).

Twenty-five percent of early syphilis cases (n=191) were previously diagnosed with HIV. Of the 75% (n=588) who were not known to be HIV+ at the time of syphilis diagnosis, 61% (360/588) were tested for HIV. There were some differences by race/ethnicity: 75% of Latinx clients with early syphilis were tested for HIV, compared to 69% of whites, 67% of Black/African Americans, and 58% of clients of all other races (p <.05). MSM appear to have been tested at higher rates, as well; 79% of MSM received HIV testing (vs 59% of people who were not MSM or whose data on MSM status were missing, p < .001).

Among those tested, 11 new cases of HIV were diagnosed (a 3% positivity rate).

EISO staff offered PrEP referrals to 267 of 481 HIV-negative early syphilis cases who received an interview (55%). Males (60% vs. 43% of females, p <.001) and MSM (74% vs. 41% non-MSM, p < .001) were more likely to receive PrEP referrals.

HIV Testing and Treatment of People with Rectal Gonorrhea

Rectal gonorrhea is associated with increased risk of HIV seroconversion (Bernstein 2010), making this a prime opportunity to encourage HIV-negative individuals with rectal GC to start PrEP. Specifically, among MSM, rectal GC has been associated with a 2- to 17-fold increase in the risk of HIV infection; furthermore, rectal GC (and rectal chlamydia) have been found to be independently associated with HIV seroconversion within one year of their rectal GC or chlamydia diagnosis (Barbee 2017).

Because of the high risk of HIV seroconversion, and because there are too many cases of gonorrhea to realistically follow-up with intensive services, EISO has prioritized rectal GC. In counties with fewer overall HIV/STI cases, non-rectal gonorrhea cases may also be enrolled in EISO.

EISO counties saw a large increase in rectal GC since 2017: 742 cases in 2019, a 130% increase. Counties experiencing the largest increases were Washington (n=88, a 193% increase), Multnomah (n=549, a 157% increase), Clackamas (n=36, an 89% increase), and Lane (n=33, a 74% increase). Some of these increases may be attributable to increased extragenital screening and/or improved accuracy of the specimen source on electronic lab reports; data for this field have been more complete in recent years.

In 2019, more than half of rectal GC cases (57%, n=423) were enrolled in EISO (Table 3).[2]

Table 3. Demographics of People with Rectal Gonorrhea Enrolled in EISO, 2019 (N=423)

Demographics	N	%
Sex at Birth		
Male	407	96%
Female	16	4%
Gender Identity		
Male	89	21%
Female	3	1%
Non-binary	0	0%
Transgender	9	2%
Missing	322	76%
Age Group		
15-19	14	3%
20-29	178	42%
30-39	117	28%
40-49	67	16%
50-59	33	8%
60+	14	3%
Race/Ethnicity		
American Indian/Alaska Native	3	1%
Asian	10	2%
Black/African American	17	4%
White	252	60%
Multiracial	15	4%
Native Hawaiian/ Pacific Islander	2	0%
Hispanic/Latinx	85	20%
Unknown/Other	39	9%
MSM	284	67%
PWID	21	5%

Seventy eight percent of people with rectal GC who were enrolled in EISO received partner services (n=330). People under age 30 were more likely to receive partner services than clients age 30 and older (84% vs. 73%, $p < .005$). In addition, MSM and PWID may have been more likely to receive partner services: 92% of MSM with rectal GC (vs. 48% non-MSM, $p < .001$) and

[2] However, these numbers may not tell the whole story. Multnomah County – which has the highest number of rectal GC cases – paused follow-up on gonorrhea cases between July-December 2019 while responding to an HIV cluster among people who inject drugs (PWID). Looking at rectal GC data in all other EISO counties (excluding Multnomah), 79% were enrolled in EISO and 88% of those enrolled received partner services.

95% of PWID (vs. 81% non-PWID, $p < .001$) received partner services; however, information about MSM and PWID status are more likely to be complete among those who have been interviewed by public health staff.

Among those receiving partner services, 17% (n=56) identified one or more contacts with enough information to facilitate follow-up, for a total of 99 contacts (0.13/index case of rectal GC). Clients whose sex at birth was female were much more likely to identify contacts than those whose sex at birth was male (44% vs. 12.5%, $p < .001$*),* but the overall number of female sex-at-birth clients was low.

