IDAHO DEPARTMENT OF HEALTH & WELFARE

Disease Bulletin

VOLUME 25 NUMBER 1 • APRIL 2018

Working Together to Address Rising STD Rates

Are increases in bacterial sexually transmitted disease (STD) reports outpacing our collective ability to respond? The answer, for the moment, seems to be yes.

After historically low rates in Idaho were achieved by public health officials and healthcare providers for the most frequently reported STDs (chlamydia, gonorrhea, and early syphilis) in the late 1990s, continual increases in incidence rates have been noted for each (Figures 1,2,3). The magnitude of these increases in Idaho is unlike that seen during the previous three decades. Idaho's rapid rise in STD case-rates are similar to record-breaking increases seen regionally and nationally.[1] The Idaho Department of Health and Welfare (IDHW) is urging healthcare providers to heighten their suspicion for STDs, perform risk assessments, advocate for achievable risk reduction, test for STDs, and quickly and appropriately treat infected patients and partners.

Factors Influencing Surveillance Findings

Increases in STD reports are likely related to a combination of factors. Inadequate condom use might be a significant contributor to the increases noted. Condom use during the most recent sexual act among sexually active adults remains low, at about 34% for persons with high-risk sexual behaviors.[2] Condom use has decreased significantly among men who have sex with men (MSM)[3] and survey findings also reflect decreasing condom use among high school youth.[4]

The rise in STDs, particularly gonorrhea and more recently syphilis, parallels an increased availability and use of mobile dating applications (apps). The Pew Research Center reports approximately 15% of U.S. adults have used online dating sites or dating apps and the use of online sites or apps for dating has nearly tripled since 2013 among persons aged 18–24 years.[5] Mobile phone app usage has been associated with a higher number of sex partners and higher rates of STD among MSM.[6,7] Some apps can facilitate anonymous sexual encounters, making partner notification, testing, and treatment for those with or exposed to STDs complicated and inadequate to reduce spread. Although testing technologies haven't changed significantly for STDs over the last ten years, some of the increase in reported cases might reflect more frequent extragenital testing for chlamydia and gonorrhea in response to CDC recommendations for use of these more sensitive nucleic acid tests for extragenital sites.[8]

Drug resistance to recommended treatment regimens for gonorrhea, a significant threat to control, does not seem to have contributed to increased gonorrhea rates. Prevalence of reduced ceftriaxone susceptibility among *Neisseria gonorrhoeae* isolates at sentinel surveillance sites decreased during 2010–2014[9] and there have been no reported failures of recommended gonorrhea treatment regimens in Idaho.

STD and family planning services traditionally provided by Idaho Public Health Districts (PHDs) are *de facto* STD specialty clinics. PHDs are often the only facilities in some areas of Idaho with on-hand long-acting benzathine penicillin G, the recommended treatment for syphilis. Reduced federal funding for the delivery of STD and family planning services in PHDs has resulted in the reduction or elimination of STD clinical services in some areas of Idaho. Other states are also experiencing similar funding and service reductions, leading to reductions in clinic hours, screening, and partner services.[10]

