IDAHO DEPARTMENT OF HEALTH & WELFARE

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Seasonal Influenza in Idaho: recent trends and vaccine update

According to the Centers for Disease Control and Prevention (CDC), seasonal influenza activity in the United States begins as early as October, generally peaks in January or February, and decreases significantly by the end of May.

Idaho Seasonal Influenza Surveillance

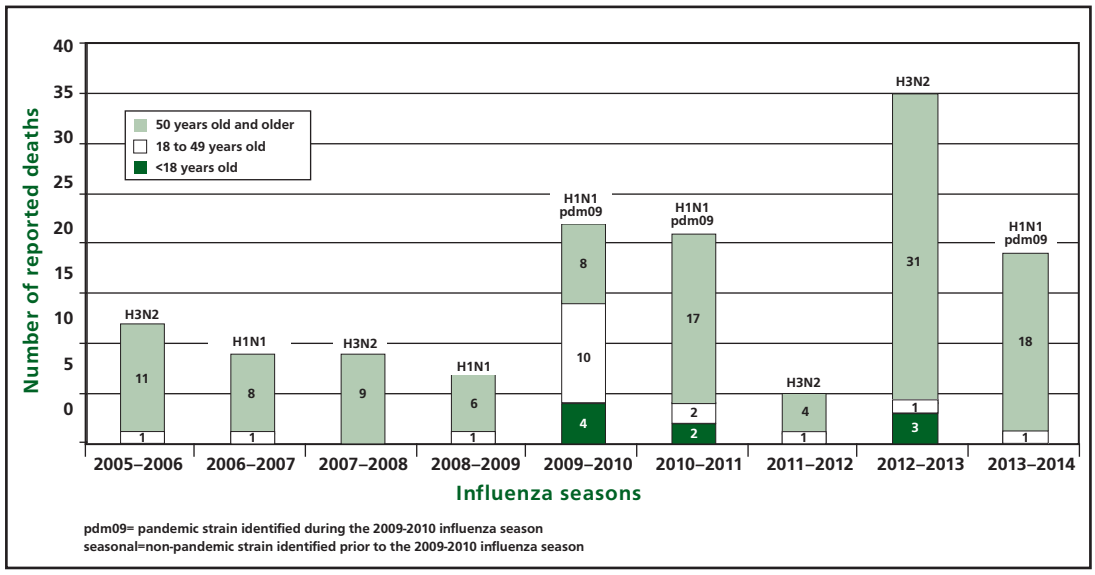
Virologic surveillance is useful for characterizing circulating influenza types and subtypes and mortality surveillance provides information on severity. Predominant influenza subtypes and number of deaths have varied during recent years (Figure 1). The influenza A H1N1(pdm09) subtype dominated last season and 19 influenza-associated deaths were recorded. During the 2013–2014 influenza season, the first rapid-test positive influenza specimen confirmed by the Idaho Bureau of Laboratories was received in mid-November.

Influenza-like illness (ILI) activity, reported by ILINet providers, peaked in January (MMWR week 1 of 2014). ILI activity diminished significantly by mid-February (MMWR week 6 of 2014). The season ended with a small, second wave of ILI during the last few weeks of May 2014 (Figure 2), almost exclusively caused by influenza B viruses B/Massachusetts/02/2012-like and B/Brisbane/60/2008-like.

The Idaho Influenza web site (http://flu.idaho.gov) includes a summary of Idaho-specific surveillance information updated weekly throughout the influenza season and resources for health professionals and the public. To learn more about how you can participate in influenza laboratory and epidemiologic surveillance in Idaho, please contact the Bureau of Communicable Disease Prevention, Epidemiology Program at (208)334-5939.

SEASONAL INFLUENZA CONTINUED ON PAGE TWO

Figure1. Number of influenza-associated deaths, by age group, and predominant circulating seasonal virus subtype—Idaho, 2005–2014 influenza seasons.



