HIV Early Intervention Services & Outreach in Oregon

EISO Phase 1 Evaluation Report

For Services Conducted between 2019 – 2022

Contents

Executive Summary: Early Intervention Services & Outreach (EISO)

HIV Early Intervention Services and Outreach are critical interventions used to identify people with HIV, link them to care and treatment, educate and refer to appropriate adjunct services. EISO is a status neutral approach to engage persons regardless of their HIV status. Persons who test non-reactive or negative for HIV are tested for STIs, offered education, and referred to PrEP, harm reduction and other adjunct services (e.g., medical care, food, transportation, health insurance, behavioral health). Those who test reactive or positive for HIV are rapidly linked to HIV treatment and care, including Ryan White HIV/AIDS case management services. Rapid start of HIV treatment and viral suppression are key to reducing new HIV infections in Oregon.

OHA allocated funding for EISO services in 2018; however, the first year was dedicated to building program infrastructure. This report is an analysis of EISO services provided by funded Local Public Health Authorities (LPHAs) over the four-year period of service implementation, from 2019-2022 (a.k.a. EISO Phase 1). Funding goals were to increase availability of integrated HIV/STI testing, expand HIV/STI partner services, identify new HIV/STIs, develop systems to rapidly link people to appropriate care and treatment, and develop or strengthen community partnerships to facilitate health equity.

Our analysis demonstrated that:

- EISO staff were highly successful in enrolling people with HIV, syphilis, and rectal gonorrhea (GC) into services.
- EISO improved linkage to care and reduced time to viral suppression for people newly diagnosed with HIV.
- More than 1 in 5 people with HIV in EISO counties had a delayed diagnosis and those living outside of the tri-county Portland metropolitan area were more likely to be diagnosed late.
- HIV/STI coinfections were common as were multiple infections.
- Those with multiple STIs – with either syphilis or rectal GC - were more likely to seroconvert to HIV. Alarmingly, 10% of EISO clients who had multiple STIs during the reporting period seroconverted to HIV within the four-year period of analysis.
- PrEP referrals were lower than expected, including among those at highest risk of HIV seroconversion – 58% of visits among people with multiple enrollments for rectal GC or syphilis, who later seroconverted to HIV, did not include a PrEP referral.

Overall, this report suggests EISO is an important and effective investment and should be continued as funding is available. Integrated HIV/STI testing is key and should be best practice as are referrals and navigation to PrEP. And while PrEP should be offered to all EISO enrolled clients who test negative for HIV, it should be prioritized each time someone tests positive for syphilis and rectal GC. 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. We conclude that providing HIV testing and prevention services to people with an STI, namely syphilis and rectal GC, should be EISO's primary strategy for identifying persons with HIV who are unaware of

their status. Furthermore, EISO should continuously use data to identify gaps and opportunities for program improvements, such as improving testing, partner services, and access to treatment and care among priority populations. Strong LPHA partnerships with community-based organizations can improve client engagement and mitigate HIV/STI inequities in Oregon.

Background: Early Intervention Services & Outreach (EISO) in Oregon

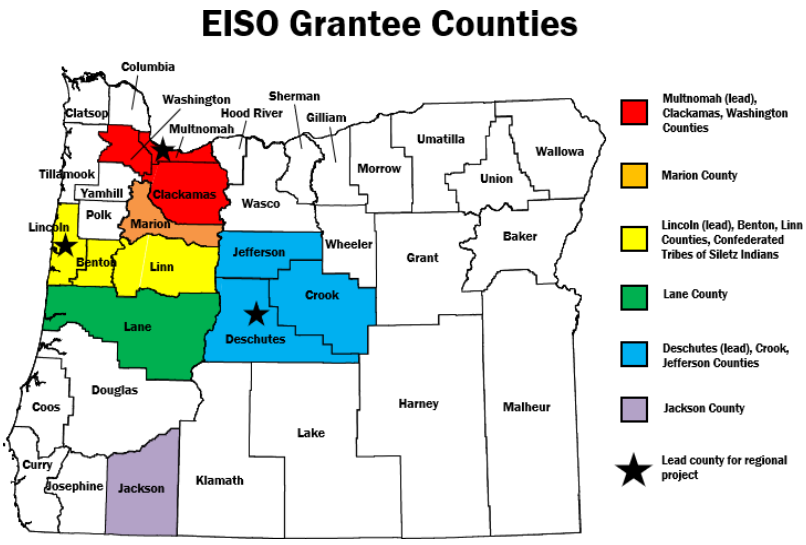
In 2016, HIV Early Intervention and Outreach Services were identified as critical to ending HIV transmission in Oregon. End HIV/STI Oregon, a statewide initiative to end new HIV transmissions based on a five-year strategy developed and approved by the End HIV/STI Oregon Statewide Planning Group, focuses on four pillars: testing, prevention, treatment, and responding to end inequities.

Beginning in 2017, the Oregon Health Authority's HIV/STD/TB Section (OHA) allocated $29M from income generated through the Health Resources and Services Administration (HRSA) Ryan White Part B, AIDS Drug Assistance Program (ADAP) to support both Early Intervention Services and Outreach Services, heretofore referred to as EISO or EISO Services.

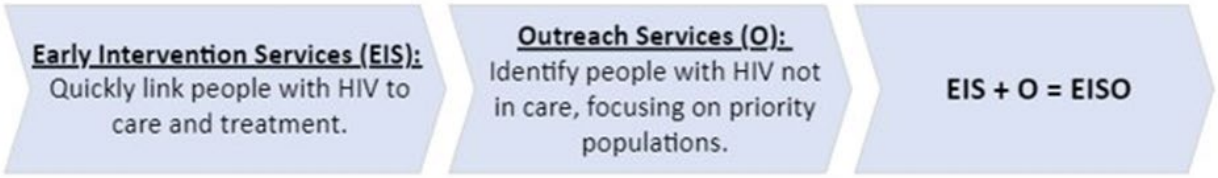
To distribute these funds, OHA initiated a competitive Request for Proposal (RFP) process which resulted in regional contracts with Local Public Health Authorities (LPHAs) across Oregon. EISO monies were to be used to plan and implement enhanced services in coordination with local HIV prevention and care programs to avoid duplication of effort and ensure people receive the benefits of the HIV service continuum across Oregon. Sustainability planning and partnerships with community-based and culturally specific organizations were highly encouraged and established as foundational for delivery of EISO. Furthermore, it was made clear that EISO monies were to supplement, not supplant, HIV services funded through other mechanisms.