STD RATES CONTINUED ON PAGE TWO

BUREAU OF COMMUNICABLE DISEASE PREVENTION

Contributing Staff

CHRISTINE G. HAHN, MD
State Epidemiologist

KATHRYN TURNER, PhD, MPH
Bureau Chief

LESLIE TENGELSEN, PhD, DVM
State Public Health Veterinarian

JARED BARTSCHI, MHE
Epidemiologist

KRIS CARTER, DVM, MPVM
Career Epidemiology Field Officer

SCOTT HUTTON, MPH
Epidemiologist

KRISTIN ARKIN, MPH
Preparedness Field Assignee

Figure1. Chlamydia Rates by Year of Report—Idaho, 1988–2017*

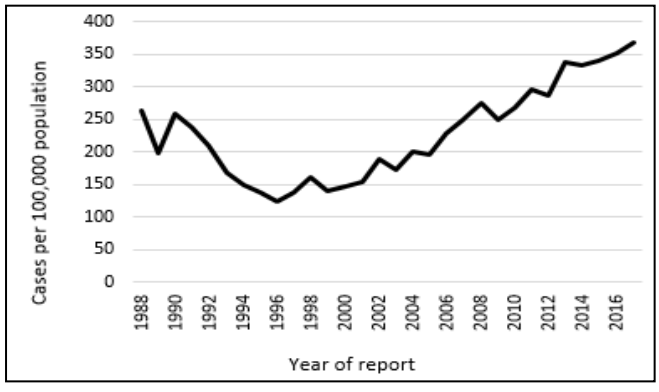
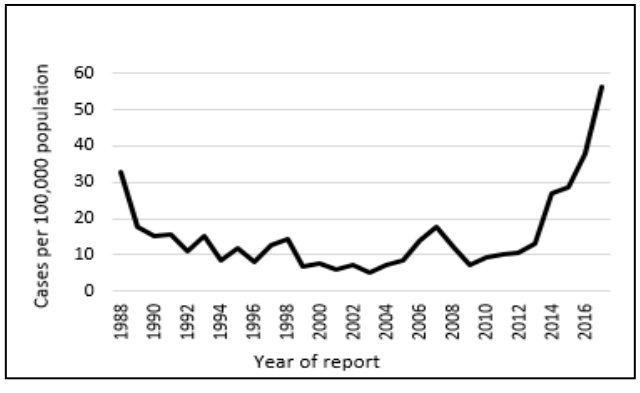


Figure 2. Gonorrhea Rates by year of Report—Idaho, 1988–2017*



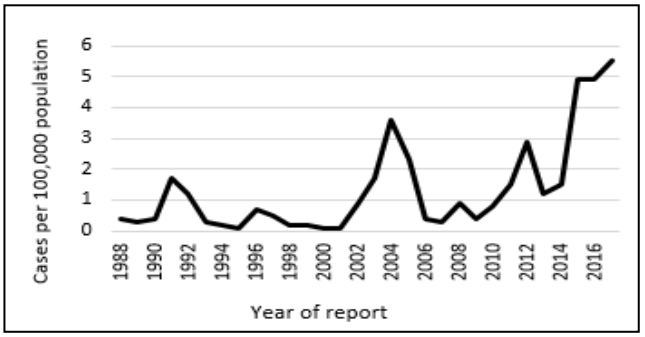
STD RATES CONTINUED FROM PAGE ONE

Combating the STD Increase

Healthcare providers are critical for controlling STDs in the community. Screening patients for STDs and treating infected patients and exposed partners appropriately can decrease the infectious period. Understanding screening criteria (Box 1), and performing behavioral assessments during patient visits are essential for proper patient screening. Healthcare providers must be able to discuss delicate subjects with their patients to accurately assess risk for infection. The online self-study modules in the National STD Curriculum contain resources to help providers perform behavioral assessments (see below).

Treatment of patients and exposed partners with appropriate antibiotic regimens[12] is critical to protect patients from serious outcomes of inadequately treated infection, reduce transmission, and slow development of resistant bacterial strains. Expedited partner therapy (EPT), in which providers prescribe or provide prophylactic medications for named sexual partners without first examining them, is permissible in Idaho under current Idaho law (see https://legislature.idaho.gov/statutesrules/idstat/Title54/T54CH17/SECT54-1733/) and all adjacent states.[11]

Figure 3. Early Syphilis Rates by year of Report—Idaho, 1988–2017*



Although fewer PHDs in Idaho are providing clinical STD services, these agencies continue to be important partners in combating STDs. In response to STD reports from laboratories and healthcare providers, PHD epidemiologists interview patients, perform contact tracing, and provide resources for contacts to receive testing and prophylactic treatment. Reporting STDs promptly (within 3 working days, per IDAPA 16.02.10) enables timely action by PHDs to reduce the spread of disease.

Resources for Clinicians

- National STD Curriculum: Online self-study modules for clinicians (CNE/CME available) https://www.std.uw.edu/custom/self-study
- Training opportunity: STD Update for Clinicians: August 9, 2018 at Spring Hill Suites, Boise (CNE/CME available) http://courses.nnptc.org/upcomingclasses.html
- STD Clinician Consultation Network: provides STD clinical consultation services within 1-5 business days to healthcare providers across the United States (M-F, 8 AM-5 PM). https://stdccn.org/