Twenty-two percent of all EISO rectal GC cases (including Multnomah County) (n=95) were previously diagnosed with HIV. Among the 78% (n=328) who were not known to be HIV+ at the time of their rectal GC diagnosis, 62% (202/328) were tested for HIV. There were no differences in HIV testing by age, sex at birth, gender identity, or race/ethnicity. However, MSM appear to have been tested at higher rates; 84% of MSM received HIV testing (vs 52% of people who were not MSM or whose data on MSM status were missing, $p < .001$).

Among those tested, six people were newly diagnosed with HIV (3% positivity).

EISO staff offered PrEP referrals to 251 of 423 HIV-negative rectal GC clients (59%). Males and MSM were more likely to receive a PrEP referral.

SPOTLIGHT: Lane County

Lane County Public Health offers integrated HIV/STI testing at their "Just Checking" STI clinic. This low-cost, no appointment clinic encourages routine testing for people with no symptoms or recent exposures, and always encourages testing for chlamydia, gonorrhea, syphilis, and HIV each time testing is done. Routine, integrated testing at "Just Checking" is part of a continuum of services that includes standard appointment-based testing and treatment, as well as targeted outreach testing that is conducted in community settings in partnership with HIV Alliance, University of Oregon, Lane Community College, Centro, and other colleagues. Increased testing opportunities have helped identify and treat more STI cases in Lane County – about twice as many early syphilis and rectal GC cases compared to 2017.

HIV Testing and Treatment of Contacts to HIV, Early Syphilis, and Rectal Gonorrhea

In addition to providing intensive services for individuals who are enrolled in EISO because of a specific HIV/STI diagnosis (e.g., index cases), EISO provides services to the sexual (and, in the case of HIV, needle sharing) contacts that are identified by those cases. Because many people meet sex partners through digital platforms or in public sex environments, partner services interviews may identify anonymous contacts that cannot realistically be followed up by index cases or health department staff.

EISO clients identified a total of 680 contacts with enough information to facilitate follow-up: 127 contacts to an HIV index case, 454 contacts to an early syphilis index case, and 99 contacts to a rectal GC index case.[3]

Most contacts (95%, 643/680) were not known to be HIV+ at the time they were identified by EISO index cases:

- 32% (n=204/643) were tested for HIV.
- 14 contacts were newly diagnosed with HIV (7% positivity).
- 27 contacts were newly diagnosed with early syphilis, 8 were newly diagnosed with rectal GC.
- EISO staff offered PrEP referrals to 173 contacts (28% of contacts not known to be HIV+).

EISO grantees represent a range of policies related to digital partner services (DPS). Only one EISO county (Multnomah) fully implements DPS.

Staff from seven EISO counties attended a DPS Training in June 2019 and, as of June 2020, are still working on formalizing their social media/DPS policies; of these, one county has standard operating procedures for communicating with patients via text, email, and social media, but are unable to use dating or hook-up apps for case and contact investigation because their county will not approve it. Four EISO counties have no DPS policies or procedures and are limited to traditional disease intervention services.

SPOTLIGHT: Digital Partner Services

Multnomah County has led the way in using digital partner services, including dating and hook-up apps, for contact tracing and linking people to prevention and treatment services. DPS has been particularly useful in providing services to people who are houseless or unstably housed, as people who do not have reliable phone numbers or physical addresses may still connect with people via online platforms, which can also be used to link them to STI/HIV treatment. These tools were employed in the HIV cluster among houseless people in the Portland metropolitan area in 2019. Other counties have seen more incremental change. Clackamas County recently approved use of Facebook Messenger for contact tracing and partner services, a policy adopted after 18 months of effort by public health staff.

Outreach and Testing in Community Settings

In 2019, EISO grantees conducted 825 outreach events that included health education and referrals and tested 1,880 people for HIV in community (e.g., non-clinical) settings, such as drug

[3] Because of coinfection, some individuals may be counted in more than one disease category.

treatment facilities, syringe exchange, mobile vans, and community-based organizations. Two people tested positive for HIV in community settings, both in Multnomah County.

SPOTLIGHT: Jackson County
Through EISO, Jackson County is integrating HIV outreach services into its syringe exchange program (SEP). Out of 4,720 SEP client encounters in 2019, 16% (n=755) included HIV education and 12% (n=566) included a referral to HIV testing. Proportion of SEP program encounters that include HIV outreach activities is a performance measure Jackson County continues to monitor to better deliver HIV prevention, testing, and linkage to care services to people who inject drugs.