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

Six LPHAs, representing 12 Oregon counties and the Confederated Tribes of Siletz Indians were awarded contracts for the delivery of EISO; primary grantees for LPHA partnerships are indicated below. Contracts were first awarded in January 2018 to identify, treat, and prevent HIV and sexually transmitted infections (STI) in partnership with community- based agencies and tribal nations in areas of Oregon most impacted by HIV, syphilis, and gonorrhea.



What is EISO?



HIV Early Intervention Services (EIS) identify people living with HIV, refer them to services, link them to care and provide health education to assist with navigating HIV care and support services. EIS is designed to ensure that all people newly diagnosed with HIV in Oregon are linked to HIV medical care within 30 days, with a goal of starting antiretroviral therapy within seven days, and ideally on the same day of diagnosis. Outreach Services are aimed at identifying individuals who do not know their HIV status or know their HIV-positive status but are not in care. Individuals who don't know their HIV status should be referred to testing and other adjunct services. Persons with HIV who are not in care should be linked to HIV medical, case management and other supportive services.

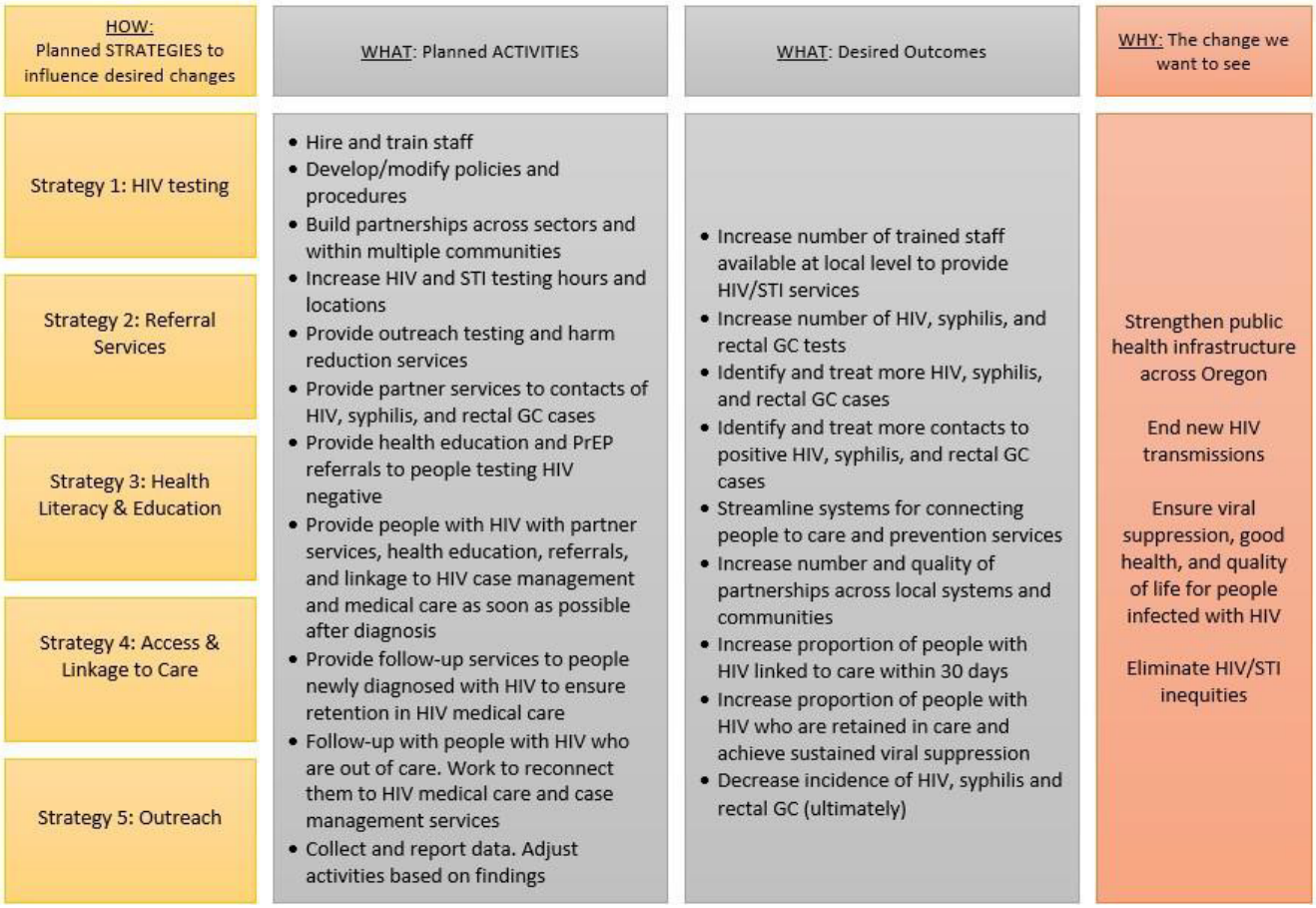
EISO is a status neutral approach that emphasizes high quality engagement and retention in services regardless of whether services are related to HIV prevention or HIV treatment. It is a no wrong door approach. Persons who are HIV-negative are referred to PrEP, offered education, STI testing, harm reduction and other services. Persons who are HIV-positive are rapidly linked to HIV treatment, medical care, and other Ryan White HIV/AIDS programs, such as case management. Rapid start of HIV treatment and viral suppression are key to reducing new HIV infections. Regardless of status, persons are referred to food programs, housing, behavioral health services, transportation, and other basic needs.

How EISO Supports Public Health Modernization and Statewide HIV/STI Goals

EISO funds support public health modernization and local public health infrastructure, including staff and equipment. 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 inequities.

Short-term goals for EISO include increased availability of integrated HIV/STI testing and expansion of HIV/STI partner services. Longer-term goals include the identification and treatment of HIV/STI and development of community partnerships that are foundational to health equity. Ultimately, EISO aims to reduce HIV and STI prevalence and to eliminate HIV and STI inequities.