Box 1: STD Screening Recommendations

	CHLAMYDIA	GONORRHEA	SYPHILIS
Women	• Sexually active and aged < 25 years • Sexually active and aged ≥ 25 years if at increased risk* • Retest 3 months after treatment		• Women at increased risk of syphilis†
	• All pregnant women < 25 years of age and older women if at increased risk*		• All pregnant women at the first prenatal visit
	• Retest pregnant women during the 3rd trimester if aged < 25 years or at increased risk* • Pregnant women with chlamydial infection should have a test-of-cure 3-4 weeks after treatment and be retested within 3 months	• Retest pregnant women 3 months after treatment	• Retest pregnant women early in the third trimester and at delivery if at high risk†
Men	• Consider screening young men in high prevalence clinical settings‡ or in populations with high burden of infection (e.g. MSM)§ • At least annually for sexually active MSM at sites of contact (urethra, rectum) regardless of condom use, every 3-6 months if at increased risk*	• At least annually for sexually active MSM at sites of contact (urethra, rectum, pharynx) regardless of condom use, every 3-6 months if at increased risk§	• Men at increased risk of syphilis†,§
Persons with HIV	• For sexually active individuals, screen at first HIV evaluation, and at least annually thereafter • More frequent screening might be appropriate depending on individual risk behaviors and the local epidemiology*,†,§		

References

[1] Centers for Disease Control and Prevention. Sexually Transmitted Disease Surveillance 2016. Atlanta: U.S. Department of Health and Human Services; 2017. https://www.cdc.gov/std/stats16/default.htm.

[2] Nasrullah M, et al. Factors Associated With Condom Use Among Sexually Active US Adults, National Survey of Family Growth, 2006-2010 and 2011-2013. Journal of Sexual Medicine 14(4): 541-550. https://stacks.cdc.gov/view/cdc/46645.

[3] Paz-Bailey G, et al. Trends in condom use among MSM in the United States: the role of antiretroviral therapy and seroadaptive strategies. AIDS 30(12): 1985-90. https://www.ncbi.https://www.ncbi.nlm.nih.gov/pubmed/27149088.

[4] Harper CR, et al. Variability in Condom Use Trends by Sexual Risk Behaviors: Findings from the 2003-2015 National Youth Risk Behavior Surveys. Sexually Transmitted Diseases. November 16, 2017. https://www.ncbi.nlm.nih.gov/pubmed/29465682.

[5] Pew Research Center. FactTank: 5 facts about online dating. Web page. Accessed 2/26/2018. https://www.ncbi.nlm.nih.gov/pubmed/29465682.

[6] Lehmiller J, Ioerger L. Social Networking Smartphone Applications and Sexual Health Outcomes among Men Who Have Sex with Men. PLOS One. http://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0086603&type=printable.

[7] DeSilva M, et al. A case–control study evaluating the role of internet meet-up sites and mobile telephone applications in influencing a syphilis outbreak: Multnomah County, Oregon, USA 2014. Sexually Transmitted Infections 2016; 92:353-358. http://sti.bmj.com/content/92/5/353.

[8] Centers for Disease Control and Prevention. Recommendations for the laboratory-based detection of Chlamydia trachomatis and Neisseria gonorrhoeae—2014. MMWR 2014;63(No. RR-2). https://www.cdc.gov/mmwr/pdf/rr/rr6302.pdf.

[9] Centers for Disease Control and Prevention. Sexually Transmitted Disease Surveillance 2015: Gonococcal Isolate Surveillance Project (GISP) Supplement and Profiles. Atlanta: U.S. Department of Health and Human Services; 2017. https://www.cdc.gov/std/gisp/default.htm.

[10] Leichliter J, et al. US Public Sexually Transmitted Disease Clinical Services in an Era of Declining Public Health Funding: 2013–14. Sexually Transmitted Diseases 2017; 44:505-509. https://journals.lww.com/stdjournal/pages/articleviewer.aspx?year=2017&issue=08000&article=00012&type=Fulltext.

[11] Centers for Disease Control and Prevention. Sexually Transmitted Diseases: Legal status of expedited partner therapy (EPT). Web page. Accessed 2/28/2018. https://www.cdc.gov/std/ept/legal/idaho.htm.

[12] Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines, 2015. MMWR Recomm Rep 2015;64(No. RR-3); 1-137. https://www.cdc.gov/std/tg2015/tg-2015-print.pdf.