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Influenza Vaccine Components and Recommendations

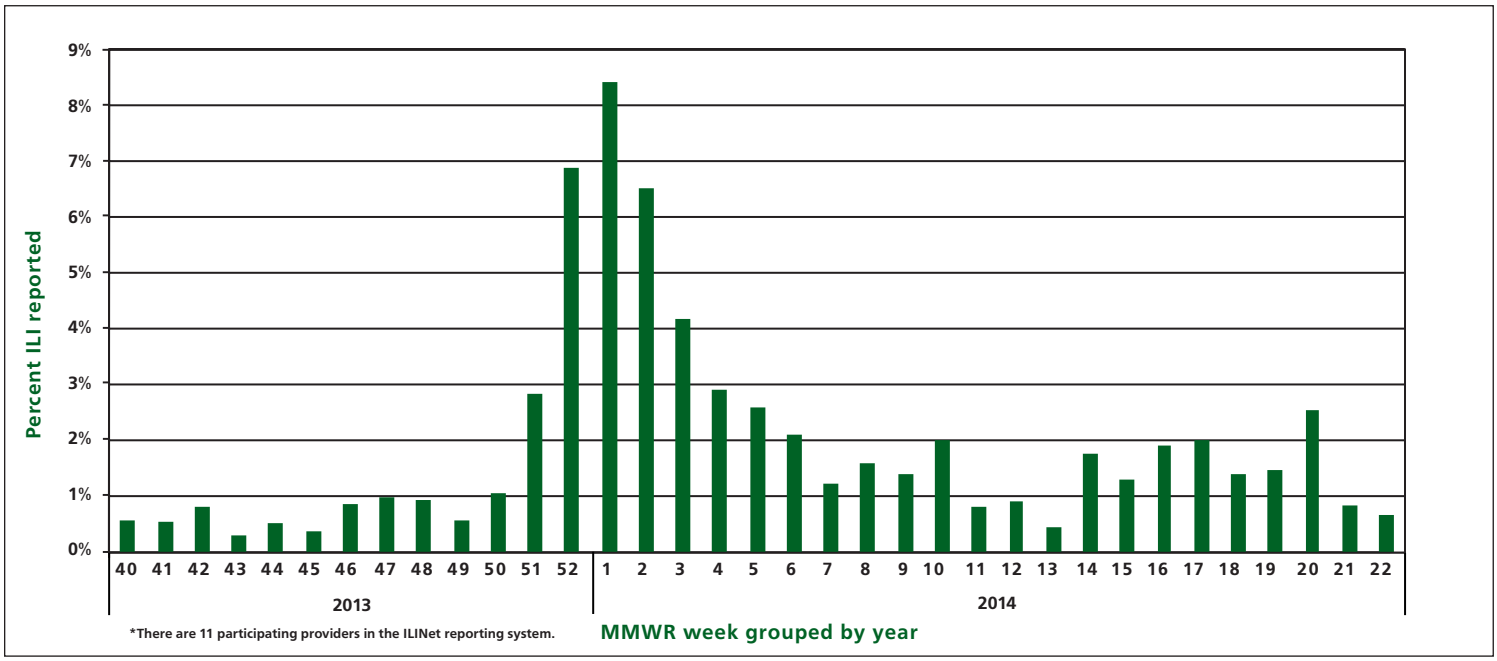
The composition of the 2014–2015 influenza vaccines is the same as the 2013–2014 formulations. Since 2010, the Advisory Committee on Immunization Practices (ACIP) and CDC have recommended that anyone aged six months and older receive the influenza vaccine annually with rare exception.

In June 2014, ACIP voted to recommend a preference for using the nasal spray flu vaccine (*i.e.*, LAIV) instead of the flu shot (*i.e.*, IIV) in healthy children 2–8 years of age based on studies in healthy children that suggested the nasal spray formulation was more efficacious in those age groups against laboratory-confirmed, medically-attended influenza illness.[1] The recommendation also says that if the nasal spray flu vaccine is not immediately available, the flu shot should be given so that opportunities to vaccinate children are not missed or delayed.

References

[1] ACIP committee recommendation. http://www.cdc.gov/media/releases/2014/s0625-acip.html.

Figure. Percentage of visits for ILI reported by ILINet* providers, by MMWR week—Idaho, 2013–2014 influenza season.