EISO Strategy Map, Oregon, 2018-2022



About This Report

EISO was first funded in 2018, but LPHAs used the first year of this new program to establish EISO infrastructure; therefore, the data in this report cover four years (2019-2022).

The data in this report refer to either client-level data or case-level data. Client-level data refer to data about individual people; a person may be represented multiple times in the dataset, as some people had multiple enrollments. Case-level data refer to infections. Each case represents a specific incidence of a disease. Analyses of multiple enrollments, coinfections, and number of diagnoses are based on client-level data, while discussions of HIV and STI infections refer to case-level data.

Early syphilis refers to primary, secondary, or early non-primary/non-secondary syphilis.

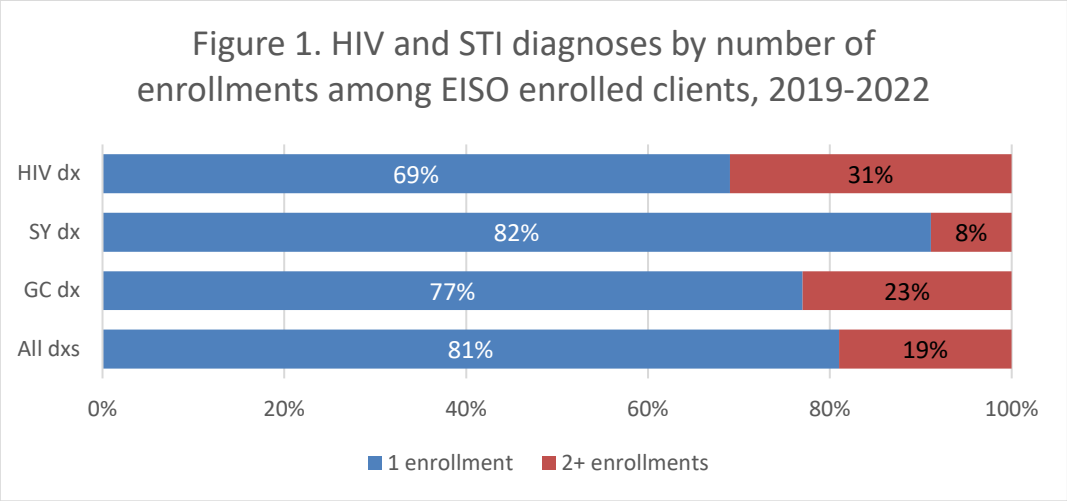
Because of the high volume of gonorrhea in Oregon, LPHAs are only required by contract to enroll people in EISO with rectal gonorrhea. Some LPHAs also choose to provide EISO services to people with other types of gonorrhea. These differences will be noted in the text, but most data will refer to rectal gonorrhea.

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

From 2019-2022, 715 HIV infections and 7,388 early syphilis and rectal GC infections were diagnosed and treated in EISO counties. This represents the majority of HIV (86%), early syphilis (91%), and rectal GC (97%) infections that were diagnosed in Oregon. Nearly all (99%) people with new HIV, early syphilis, and rectal GC infections diagnosed in EISO counties were enrolled in EISO. There were no statistically significant differences between people who were enrolled and not enrolled. Of those not enrolled in EISO (n=87), 5% (n=4) had more than one HIV/STI diagnosis during the four-year period; these four people were lost to follow-up/not reached, and then diagnosed with HIV or an STI again later.

Multiple Enrollments

From 2019-2022, EISO staff treated 2,887 cases of rectal GC, 4,334 cases of early syphilis, and 703 cases of HIV (Appendix B). Nineteen percent of clients (n=1183) were enrolled in EISO multiple times during the four-year period (Figure 1). Clients diagnosed with rectal GC were more likely to have multiple EISO enrollments than clients diagnosed with syphilis (23% vs. 8%). About one-third (31%) of clients with an HIV diagnosis had multiple enrollments in EISO during the four-year period.



Note: Client-level data.

Characteristics of EISO-Enrolled Clients with Multiple Enrollments

About 1 in 5 people who received EISO services between 2019-2022 were infected multiple times and received EISO services more than once (19%). Among this group:

- 76% had at least one rectal GC diagnosis and 43% had two or more rectal GC diagnoses.
- 69% had at least one syphilis diagnosis and 27% had two or more syphilis diagnoses.
- 19% had an HIV diagnosis.

Some clients were more likely to have multiple enrollments than others (Appendix C). Client characteristics associated with multiple enrollments at the bivariate level include:

Clients with multiple STI enrollments, either due to syphilis or rectal GC, were more likely to seroconvert to HIV.

- Male sex at birth (23%) vs. female (6%)
- Non-binary gender identity (46%) vs. female (5%) or male (23%)
- Clients under 35 years (21%) and clients aged 35-54 (19%) vs. clients 55 and older (15%)
- MSM (34%) vs. non-MSM (6%)
- Pacific Islander (32%) and Asian (28%) vs. American Indian/Alaska Native (14%) Unknown racial identity (14%), Black/African American (17%), White (19%), and Multiracial clients (23%)
- Hispanic/Latinx[1] (26%) vs. non-Hispanic/Latinx (20%)
- Stable housing (26%) vs. corrections (11%) or homelessness/unstable housing (18%), and
- Tri-county Portland metropolitan area (Multnomah, Clackamas, and Washington Counties) (22%) vs. non-tri-county (12%)[2]

We used multiple regression to identify which clients were more likely to have multiple enrollments, after controlling for related factors. The client characteristics that remain significantly associated with multiple enrollments were MSM (aPR=5.7), male sex at birth (aPR=1.5), living in the tri-county Portland metro area (aPR=1.5), and homelessness/unstable housing (aPR= 1.4).

Missed Opportunities

EISO is a status-neutral approach to providing HIV/STI care. People who test positive for HIV are quickly linked to HIV care and treatment services, while people with rectal GC and syphilis are ideally offered PrEP and other prevention resources along with treatment, to help ensure that HIV infection can be avoided. Stated another way – diagnosis with rectal gonorrhea or syphilis, in a person not infected with HIV, is a sentinel event that presents an urgent opportunity to avoid future HIV infection.

Eighty-eight percent of clients with a single syphilis enrollment (n=3110) and 78% of clients with a single rectal GC enrollment (n=1289) were not known to be HIV positive at the time of their STI diagnosis. Four percent of clients with a single syphilis enrollment and 7% of clients with a single rectal GC enrollment were newly diagnosed with HIV. (Table 1).