Gastroenteritis Outbreaks in Idaho Long-Term Care Facilities Prompt Call for Specimens

Norovirus (NV) is the most frequently identified cause of acute gastroenteritis outbreaks in long-term care facilities (LTCFs) and typically requires enhancing facility infection control practices. NV outbreaks in LTCFs can have long durations, interrupt facility operations, and have severe outcomes, such as hospitalization or death of residents.

Acute gastroenteritis outbreaks* are reported to Idaho public health officials and investigated by local Public Health Districts (PHDs) per IDAPA 16.02.10 (Idaho Reportable Diseases) with the support of the Idaho Division of Public Health. During 2012–2016 in Idaho, 171 acute gastroenteritis outbreaks were reported; 70% (121/171) were associated with LTCFs, of these, 63% (76/121) were NV outbreaks. Acute gastroenteritis outbreaks in LTCFs demonstrated a winter-spring seasonality, with most occurring December through April (Figure 1), similar to national trends.

New strains of NV emerge every 2 to 4 years worldwide; typically, in the U.S., one strain quickly predominates. An emergent strain can be associated with increased morbidity and an increase in the number of related outbreaks.

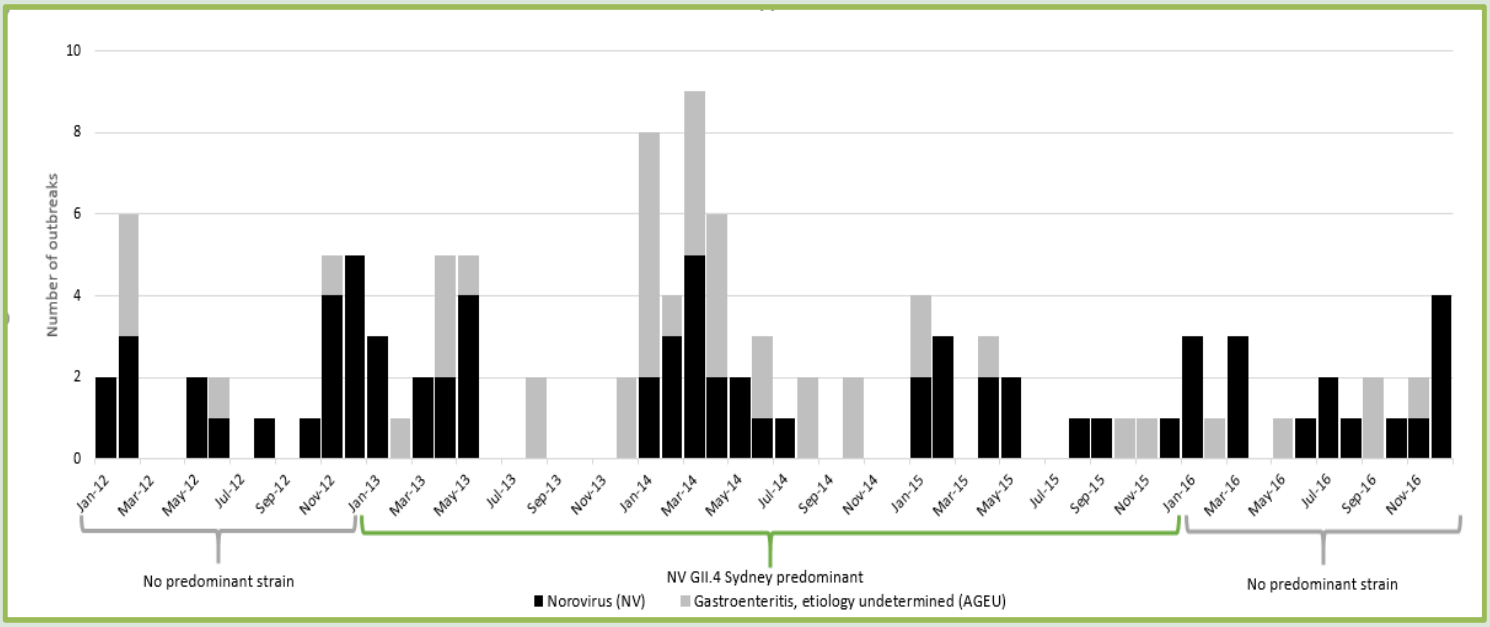
A new nationally predominant strain (GII.4 Sydney) last emerged in 2012.[1] In Idaho, the number of reported NV outbreaks increased when NV GII.4 Sydney predominated (Figure 1). During 2013–2015, 95.5% (21/22) of NV outbreaks with an identified strain indicated NV GII.4 Sydney as the etiologic agent. During 2014 when incidence of NV GII.4 Sydney outbreaks peaked, Idaho had a statistically significant increase in the number of reported acute gastroenteritis outbreaks in LTCFs (n=37) compared with the mean of the previous 5 years, 24.2 outbreaks ($p = 0.0067$). During 2016, NV strains were identified in 22.7% (5/22) of NV outbreaks; none were GII.4 Sydney. Norovirus GII.17 Kawasaki, GI.3B Potsdam, and GII.P16-GII.4 Sydney were associated with 1 or 2 outbreaks each. No increase in the total number of outbreaks was observed in 2016 compared with the mean of the previous 5 years.