SPOTLIGHT: Central Oregon
Central Oregon EISO covers a large rural area that encompasses three counties and a tribal nation. Increased advertising of testing events on county Websites, and particularly community partner Facebook or Instagram accounts, has increased reach and brought in first-time testers. For example, one individual made a one-hour drive from a very rural part of the service area to get tested after seeing free testing listed on the outreach calendar.

Partnerships

EISO grantees have used EISO funding as an opportunity to develop or deepen relationships with community partners who serve people facing HIV/STI disparities, including Black, Indigenous, and other people of color; Latinx and Spanish-speaking people; people who inject drugs and/or have other behavioral health concerns; and people who are or have been incarcerated. EISO partnerships include formal resource-sharing agreements (e.g., subcontracts), participation on community advisory boards or coalitions, and collaboration on shared events.

SPOTLIGHT: Marion County
Marion County Public Health worked with multiple partners, including Polk County and local law enforcement, to provide prevention services, including HIV testing and hepatitis A vaccination, to houseless people at Wallace Marine Park in West Salem. Although much of this work has been temporarily halted by COVID-19, public health staff note that the partnerships developed through EISO are ongoing – they are now supporting the COVID-19 response. This is a good example of how EISO supports public health modernization by building local capacity to respond to public health threats.

SPOTLIGHT: Mid-Willamette & Coastal EISO

The Confederated Tribes of Siletz Indians (CTSI) and Linn, Lincoln, and Benton County Health Departments formed an interagency workgroup, Community Harm Reduction Mentors and Allies (CHRMA), to provide opportunities for resource sharing and cross-training, as these public authorities begin to implement a syndemic approach to HIV, hepatitis C, and STI prevention and treatment. Harm reduction workers have been foundational to successes in each of the four jurisdictions, using a person-centered approach to reach out to individuals in the community to offer testing, prevention education, and treatment services. Individuals at risk in rural communities—such as people who inject drugs— may be less connected to services, to specific communities, or to specific geographic areas, making service delivery challenging. Cross-sector partnerships have amplified outreach efforts; new partners have included Medication Assisted Treatment providers, behavioral health providers, and homeless service providers, among others.

Discussion

On World AIDS Day 2016, Oregon announced End HIV Oregon, its plan to end new HIV transmissions and ensure that all people living with HIV in Oregon have access to high-quality care, free from stigma and discrimination. EISO is a cornerstone of End HIV Oregon, as it addresses all its key components: HIV testing, prevention, treatment, and eliminating HIV disparities.

Early Intervention: Linking Newly Diagnosed to Care

EISO counties are doing an excellent job of enrolling people newly diagnosed with HIV into intensive services to ensure that they move from diagnosis to viral suppression as quickly as possible. Provision of early support services to people living with HIV has been found to improve viral suppression rates, especially among PLWH with unstable housing or no plan for care at the time of diagnosis (Whelan 2019).

EISO appears to be making a difference in both linkage to care and viral suppression: 79% of EISO-enrolled PLWH were linked to care in 30 days or less compared to only 66% during the five-year period preceding EISO (2013-2017) and the median days to viral suppression among EISO enrollees was less than two months (57.5 days).

Although reporting delays meant that almost 1 in 4 EISO cases didn't have full viral load information available within the calendar year, we can be cautiously optimistic about these viral suppression data.

Outreach: Identifying People with HIV Who Do Not Know Their Status

EISO uses a variety of outreach strategies to identify people with HIV who do not know their status and bring them into care, primarily HIV testing of STI patients, HIV and STI partner services, and outreach events. Community partnerships support these outreach strategies and

help ensure that populations facing disparities are aware of services, have access to them, and can help create services that match community need.

HIV testing of STI cases and partner services to identify and test HIV/STI contacts identified far more new HIV diagnoses than testing in community settings (Table 4).