Clients with multiple STI enrollments (either syphilis or rectal GC) were more likely to seroconvert to HIV. Ten percent of clients with multiple STI enrollments and not known to be HIV positive at the time of their STI diagnosis seroconverted. (See Appendix D for a breakdown of clients who seroconverted with multiple syphilis or multiple rectal GC enrollments).

[1] Calculated ethnicity separately as some individuals may be counted in both race and ethnicity categories.

[2] Counties with above average multiple enrollments include Washington County (24%), Benton County (24%), Multnomah County (22%), and Clackamas County (20%). See Appendix A for more detail.

Table 1. HIV Seroconversions among EISO Clients with Single and Multiple STI Enrollments, 2019-2022

	N	%
Single syphilis enrollment	3,680	100%
Previous HIV diagnosis	570	12%
Not known to be HIV positive at time of syphilis diagnosis	3,110	88%
New HIV diagnosis among those with single SY enrollment and not known to be HIV positive	124/3,110	4%
Single rectal GC enrollment	1,650	100%
Previous HIV	361	22%
Not known to have HIV	1,289	78%
New HIV diagnosis among those with single rectal GC enrollment and not known to be HIV positive	85/1,289	7%
Multiple EISO enrollments (SY or rectal GC)	757	100%
Previous HIV diagnosis	253	33%
Not known to be HIV positive at time of STI diagnosis	504	66%
New HIV diagnosis among those with multiple STI enrollments and not known to be HIV positive	52/504	10%

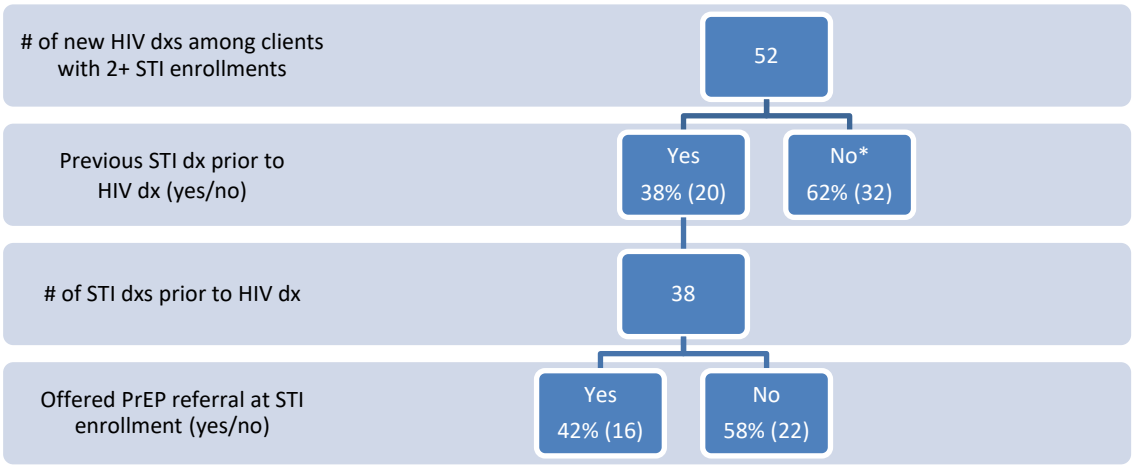
Note: Client-level data.

To estimate the number of potential missed opportunities to prevent HIV infection, the flow chart below shows the number of clients with multiple STI enrollments who seroconverted. Among newly diagnosed PLWH with multiple STI enrollments (n=52), 38% had an STI diagnosis prior to their HIV diagnosis and 62% were either coinfected or had additional STI enrollments after contracting HIV. Ten people had one prior STI diagnosis, four people had 2 prior STI diagnoses, five had 3 prior STI diagnoses, and one person had 5 prior STI diagnoses.

Thus, twenty people had 38 STI diagnoses prior to contracting HIV, *representing 38 missed opportunities to avoid future HIV infection.* During 42% of these STI enrollments, clients were offered a PrEP referral (16/38).

58% of visits among people with multiple enrollments for syphilis and rectal GC, who later seroconverted to HIV, did not include a PrEP referral, suggesting missed opportunities to prevent new HIV infections.

Flowchart: Missed Opportunities for PrEP Referrals



*Thirty-two newly diagnosed with HIV clients were coinfected with an STI at the time of HIV diagnosis or had multiple STI enrollments after they had already contracted HIV.

EISO-Enrolled Clients Newly Diagnosed with HIV, 2019-2022

Enrollment in EISO of people newly diagnosed with HIV was high over the four-year period: Of the 715 new HIV infections diagnosed within EISO counties, 703 were enrolled in EISO (98%). (Appendix E). People who test positive for HIV or disclose an HIV positive status and are not in care are provided an array of intensive support services through EISO to ensure a quick linkage to HIV treatment, medical care, case management and other services. The goal is to improve health and achieve viral suppression as soon as possible and within six months.

Between 2019-2022, 84% (n=589) of newly diagnosed PLWH in EISO were linked to care in 30 days or less, and 91% had two or more viral load tests. Clients who inject drugs were less likely to be linked to care within 30 days (78%). There were no other demographic or geographic differences in linkage to care within 30 days.

Among EISO-enrolled clients, 72% achieved viral suppression within six months.[4] People who experienced unstable housing/homelessness (52%), inject drugs (62%), and live outside the tri-county Portland metropolitan area (66%) were less likely to achieve viral suppression within six months.

Delayed diagnosis (e.g., AIDS diagnosis concurrent with or within 12 months of HIV diagnosis) isan 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. People with HIV who maintain viral suppression have zerochance of transmitting HIV to their sex partners. This concept is sometimes called Undetectable = Untransmittable or U=U. Twenty-two percent of HIV cases in EISO counties had delayed diagnosis between 2019-2022. Clients living outside the tri-county Portland metropolitan area (26% vs. 19% tri-county) were more likely to have a delayed diagnosis.

22% of HIV cases in EISO counties had a delayed diagnosis during this reporting period. Those living outside of the tri-county, Portland metro area were more likely to have delayed diagnosis.