We did not identify differences in severity of illness by predominant NV strain. During 2012–2016, illness severity was documented in 33 (27.2%) reports of acute gastroenteritis outbreaks at LTCFs; hospitalization of a resident was reported in 32 outbreaks and death of a resident in 7. No significant increase in ill resident hospitalization or death was observed in 2014, when the number of outbreaks related to GII.4 Sydney peaked, or in 2016, when the predominant NV strain in Idaho appeared to have changed, compared with the 2012–2016 average. Additionally, there was no increase in the number of Idaho residents with gastroenteritis-related deaths in 2014 or 2016 compared with the 2012–2016 average.[2]

We did not identify differences in attack proportion among exposed persons by predominant NV strain. Across years, there was no significant difference in the proportion of exposed residents that were ill (annual mean range: 0.33–0.37; one-way ANOVA p-value = 0.86) or of exposed staff that were ill (annual mean range: 0.15–0.24; one-way ANOVA p-value = 0.93). Staff were typically less likely to become ill than residents; however, the attack proportion among staff is not representative of all outbreaks because staff counts or illnesses were not always available.

GASTROENTERITIS CONTINUED ON NEXT PAGE

Figure 1: Number of Norovirus or Acute Gastroenteritis of Unknown Etiology Outbreaks in LTCFs by Month and Year of Onset—Idaho, 2012–2016.



*Acute gastroenteritis outbreaks include norovirus (NV) outbreaks and outbreaks of acute gastroenteritis of an unknown etiology (AGUE). NV outbreaks are defined as outbreaks of clinically compatible illness from which specimens (stool or vomitus) test positive for NV from two or more patients. AGUE outbreaks are designated when an etiologic agent is identified in only one patient, more than one etiologic agent is identified in one or more patients, or no etiologic agent is detected; typically, norovirus is suspected, but no clinical specimens were collected.

Idaho Disease Bulletin

IDAHO DEPARTMENT OF HEALTH & WELFARE

Division of Public Health
P.O. Box 83720
Boise, ID 83720-0036

ROUTINE 24-Hour Disease Reporting Line 1.800.632.5927

EMERGENCY 24-Hour Reporting Line 1.800.632.8000

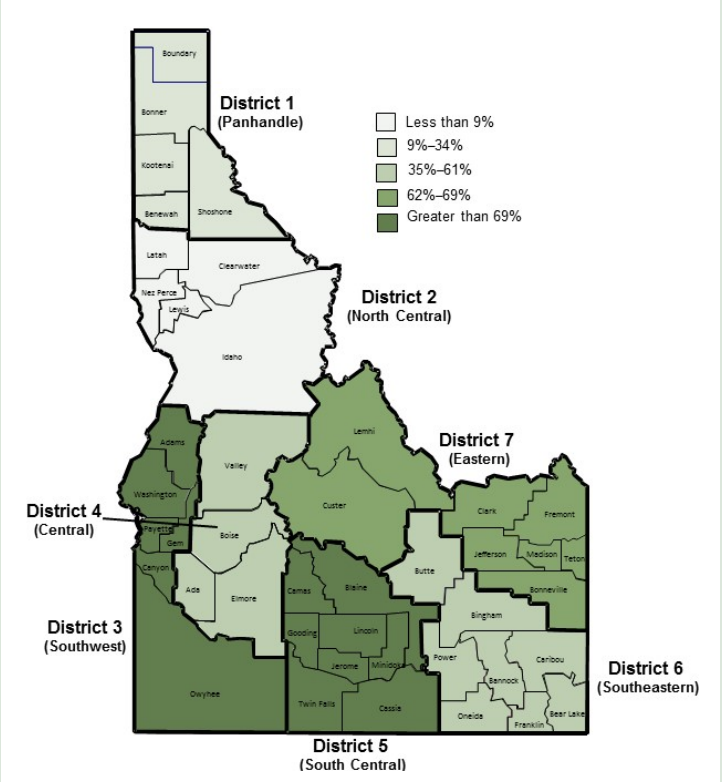
An electronic version of the Idaho Reportable Diseases Rules may be found at http://adminrules.idaho.gov/rules/current/16/0210.pdf.