Prevalence and Predictors of Late HIV Testing in Idaho, 1984–2010

Early testing and diagnosis of HIV can lead to improved long-term prognosis and quality of life, specifically through timely access to antiretroviral therapy (ART) and prophylaxis of opportunistic infections.[1] Additionally, ART and early intervention and counseling to reduce risk behavior can substantially reduce the likelihood of HIV transmission.[2] Potential implications of late testing include a higher risk of HIV-related clinical events and mortality in the time shortly after HIV diagnosis, increased hospital and drug costs, a reduced chance of viral suppression and immune response on antiretroviral medication, and an increased risk of onward transmission of HIV.[3] We used public health surveillance data to describe the epidemiology of individuals in Idaho who test positive for HIV late in the course of the infection compared with those who test early, to determine predictors of late testing for HIV in Idaho.

Late testers were defined as individuals diagnosed with HIV who went on to receive an AIDS diagnosis within one year. Early testers were defined as individuals who did not progress to AIDS during the study period, or did not receive an AIDS diagnosis within the first five years after their HIV diagnosis. The study excluded individuals who met the following criteria: could not be categorized as a late tester or early tester according to the criteria above, had less than five years of follow-up without an AIDS diagnosis, were pediatric patients aged <13 years, or were diagnosed with AIDS within one year, but also had documented HIV-negative tests within the year previous to receiving their HIV diagnosis. Ultimately, 840 HIV-positive individuals were included in the analysis: 463 early testers, and 377 late testers.

Rural residence was associated with a three-fold increased odds (OR=3.35, P<0.0001) of late testing in this analysis, after adjusting for other possible predictors of late testing. Residents of rural counties were 36.2% of our study population, but were a higher proportion (54.3%) of late testers. Having received a diagnosis from a facility likely to provide routine HIV screening (*e.g.*, correctional facility, HIV, family planning, or STD clinics) was predictive of early testing, with early testers being nearly seven times as likely to have been diagnosed with HIV in one of these facilities when compared with patients tested in other facilities. When the group of people tested at facilities likely to offer routine HIV testing was stratified by rural residence, resi-

LATE HIV TESTING CONTINUED ON LAST PAGE

Data Snapshot: Legionellosis — Idaho, 2009–2013

During 2009–2013 in Idaho, 44 cases of legionellosis were reported to public health, ranging from 5 to 13 cases annually. After a low of 5 reported cases in 2012, an increase was observed in 2013. The annual age-adjusted incidence rate ranged from 0.33 to 0.82 cases per 100,000 population (Figure). One case of Pontiac fever occurred, in an infant aged one month; Legionnaires' disease accounted for the remaining 43 cases. Excluding the infant, patient age ranged from 25 to 90 years (median, 62.5y; mean, 58y) and did not differ significantly by sex). A higher proportion of Idaho cases were female (56.8%) when compared with the national proportion (36%).[1]

Potential exposure locations were reported in 37 (84.1%) cases. Among those, 11 (29.7%) indicated out-of-state exposures, including 5 cases from out-of-country travel. Two of the 37 cases were related to outbreaks with exposure in other countries; the other 35 cases were sporadic (not related to outbreaks). Possible Idaho exposures included spas or hot tubs, showers, swamp coolers, or misters in residences, accommodations, or other facilities.

Legionellosis incidence has seasonal and geographic variability. During 2009–2013, the months with the most cases reported in Idaho were July, September, and October, but cases can occur in any month. The Central District Health Department jurisdiction,[2] which includes part of the Treasure Valley, was disproportionally affected, accounting for 40.9% of all reported legionellosis cases, but only 28.0% of Idaho's population.

Comorbidities in legionellosis patients were reported in 17 (38.6%) cases; smoking was reported most frequently (n=7). Other comorbidities included compromised immunity (n=5), diabetes mellitus (n=4), renal disease (n=4), and chronic lung disease (n=3).