Coinfections of EISO-Enrolled Clients Newly Diagnosed with HIV, 2019-2022

From 2019-2022, most clients newly diagnosed with HIV (69%) had no other diagnoses. Among those newly diagnosed with HIV with multiple EISO enrollments, 54% had at least one prior rectal GC diagnosis and 70% had at least one prior syphilis diagnosis. Fifteen percent had two or more prior rectal GC diagnoses and 13% had two or more prior syphilis diagnoses.

Providing HIV testing and prevention services to people with an STI should be EISO's primary strategy for identifying persons with HIV.

Seventeen percent of clients newly diagnosed with HIV were co-infected with syphilis at the time of EISO enrollment for HIV. Clients whose sex at birth was male (19% vs. 9% female), Hispanic/Latinx clients (22% vs. 15% non-Hispanic/Latinx), and clients in correctional facilities (30% vs. 17% stably housed or 17% homeless/unstably housed) were more likely be coinfected with syphilis at the time of their HIV diagnosis.

Eight percent of clients newly diagnosed with HIV were co-infected with rectal GC at the time of EISO enrollment for HIV. Clients whose sex at birth was male (15% vs. 6% female), MSM (18% vs. 2% non-MSM), and clients experiencing unstable housing/homelessness (21% vs. 13% stably housed) were more likely be coinfected with rectal GC at the time of their HIV diagnosis.

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. *Providing HIV testing and prevention services to people with an STI should be EISO's primary strategy 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, 2019-2022

Because of high rates of HIV/STI coinfection in Oregon, integrated testing (for HIV, syphilis, and gonorrhea) is a priority. Two-thirds of 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:

- 67% were tested for other STIs (474/703). Among those tested, 17% (n=80) were positive for syphilis and 16% (n=77) were positive for gonorrhea, including 43 new cases of rectal gonorrhea.

There were no demographic or geographic differences between people newly diagnosed with HIV who were and were not tested for STI between 2019 and 2022.

Partner Services for People Newly Diagnosed with HIV

- 85% received a partner services interview about sexual and needle-sharing contacts and offers to help contacts access testing and treatment.
- 35% of those offered partner services identified one or more contacts with enough information to facilitate follow-up, for a total of 380 identified contacts.

HIV Testing and Treatment of People with Early Syphilis

Oregon is experiencing a syphilis epidemic and syphilis and HIV coinfection is common. From 2019-2022, 4,392 syphilis cases were diagnosed in EISO counties; 99% were enrolled in EISO. (Appendix F). Early syphilis includes primary syphilis (generally characterized by a painless sore at site of infection), secondary syphilis (whose symptoms often include rashes, swollen lymph nodes, andfever), and early non-primary, non-secondary syphilis (the asymptomatic stage that used to be called early latent, usually thought to be within one year of infection). Late latent or tertiary syphilis occurs when early syphilis is not detected and treated; tertiary syphilis can result in severe medical complications. EISO focuses on early syphilis cases and those are the data detailed in this report.

Seventy-six percent of EISO-enrolled early syphilis cases received partner services (n=3278), including 74% of people with primary and secondary syphilis and 78% of people with non-primary, non-secondary syphilis. Among people with the most infectious cases (primary and secondary), some people were more likely to have received a partner services interview. These included:

- Male sex at birth (76% vs. 71% female)
- Pacific Islander (100%) and Asian (89%) vs. Unknown racial identity (68%), White (74%), Black/African American (80%), American Indian/Alaska Native (81%), and Multiracial clients (82%)
- Hispanic/Latinx clients (83% vs. 77% non-Hispanic/Latinx)
- Non-MSM (93% vs. 89% MSM)
- People who do not inject drugs (non-PWID) (94% vs. 81% PWID), and
- People with stable housing (94% vs 66% homeless/unstably housed)

The client characteristics that remain significantly associated with a partner services interview, using multiple regression, which controls for related factors, were living outside the tri-county Portland metro area (aPR=1.05) and stable housing (aPR= 1.09).

Among those interviewed, 34% (n=1105) identified one or more contacts with enough information to facilitate follow-up, for a total of 1,626 identified contacts. Among people with the most infectious cases (primary and secondary), some people were more likely to identify contacts. These included:

- Female sex at birth (54% vs. 28% male)
- American Indian/Alaska Native (47%), White (37%), and Unknown racial identity (36%) vs. Pacific Islander (14%), Asian (19%), Black/African American (27%) and Multiracial clients (30%)
- Non-MSM (42% vs. 20% MSM)

- Homeless/unstably housed (40% vs. 31% stably housed)
- People who inject drugs (PWID) (43% vs. 35% non-PWID), and
- People living outside the tri-county Portland metropolitan area (50% vs. 27% tri-county)

No client characteristics remained significant after controlling for interactions of related factors.

Twenty-one percent of early syphilis cases (n=4334) were previously diagnosed with HIV. Of the 79% (n=3430) who were not known to be HIV+ at the time of syphilis diagnosis, 55% (1896/3430) were tested for HIV (Table 4).

Table 4. HIV Status and Testing, EISO-Enrolled Clients with Syphilis, 2019-2022 (N=4,334)

HIV Status/Testing	N	%
Previous HIV diagnosis	904	21%
Not known to be HIV positive at time of syphilis diagnosis	3430	79%
HIV Tested	1896	55%
New HIV Positive	69	3.6%

Note: Case-level data

EISO staff offered 1,223 PrEP referrals, representing 36% of the 3,430 syphilis cases among people not known to be HIV positive at time of syphilis diagnosis.

HIV Testing and Treatment of People with Rectal Gonorrhea

EISO has prioritized testing and treatment of rectal GC over other types of GC because of the high risk of HIV seroconversion, and because there are too many cases of gonorrhea than resources available to realistically follow-up with intensive services. In counties with fewer overall HIV/STI cases, non-rectal gonorrhea cases may also be enrolled in EISO, but data in this report are limited to rectal GC.

Between 2019-2022, 2,996 cases of rectal gonorrhea were diagnosed in EISO counties, with 96% enrolled in EISO (n=2887) (Appendix G). Sixty-seven percent of people with rectal GC who were enrolled in EISO received a partner services interview (n=1941). Hispanic/Latinx (74% vs. 68% non-Hispanic/Latinx) clients and people enrolled in counties outside the Portland tri-county area (74% vs. 66% tri-county) were more likely to receive partner services, whereas people who inject drugs (PWID) (80% vs. non-PWID 87%) were less likely to receive a partner services interview.