Current and past issues are archived online at www.idb.dhw.idaho.gov.

GASTROENTERITIS CONTINUED FROM PREVIOUS PAGE

The lack of identified etiologic agent in approximately one third of reported acute gastroenteritis outbreaks in LTCFs, and decreasing strain identification in NV outbreaks, with over 75% missing in 2016, could have contributed to our inability to identify differences in severity and morbidity by predominant NV strain. Stool specimens associated with NV outbreaks in LTCFs are increasingly being tested at commercial laboratories and never sent to the Idaho Bureau of Laboratories (IBL) for strain identification. During 2012–2016, the percent of acute gastroenteritis outbreaks from which specimens were submitted to IBL varied greatly by PHD (Figure 2), with the lowest from PHD 1 in northern Idaho. Additionally, fewer specimens related to NV outbreaks in LTCF facilities were sent to IBL for testing in 2016, limiting our ability to detect emerging NV strains.

Figure 2. Percent of acute gastroenteritis outbreaks in LTCFs with specimens sent to IBL, by public health district — Idaho, 2012-2016.



In conclusion, the predominant NV strain that was a significant contributor to disease in Idaho in 2014 and 2015 appears to have shifted away from GII.4 Sydney to new emergent strains in 2016. Although no increase in reported morbidity or the number of reported outbreaks was observed in 2016, the presence of an emergent strain could lead to increased morbidity and more NV outbreaks in LTCFs. During the first six months of 2017, GII.P16-GII.[4] Sydney, one of 6 newly identified recombinant NV strains circulating nationally,[3] was detected in 66.7% (4/6) of NV outbreaks from which a strain was identified. To improve NV strain surveillance and assessment of the effect of emergent NV strains on Idahoans and Idaho healthcare facilities, healthcare providers and facility administrators are requested, in the event of an outbreak, to:

- Report norovirus and acute gastroenteritis outbreaks to the local PHD per IDAPA 16.02.10 (Idaho Reportable Diseases) within one working day of identification.[4]
- Ensure that stool (or vomitus, if noro-virus is suspected) specimens from at least 5 ill persons associated with gastroenteritis out breaks in LTCFs are tested for appropriate enteric pathogens, including norovirus.
- Coordinate with the local PHD to submit specimens directly to IBL for appropriate laboratory testing and request commercial laboratories to submit samples from norovirus-positive positive stool specimens to IBL for strain identification.
- Provide numbers of exposed and ill staff to the local PHD when reporting out breaks in LTCFs.

References

[1]Barclay, L., Wikswo M., Gregoricus, N., Vinjé, J., Lopman , B., Parashar, U., Hall, A., Leshem, E. (2013). Notes from the Field: Emergence of New Norovirus Strain GII.4 Sydney — United States, 2012. Morbidity and Mortality Weekly Report (MMWR), 62(03),55. Available at https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6203a4.htm.

[2]Idaho Vital Statistics. Idaho Division of Public Health, Bureau of Vital Records and Health Statistics. Available at http://healthandwelfare.idaho.gov/Health/VitalRecordsandHealthStatistics/HealthStatistics/VitalStatistics/tabid/914/Default.aspx.

[3]Genotype Distribution of Norovirus Outbreaks. (2017, November 7). CDC National Center for Immunization and Respiratory Diseases, Division of Viral Diseases. Available at https://www.cdc.gov/norovirus/reporting/calicinet/data.html.

[4]Idaho Administrative Code 16.02.10. Available at https://adminrules.idaho.gov/rules/current/16/0210.pdf.