Table 4. Yield of New HIV Positives by Outreach Testing Approach, EISO Counties, 2019

HIV Testing Approach	N (%) Tests	N (%) New HIV+
Integrated Testing: Early Syphilis Cases	360/588 (61%)	11 (3%)
Integrated Testing: Rectal GC	202/328 (62%)	6 (3%)
HIV Testing of HIV/STI Contacts	204/643 (32%)	14 (7%)
HIV Testing in Community Settings	1880/NA (NA)	2 (.01%)

The higher yield of new positives found among Oregon EISO HIV/STI contacts is consistent with the scientific literature. Partner services as a targeted HIV screening activity has been found to be highly effective (Katz 2016, Bergman 2015) and has been recommended as a key strategy for high-income countries to achieve the 90/90/90 HIV testing target (Karatzas 2019). A 20-country study found that testing contacts of HIV index cases yielded twice as many new HIV positive cases as all other testing strategies (Lasry 2019). San Francisco saw an extremely high yield using this strategy: 23% of people tested through HIV partner services were newly diagnosed with HIV (Bernstein 2014).

Integrated STI/HIV testing and partner services may also help eliminate disparities. For example, a study that examined outcomes among all publicly-funded HIV testing sites in the U.S. from 2011-2013 found that a higher proportion of new HIV diagnoses were identified at STI clinics compared to other sites, and these diagnoses included a high proportion of people facing HIV disparities, such as MSM of color (Seth 2015). A study in Washington State found that integrating HIV testing into partner services for STI patients increased HIV case finding among MSM (Katz 2016). Finally, Webster et al (2012) make the case that HIV testing through partner services efficiently identifies older people with unidentified HIV and avoids late diagnosis among this population.

Enrollment of HIV and early syphilis cases in Oregon EISO was very high and most received partner services (88% of HIV cases, 82% of early syphilis). In contrast, identification of rectal GC cases appeared to be low in all areas other than Lane County and the Portland metropolitan area. Both Lane County and the Portland metropolitan area counties have focused on training medical providers to perform extra-genital screening for GC and the fruit of these efforts is likely reflected in their higher numbers. These counties were also part of OHA's original MSM Rectal Gonorrhea Project, which provides free rectal chlamydia and gonorrhea screening at local health departments through the Oregon State Public Health Lab for uninsured or

underinsured gay, bi, or other MSM. In 2019, this project expanded from three counties (Multnomah, Washington, and Lane) to statewide. Hopefully, increased access to diagnosis and care will result in higher numbers of identified rectal GC cases in all EISO counties.

Still, compared to HIV and syphilis, a lower proportion of identified rectal GC cases received EISO services.[4] GC in symptomatic men is often treated presumptively, with delayed health department contact for partner services (once a positive test result is received, days later). This delay may make some patients more reticent to participate in partner services, since they may perceive the problem as being resolved by the time those services are offered. Closer coordination between private providers and LPHAs may help promote partner services and ensure that clients receive appropriate testing, treatment, health education, and referrals.

Overall, EISO grantees identified less than one partner per HIV/STI index case (.71 partners/HIV index case, .58 partners/early syphilis index, and .13 partners/rectal GC index). Delivering partner services is inherently challenging. The impact of social and structural factors on clients (e.g., housing instability, substance use, lack of access to economic and social resources) may mean that other life priorities take precedence over cooperating with disease investigations.

These numbers also reflect the limited ability of LPHAs to identify and follow up with anonymous sex partners and those with little contact information. Most EISO grantees have not been able to implement digital partner services because of risk management concerns within county government. Traditional partner services, which are usually delivered in person, are not effective for everyone, and best used in conjunction with next-generation or modernized partner services, like digital partner services (text, internet, and app-based services). Digital partner services can increase the number of partners contacted, facilitate contact of people who would have been otherwise unreachable, and may be cost-saving (Udeagu 2014, Heumann 2017, Hochberg 2015, Kachur 2018). HIV/STI patients, particularly MSM, have found online, app-based services to be an acceptable way to notify partners about potential disease transmission (Contesse 2020).

Finally, some EISO grantees experienced staff turnover and barriers to hiring staff in a timely manner, meaning they were understaffed relative to the resource need for partner services, despite the infusion of additional resources from EISO contracts.

Braiding Services: EISO Supports HIV/STI Prevention

In addition to providing intensive early intervention services to newly diagnosed PLWH and identifying PLWH who did not know their status, EISO programs supported STI/HIV prevention by identifying and treating thousands of STI cases, providing health education, and referring

[4] 57% in all EISO counties; 78% in EISO counties other than Multnomah, which needed to divert resources away from rectal GC in 2019 to address a HIV cluster.

hundreds of people to PrEP navigation services. EISO also supports public health modernization by building capacity at the local level to respond to public health threats, including – but not limited to – communicable disease.