Among 42 cases, 45 diagnostic tests were reported: 39 (88.6%) urinary antigen tests, four (9.1%) bacterial cultures, and two (4.5%) serologic titers. *L. pneumophila* serogroup 1 was detected by urinary antigen in 39 cases and by serology in one case; *L. pneumophila* serogroup 2–6 or 8 was identified by serology in one case and *L. anisa* was detected by culture in one case. Although the urinary antigen test provides the most rapid result, it is only conclusive for *L. pneumophila* serogroup 1 and does not allow for molecular comparison of clinical to environmental isolates. To help identify legionellosis clusters and exposure locations, collection of respiratory specimens for culture is highly encouraged.

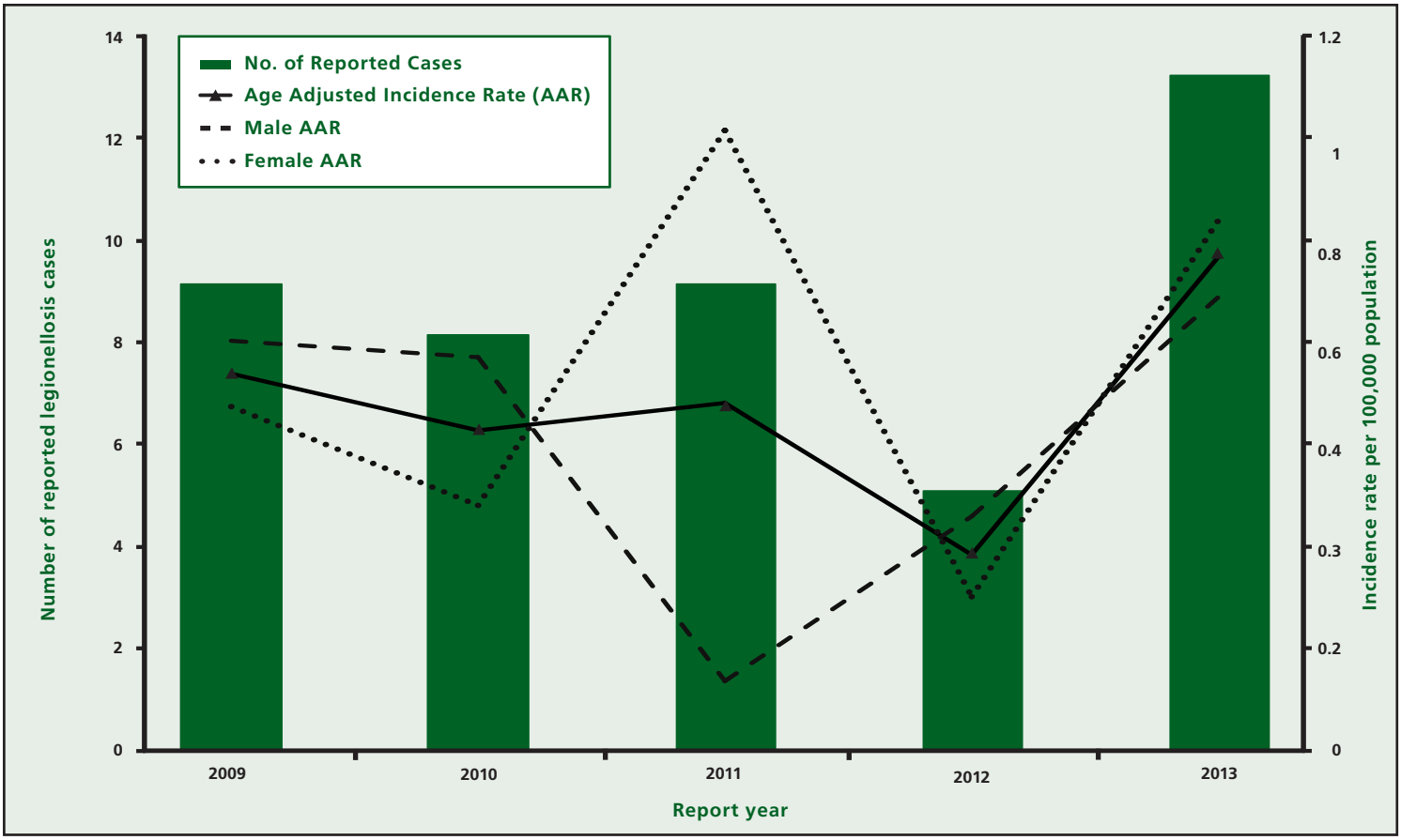
SEE SUPPLEMENT IN ONLINE VERSION FOR ADDITIONAL GRAPHICS: www.IDB.dhw.idaho.gov

References

[1] Centers for Disease Control and Prevention. Legionellosis in the United States, 2000-2009. MMWR 2011;60:1083-1086. Available at http://www.cdc.gov/mmwr/pdf/wk/mm6032.pdf. Accessed June 25, 2014.