Among those receiving partner services interviews, 8% (n=163) identified one or more contacts with enough information to facilitate follow-up, for a total of 212 contacts. Females (24% vs. 7% males), PWID of all genders (16% vs. 9% non-PWID), and people enrolled in counties outside the Portland tri-county area (35% vs. 5% tri-county) were more likely to identify contacts.

Table 5. HIV Status and Testing, EISO-Enrolled Clients with Rectal GC, 2019-2022 (N=2,887)

HIV Status/Testing	N	%
Previous HIV diagnosis	754	26%
Not known to be HIV positive at time of rectal GC diagnosis	2,133	74%
HIV Tested	1,280	60%
New HIV Positive	54	4.2%

Note: Case-level data

Twenty-six percent of rectal GC cases (n=2887) were previously diagnosed with HIV. Of the 74% (n=2133) who were not known to be HIV-positive at the time of GC diagnosis, 60% (1280/2133) were tested for HIV (Table 5). Clients whose sex at birth was male (86% vs. 75% female) and clients in the Portland tri-county area (86% vs. 73% non-tri-county) were more likely to receive HIV testing.

From 2019-2022, EISO staff offered 680 PrEP referrals, representing 32% of the 2,133 rectal GC cases among people not known to be HIV positive at time of rectal GC diagnosis. As previously mentioned, diagnosis with rectal gonorrhea, in a person not infected with HIV, is a critical intervention opportunity; referral and assistance with PrEP access can significantly reduce future HIV infections.

Partnerships

EISO grantees used EISO funding as an opportunity to develop or deepen relationships with community partners who serve people facing HIV/STI inequities. EISO partnerships include formal resource-sharing agreements (e.g., subcontracts), participation on community advisory boards or coalitions, and collaboration on shared events. During this EISO Phase 1 period, LPHAs subcontracted with the following community-based organizations:

- Cascade AIDS Project
- Familias En Acción
- HIV Alliance
- Latino Network
- Neighborhood Health Center
- OHSU/Partnership Project
- Out Central Oregon
- Outside In
- Quest Center for Integrative Health

EISO grantees collaborated with community-based agencies throughout Oregon to support events in nonclinical settings. This increased awareness of HIV/STI through sexual and drug use health education, and improved access to testing, prevention, and care services for those who might not seek services in a clinic-based setting. From 2019-2022, EISO grantees and their

partners tested 7,059 people for HIV in community settings, such as drug treatment facilities, syringe exchange or harm reduction sites, mobile vans, corrections, and community-based organizations; 41 people tested positive (<1%).

Partnerships with community-based agencies that have established and trusted relationships with people facing HIV/STI inequities are foundational to health equity and improve health outcomes. However, EISO programs should ensure that higher yield strategies (e.g., testing STI patients for HIV and partner services for people with HIV and STI) are fully supported before testing in community settings.

EISO Phase 1 Key Takeaways:

- EISO staff have been highly successful in enrolling people with HIV, syphilis, and rectal gonorrhea into EISO services.
- EISO improves linkage to care and reduces time to viral suppression for people newly diagnosed with HIV.
- HIV/STI coinfection is common, as is multiple enrollments in EISO – about 1 in 5 people who received EISO services between 2019-2022 were infected multiple times and received EISO services more than once.
- Seropositivity among EISO clients with rectal GC and syphilis is extremely high, especially among clients with multiple enrollments – 10% of people with multiple STI enrollments seroconverted to HIV between 2019-2022.
- Clients who were more likely to have multiple enrollments included people with the following characteristics: MSM, male sex at birth, living in the tri-county Portland metro area, and homelessness/unstable housing. This was after controlling for possible relationships between client characteristics.

10% of EISO clients who had multiple STIs seroconverted to HIV within a four-year timeframe.

- PrEP referrals were low, including among the clients at highest risk of HIV seroconversion – 58% of visits among people with multiple enrollments for rectal GC or syphilis, that later seroconverted to HIV, did not include a PrEP referral.
- PWID and clients with unstable housing/experiencing homelessness were less likely to receive a Partner Services interview but were more likely to identify contacts.

Recommendations:

- Outreach strategies should focus heavily on:
    1. integrated HIV/STI testing,
    2. treatment and follow-up of clients with syphilis and rectal GC diagnoses, and
    3. PrEP referrals to avoid missed opportunities.
- Test all persons diagnosed with sexually transmitted infections for HIV (unless they are HIV positive). Integrated HIV/STI testing is key and should be best practice.
- Offer PrEP referrals and navigation to all EISO enrolled clients who test negative for HIV; however, prioritize persons diagnosed with syphilis and rectal GC.
- Use data to direct local resources and programming.
- Create partnerships with organizations that can address HIV/STI inequities.

Appendices

Appendix A: Demographics of EISO-Enrolled cases and clients, 2019-2022

	Total (cases)		Total (clients)	
	N	**Col %**	**N**	**Col %**
Total	7924	100%	6105	100%
Gender Identity				
Male	6411	81%	4699	77%
Female	1284	16%	1210	20%
Transgender Female	100	1.3%	82	1.3%
Transgender Male	37	0.5%	33	0.5%
Nonbinary	79	1.0%	69	1.1%
Transgender Unknown	1	0.01%	1	0.02%
Missing	12	0.2%	11	0.2%
Sex at Birth				
Male	6579	83%	4837	79%
Female	1329	17%	1253	21%
Missing	16	0.2%	15	0.3%
Age Group				
Under 15	2	0.03%	2	0.03%
15-19	158	2%	132	2%
20-24	841	11%	636	10%
25-29	1498	19%	1,104	18%
30-39	2736	35%	2,078	34%
40-49	1551	20%	1,213	20%
50-59	842	11%	683	11%
60+	295	4%	256	4%
Missing	1	0.01%	1	0.02%
Race				
American Indian/Alaska Native	176	2%	139	3%
Asian	256	3%	183	3%
Black/African American	610	8%	473	8%
White	5123	65%	3958	65%
Multiracial	233	3%	178	3%
Native Hawaiian/ Pacific Islander	61	1%	40	0.7%
Other	638	8%	445	7%
Missing	827	10%	689	11%
Ethnicity				
Hispanic/Latinx	1414	18%	998	16%