Recommendations

Linkage to Care and Viral Suppression Support

The EIS component of EISO is working well in all jurisdictions. EISO funding appears to be improving linkage to care and viral suppression outcomes for newly diagnosed PLWH compared to the period preceding EISO (2013-2017). Rates of delayed diagnosis were lower in 2019, as well, which may be indicative of more and better HIV testing but needs to be tracked for a longer period. It is also possible that populations who traditionally experience delayed diagnosis were less likely to test in 2019.

Integrated STI/HIV Testing

About two-thirds of people newly diagnosed with HIV were tested for syphilis and/or gonorrhea and a slightly lower proportion of people newly diagnosed for early syphilis and rectal GC were tested for HIV. Just over 50% of people presenting with early syphilis or rectal GC who were not known to be HIV-infected received referrals for PrEP; these proportions are lower than desired, given the high risk of HIV infection.

- EISO grantees need to develop plans to increase HIV testing among all early syphilis and rectal GC cases. Referrals to PrEP for early syphilis and especially rectal GC need to increase. These are missed opportunities.

Partner Services

As noted, HIV/STI partner services are inherently challenging – and have become more challenging in the digital era. Partner services can also be resource intensive.

- OHA will work with EISO grantees to examine site-specific data to better understand which clients didn't receive partner services and why. EISO grantees who lack capacity to provide EISO services to all clients may want to consider targeted partner services – focusing on those cases most likely to yield contacts (Hoots 2014). Predictive modeling can also be used to focus partner services and contact tracing efforts (Hoots 2012).
- Closer coordination between private providers and LPHAs may help promote partner services; AETC can be enlisted to help with this endeavor.
- Digital partner services (DPS) are an essential tool in the modern disease investigation toolbox. All EISO grantees should have some level of DPS policies and procedures in place or should subcontract with a community-based organization who can conduct DPS. Orpheus access for subcontractors is an ongoing challenge but can be revisited.

Outreach Testing & Partnerships

Partnerships with community-based agencies that have established and trusted relationships with people facing HIV/STI disparities can help address barriers and improve health outcomes. However, some partnership and outreach strategies may be more effective than others.

- Since outreach testing in nonclinical settings yields the fewest new HIV diagnoses, EISO programs should – in most cases – ensure that higher yield strategies (e.g., HIV testing of STI patients and partner services for people with HIV and STI) are fully supported before expanding testing in community settings.
- EISO programs should review local data to understand which populations are facing disparities in their local jurisdictions and develop strategic plans for partnering with the community-based agencies that can best address those disparities.
- EISO grantees should consider partnering with community health centers to support HIV testing, if not already doing so. This has been a successful model for bringing HIV testing into trusted community settings and for identifying people with HIV who are unaware of their status.
- EISO programs with few new HIV or STI diagnoses should use resources to build their capacity to respond to communicable disease as part of public health modernization; that is, in most cases, they should focus heavily on integrated HIV/STI testing and HIV/STI partner services, as well as on developing an outbreak response plan, rather than conducting widespread community testing.

Regional Differences

EISO grantees serve vastly different parts of Oregon. EISO programs should use these data – and more specific local data, which is forthcoming – to develop strategies to address local disease burden.

References

Barbee, L. A., Khosropour, C. M., Dombrowksi, J. C., & Golden, M. R. (2017). New Human Immunodeficiency Virus Diagnosis Independently Associated With Rectal Gonorrhea and Chlamydia in Men Who Have Sex With Men. *Sexually transmitted diseases*, *44*(7), 385–389.

Bergman, J., Gratrix, J., Pillay, T., Houston, S., Cooper, R., Charlton, C. L., Lemire, S., Paradis, K., Birse, T., & Singh, A. E. (2015). Intensive HIV Partner Notification Is Effective in Identifying New and Previously Diagnosed HIV Infections in Edmonton, Canada. *AIDS Patient Care and STDs*, *29*(8), 419–422.

Bernstein, K.T; Marcus, J.L.; Nieri, G.; Philip, S.; Klausner, J.D. (2010). Rectal Gonorrhea and Chlamydia Reinfection Is Associated with Increased Risk of HIV Seroconversion, *JAIDS*; 53(4): 537-543.