[2] Idaho Public Health Districts. http://www.healthandwelfare.idaho.gov/Health/HealthDistricts/tabid/97/Default.aspx

Figure. Incidence rates of reported legionellosis in Idaho, 2009–2013.



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LATE HIV TESTING CONTINUED FROM PAGE TWO

dents of rural counties were at reduced odds of having had a diagnosis in a facility likely to provide routine HIV screening when compared with residents of urban counties (OR=0.096 for rural residents; OR=0.16 for urban residents). These results suggest that access to clinics that routinely screen for HIV is limited for rural residence, although analysis could not determine what barriers to access might exist.

In this population, late testing was more likely as age-at-diagnosis increased, with each additional year of age increasing the odds of late testing by 4.0%. People who were not exposed to HIV through men who have sex with men (MSM) or injecting drug use (IDU) risk behaviors were also more likely to be tested late (12.4% increased odds, non-significant P). Previous studies have shown increased risk of late testing among those who are not perceived, or who do not perceive themselves, to be at high risk of HIV infection.[3] Most targeted HIV prevention and testing interventions do not target heterosexual males, making them the most likely to have fewer opportunities for HIV testing than IDU, MSM, and women receiving prenatal care, who might have better access to testing.[4] Social stigma and related issues such as fear of positive test results or fear of losing health insurance, though difficult to quantify or assess, might also play a role in delaying HIV testing.

The strong association between rural residence and late HIV testing suggests that rural Idahoans might be at relatively higher risk of delaying HIV testing when compared with urban residents. It was not possible to discern in this analysis the barriers rural residents might face regarding HIV testing, but directing education and interventions that promote regular HIV screening to residents of rural areas and providers performing healthcare services in those areas could impact the proportion of rural residents that are late testers in Idaho.

Universal screening recommendations for all persons aged 13 through 64 years in routine healthcare settings were released in September 2006.[5] Although not part of the current analysis, anecdotal evidence suggests that universal screening recommendations have not been fully implemented in Idaho. Where reported HIV incidence is low in Idaho (approximately 2.3 per 100,000 population in 2013),[6] implementation of universal recommendations by Idaho providers might lead to the earlier identification, diagnosis, and treatment of HIV infected persons who might otherwise not be tested until significant clinical symptoms appear. However, evidence of case-finding from universal opt-out HIV testing is limited.

References

[1] Palella FJ, Deloria-Knoll M, Chmiel JS, Moorman AC, Wood KC, Greenberg AE, Holmberg SD, HIV Outpatient Study Investigators. Survival Benefit of Initiating Antiretroviral Therapy in HIV-Infected Persons in Different CD4+ Cell Strata. *Annals of Internal Medicine*. 2003; 138(8):620-6.

[2] Marks G, Crepaz N, Janssen RS. Estimating sexual transmission of HIV from persons aware and unaware that they are infected with the virus in the USA. *AIDS*. 2006;20(10):1447-1450.