Housing Status				
Corrections	119	2%	117	2%
Homeless/Unstably housed	832	11%	770	13%
Stable Housing	3238	41%	2736	45%
Missing	3735	47%	2482	41%
Men who Have Sex with Men (MSM)	3834	48%	2909	48%
Persons who Inject Drugs (PWID)	919	12%	818	13%
County				
Multnomah	4,502	57%	3,165	52%
Washington	908	11%	702	12%
Clackamas	572	7%	482	8%
Benton	79	1%	63	1%
Lane	703	9%	620	10%
Marion	576	7%	515	8%
Linn	124	2%	113	1.9%
Jackson	212	3%	206	3%
Jefferson	23	0.3%	23	0.4%
Deschutes	104	1.3%	99	1.6%
Lincoln	36	0.5%	32	0.5%
All other counties	85	1.1%	85	1.4%

Appendix B. Number of Diagnoses of EISO-Enrolled Clients and Cases by Disease Type, 2019-2022

This table show the number of diagnoses for rectal GC, syphilis, and HIV at both the case-level (disease incidence) and client-level (person) among EISO-enrolled clients.

	Rectal GC				Syphilis				HIV			
# of diagnoses	Cases (N)	Col % of Cases	People (N)	Col % of People	Cases (N)	Col % of Cases	People (N)	Col % of People	Cases (N)*	Col % of Cases	People (N)*	Col % of People
1	1,257	43.5	1,650	76.6	3,176	73.3	3,680	92.1	489	69.6	708	100
2	709	24.6	336	15.6	669	15.4	273	6.8	140	19.9		
3	384	13.3	101	4.7	240	5.5	36	0.9	40	5.7		
4	218	7.6	34	1.6	124	2.9	6	0.2	21	3.0		
5	132	4.6	17	0.8	58	1.3			7	1.0		
6	69	2.4	9	0.4	28	0.6			4	0.6		
7	57	2.0	3	0.1	24	0.6			2	0.3		
8	38	1.3	2	0.1	9	0.2			0	0.0		
9	6	0.2	1	0.0	3	0.1			0	0.0		
10	17	0.6		0.0	3	0.1			0	0.0		
Total (n)	2,887	100	2,153	100	4,334	100.0	3,995	100	703	100.0	708	100

Note: The difference in the number of HIV cases and people is due to whether a person was enrolled during their HIV diagnosis. Five people were not enrolled during their HIV diagnosis but enrolled later for other STI diagnoses. They were not counted as enrolled in the case-level data but were counted as enrolled in the person-level data.

Appendix C. Single and Multiple EISO Enrollments by Demographics of Clients Diagnosed with HIV/STI, 2019-2022

	Single enrollments		Multiple enrollments	
	N	**Row %**	**N**	**Row %**
Total	4922	81%	1183	19%
Gender Identity				
Male	3640	77%	1059	23%
Female	1149	95%	61	5%
Transgender Female	61	74%	21	26%
Transgender Male	25	76%	8	24%
Nonbinary	37	53%	32	46%
Transgender Unknown	1	100%	0	0%
Missing	9	82%	2	18%
Sex at Birth				
Male	3726	77%	1111	23%
Female	1183	94%	70	6%
Missing	13	87%	2	13%
Age Group				
Under 15	2	100%	0	0%
15-19	122	92%	10	8%
20-24	530	83%	106	17%
25-29	855	77%	249	23%
30-39	1641	79%	437	21%
40-49	971	80%	242	20%
50-59	582	85%	101	15%
60+	218	85%	38	15%
Missing	1	100%	0	0%
Race				
American Indian/Alaska Native	119	86%	20	14%
Asian	132	72%	51	28%
Black/African American	393	83%	80	17%
White	3189	81%	769	19%
Multiracial	137	77%	41	23%
Native Hawaiian/ Pacific Islander	27	68%	13	32%
Other	335	75%	110	25%
Missing	590	86%	99	14%

Ethnicity				
Hispanic/Latinx	740	74%	255	26%
Not Hispanic/Latinx	3536	80%	877	20%
Missing	646	93%	51	7%
Housing Status				
Corrections	104	89%	13	11%
Homeless/Unstably housed	631	82%	139	18%
Stable Housing	2018	74%	718	26%
Missing	2169	87%	313	13%
Men who Have Sex with Men (MSM)				
Yes	1930	66%	979	34%
No	823	94%	54	6%
Missing	2169	94%	150	6%
Persons who Inject Drugs (PWID)				
Yes	627	77%	191	23%
No	2762	77%	841	23%
Missing	1533	91%	151	9%
County				
Multnomah	2458	78%	707	22%
Washington	531	76%	171	24%
Clackamas	384	80%	88	20%
Benton	48	76%	15	24%
Lane	545	88%	75	12%
Marion	450	87%	65	13%
Linn	101	89%	12	11%
Jackson	198	96%	8	4%
Jefferson	22	96%	1	4%
Deschutes	92	93%	7	7%
Lincoln	26	81%	6	19%
All other counties	67	79%	18	21%
Tri-County				
Multnomah, Washington, & Clackamas	3373	78%	976	22%
Other EISO counties	1549	88%	207	12%

Note: Client-level data. All group differences are significant at the $p<.001$ level.

Appendix D. New HIV Diagnoses among EISO-Enrolled Clients with Syphilis & Rectal GC, 2019-2022

	N	%
Syphilis diagnosis	3995	100%
Single syphilis enrollment	3680	92%
Multiple syphilis enrollments	315	8%
Previous HIV diagnosis	133/315	42%
Not known to be HIV positive at time of syphilis diagnosis	182/315	58%
New HIV diagnosis	29/182	16%
Previous STI diagnosis prior to HIV diagnosis	10/29	35%
Rectal GC diagnosis	2153	100%
Single rectal GC enrollment	1650	77%
Multiple rectal GC enrollments	503	23%
Previous HIV diagnosis	154/503	31%
Not known to be HIV positive at time of rectal GC diagnosis	349/503	69%
New HIV diagnosis	33/349	10%
Previous STI diagnosis prior to HIV diagnosis	14/33	42%

Note: Client-level data.