Bernstein, K. T., Stephens, S. C., Moss, N., Scheer, S., Parisi, M. K., & Philip, S. S. (2014). Partner services as targeted HIV screening--changing the paradigm. *Public Health Reports (Washington, D.C.: 1974)*, *129 Suppl 1*, 50–55.

Contesse, M. G., Fredericksen, R. J., Wohlfeiler, D., Hecht, J., Kachur, R., Strona, F. V., & Katz, D. A. (2020). Acceptability of Using Geosocial Networking Applications for HIV/Sexually Transmitted Disease Partner Notification and Sexual Health Services. *Sexually Transmitted Diseases*, *47*(1), 41–47.

Heumann, C. L., Katz, D. A., Dombrowski, J. C., Bennett, A. B., Manhart, L. E., & Golden, M. R. (2017). Comparison of In-Person Versus Telephone Interviews for Early Syphilis and Human Immunodeficiency Virus Partner Services in King County, Washington (2010-2014). *Sexually Transmitted Diseases*, *44*(4), 249–254.

Hochberg, C. H., Berringer, K., & Schneider, J. A. (2015). Next-Generation Methods for HIV Partner Services: A Systematic Review. *Sexually Transmitted Diseases*, *42*(9), 533–539.

Hoots, B. E., MacDonald, P. D. M., Hightow-Weidman, L. B., Leone, P. A., & Miller, W. C. (2012). Developing a predictive model to prioritize human immunodeficiency virus partner notification in North Carolina. *Sexually Transmitted Diseases*, *39*(1), 65–71.

Hoots, B. E., Lewis, F. M. T., Anschuetz, G., Schillinger, J. A., Blank, S., Foskey, T., Stover, J. A., & Peterman, T. A. (2014). Would targeting increase efficiency of syphilis partner services programs? Data from New York City, Philadelphia, Texas, and Virginia. *Sexually Transmitted Diseases*, *41*(6), 407–412.

Kachur, R., Hall, W., Coor, A., Kinsey, J., Collins, D., & Strona, F. V. (2018). The Use of Technology for Sexually Transmitted Disease Partner Services in the United States: A Structured Review. *Sexually Transmitted Diseases*, *45*(11), 707–712.

Karatzas, N., Peter, T., Dave, S., Fogarty, C., Belinsky, N., & Pant Pai, N. (2019). Are policy initiatives aligned to meet UNAIDS 90-90-90 targets impacting HIV testing and linkages to care? Evidence from a systematic review. *PloS One*, *14*(6), e0216936.

Katz, D. A., Dombrowski, J. C., Kerani, R. P., Aubin, M. R., Kern, D. A., Heal, D. D., Bell, T. R., & Golden, M. R. (2016). Integrating HIV Testing as an Outcome of STD Partner Services for Men Who Have Sex with Men. *AIDS Patient Care and STDs*, *30*(5), 208–214.

Lasry A, Medley A, Behel S, et al. (2019). Scaling up testing for Human Immunodeficiency Virus infection among contacts of index patients—20 countries, 2016-2018. MMWR Morb Mortal Wkly Rep;68:474-477.

Seth, P., Wang, G., Sizemore, E., & Hogben, M. (2015). HIV Testing and HIV Service Delivery to Populations at High Risk Attending Sexually Transmitted Disease Clinics in the United States, 2011-2013. *American Journal of Public Health*, *105*(11), 2374–2381.

Udeagu, C.-C. N., Bocour, A., Shah, S., Ramos, Y., Gutierrez, R., & Shepard, C. W. (2014). Bringing HIV partner services into the age of social media and mobile connectivity. *Sexually Transmitted Diseases*, *41*(10), 631–636.

Webster, T. R., Udeagu, C.-C. N., & Shephard, C. W. (2012). Partner services complement routine testing for early HIV diagnosis among older adults. *American Journal of Public Health*, *102*(12), e6.

Whelan, B.M., Hebert, P. L., Ahrens, K. R., Katz, D. A., Buskin, S. E., Golden, M. R., & Dombrowski, J. C. (2019). Predictors of Failure to Reach Viral Suppression Within 1 Year After Human Immunodeficiency Virus Diagnosis: A Surveillance-Based Analysis. *Sexually Transmitted Diseases*, *46*(11), 728–732.