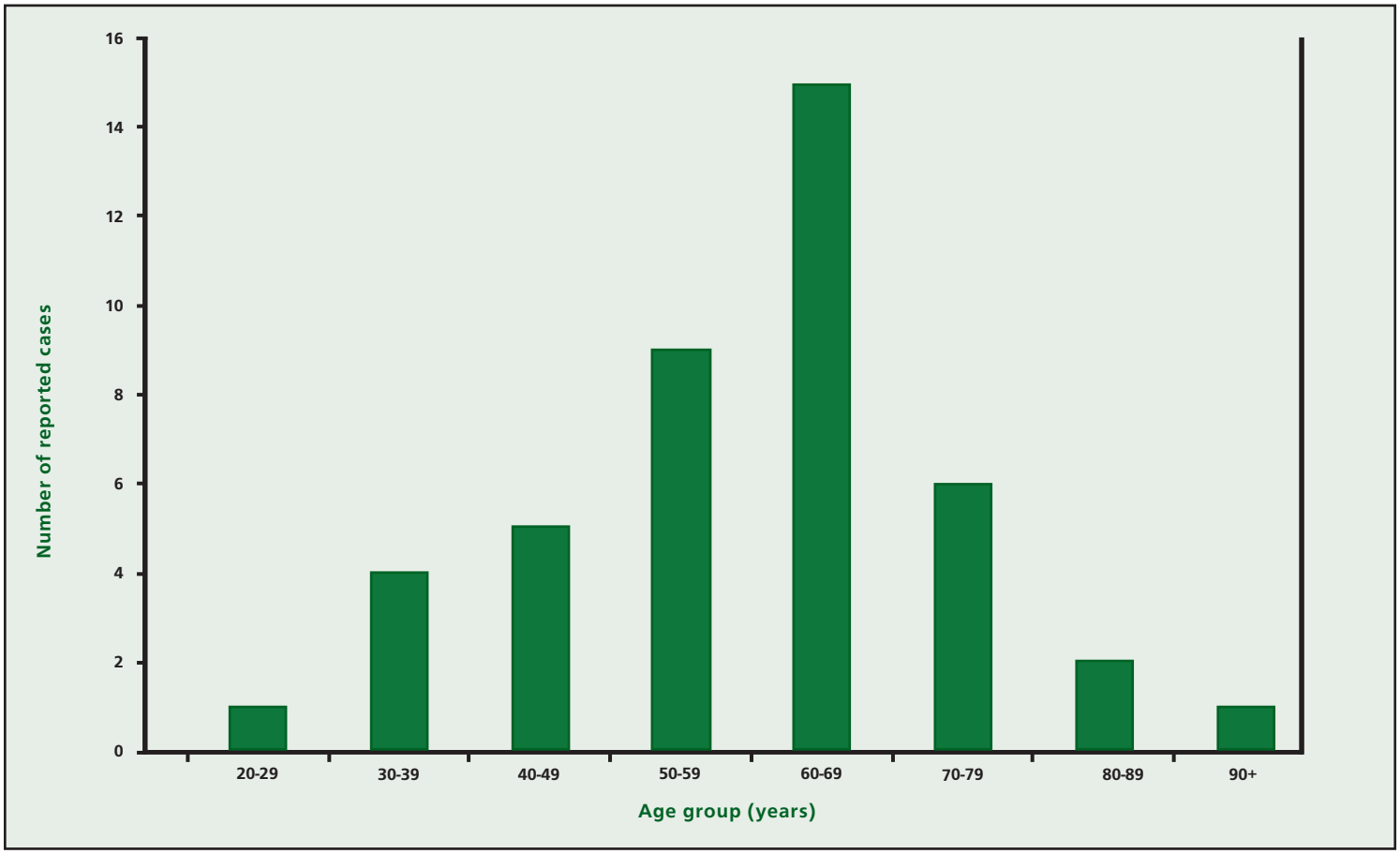
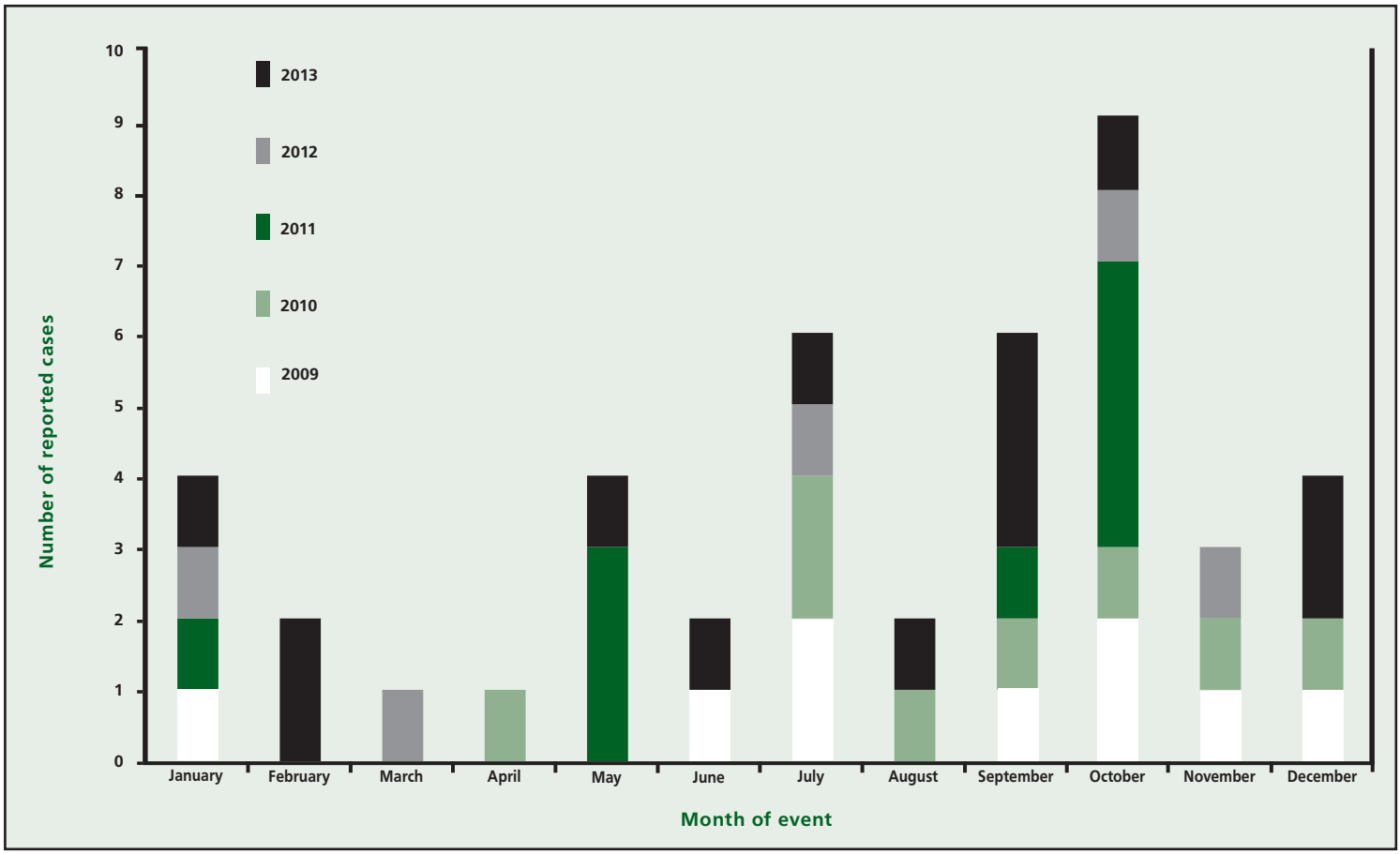
[3] Waters L, Sabin CA. Late HIV Presentation: epidemiology, clinical implications and management. *Expert Review of Anti-infective Therapy*. 2011 October; 9(10), 877-889.

[4] Mukolo A, Villegas R, Aliyu M, Wallston KA. Predictors of Late Presentation for HIV Diagnosis: a literature review and suggested way forward. *AIDS and Behavior*. 2013 January; 17(1):5-30.

[5] Branson BM, Handsfield HH, Lampe MA, Janssen RS, Taylor AW, Lyss SB, Clark JE, CDC. Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant Women in Health-Care Settings. *Morbidity and Mortality Weekly Report: Recommendations and Reports*. September 22, 2006; 55(RR14); 1-17.

[6] Enhanced HIV/AIDS Reporting System (eHARS). Data through 8/6/2014 and U.S. Census Bureau Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2012.

Supplement A. Number of reported legionellosis cases in Idaho by age group — Idaho, 2009–2013.



Supplement B. Number of reported legionellosis cases in Idaho by month — Idaho, 2009–2013.