Appendix E. Demographics of Clients Newly Diagnosed with HIV & EISO-Enrolled, 2019-2022

	N	Col %
Total	703	100%
Gender Identity		
Male	580	83%
Female	90	13%
Transgender Female	19	3%
Transgender Male	2	0.3%
Nonbinary	12	2%
Transgender Unknown	0	0%
Missing	0	0%
Sex at Birth		
Male	610	87%
Female	93	13%
Missing	0	0%
Age Group		
Under 15	0	0%
15-19	16	2%
20-24	88	13%
25-29	130	18%
30-39	230	33%
40-49	126	18%
50-59	77	11%
60+	36	5%
Race		
American Indian/Alaska Native	16	2%
Asian	22	3%
Black/African American	67	10%
White	453	64%
Multiracial	28	4%
Native Hawaiian/ Pacific Islander	6	1%
Other	70	10%
Missing	41	6%
Ethnicity		
Hispanic/Latinx	168	24%
Housing Status		
Corrections	8	1%
Homeless/Unstably housed	146	21%

Stable Housing	526	75%
Missing	23	3%
Men who Have Sex with Men (MSM)	478	68%
Persons who Inject Drugs (PWID)	168	24%
County of Residence		
Multnomah	274	39%
Washington	97	14%
Clackamas	64	9%
Benton	10	1.4%
Lane	46	7%
Marion	68	10%
Linn	16	2%
Jackson	23	3%
Jefferson	3	0.4%
Deschutes	16	2%
Lincoln	6	0.9%
All other counties	80	11%
Tri-County Residence		
Multnomah, Washington, & Clackamas	435	62%
Other EISO counties	268	38%
County of HIV Diagnosis		
Multnomah	305	43%
Washington	115	16%
Clackamas	69	10%
Benton	12	1.7%
Lane	57	8%
Marion	80	11%
Linn	22	3%
Jackson	26	4%
Jefferson	4	0.6%
Deschutes	18	2.5%
Lincoln	6	0.8%
All other counties	1	0.1%
Diagnosed for HIV in Tri-County		
Multnomah, Washington, & Clackamas	489	68%
Other EISO counties	226	32%

Note: Case-level data.

Appendix F. Demographics of People with Early Syphilis & EISO-Enrolled, 2019-2022

	Primary & Secondary (N)	Early Non-primary, non-secondary (N)	Total Early Syphilis (N)	Total Early Syphilis (Col %)
Total EISO-enrolled	2806	1528	4334	100%
Gender Identity				
Male	2018	1180	3198	74%
Female	749	306	1055	24%
Transgender Female	15	19	34	0.8%
Transgender Male	7	8	15	0.3%
Nonbinary	13	14	27	0.6%
Missing	4	1	5	0.1%
Sex at birth				
Male	2038	1212	3250	75%
Female	763	315	1078	25%
Missing	5	1	6	0.1%
Age Group				
Under 15	1	0	1	0.02%
15-19	56	29	85	2%
20-24	269	123	392	9%
25-29	452	261	713	16%
30-39	960	498	1458	34%
40-49	627	341	968	22%
50-59	315	216	531	12%
60+	126	60	186	4%
Missing	0	0	0	0%
Race				
American Indian/Alaska Native	82	37	119	3%
Asian	61	49	110	3%
Black/African American	235	137	372	9%
White	1842	996	2838	65%
Multiracial	187	44	231	5%
Native Hawaiian/ Pacific Islander	14	8	22	1%
Other	0	131	131	3%
Missing	385	126	511	12%
Ethnicity				
Hispanic/Latinx	369	309	678	16%
Housing Status				
Corrections	79	31	110	3%

Homeless/Unstably housed	462	148	610	14%
Stable Housing	998	645	1643	38%
Missing	1267	704	1971	45%
Men who Have Sex with Men (MSM)	903	802	1705	39%
Persons who Inject Drugs (PWID)	428	201	629	15%
County				
Multnomah	1271	849	2120	49%
Washington	290	195	485	11%
Clackamas	256	90	346	8%
Benton	24	16	40	1%
Lane	368	159	527	12%
Marion	328	106	434	10%
Linn	65	28	93	2%
Jackson	124	51	175	4%
Jefferson	12	7	19	0.4%
Deschutes	50	16	66	2%
Lincoln	17	11	28	1%
All other counties	1	0	1	0.02%
Diagnosed for HIV in Tri-County				
Multnomah, Washington, & Clackamas	1817	1134	2951	68%
Other EISO counties	989	394	1383	32%

Note: Case-level data.

Appendix G. Demographics of People with Rectal Gonorrhea & EISO- Enrolled, 2019-2022

	N	%
Total EISO-enrolled	2887	100
Gender Identity		
Male	2633	91%
Female	139	5%
Transgender Female	47	2%
Transgender Male	40	1.4%
Transgender Unknown	20	0.7%
Nonbinary	1	0.0%
Missing	7	0.2%
Sex at birth		
Male	2719	94%
Female	158	5%
Missing	10	0.3%
Age Group		
Under 15	1	0%
15-19	57	2%
20-24	361	13%
25-29	655	23%
30-39	1048	36%
40-49	457	16%
50-59	234	8%
60+	73	3%
Missing	1	0.0%
Race		
American Indian/Alaska Native	41	1.4%
Asian	124	4%
Black/African American	171	6%
White	1831	63%
Multiracial	84	3%
Native Hawaiian/ Pacific Islander	33	1.1%
Other	250	9%
Missing	353	12%
Ethnicity		
Hispanic/Latinx	568	20%
Housing Status		
Corrections	1	0.0%
Homeless/Unstably housed	76	3%

Stable Housing	1069	37%
Missing	1741	60%
Men who Have Sex with Men (MSM)	1651	57%
Persons who Inject Drugs (PWID)	122	4%
County		
Multnomah	2108	73%
Washington	326	11%
Clackamas	162	6%
Benton	29	1%
Lane	130	5%
Marion	74	3%
Linn	15	0.5%
Jackson	14	0.5%
Jefferson	1	0.0%
Deschutes	22	0.8%
Lincoln	2	0.1%
All other counties	4	0.1%
Diagnosed for HIV in Tri-County		
Multnomah, Washington, & Clackamas	2596	90%
Other EISO counties	291	10%

Note: Case-level data.