Introduction Penicillin is the treatment of choice for syphilis worldwide. Macrolides (e.g. azithromycin [AZM]) have been used as a convenient oral and cost-effective alternative for syphilis treatment in many countries globally. High prevalence of macrolide resistance, resulting in treatment failure for primary syphilis in USA, Europe and China has been attributed to an adenine (A) to guanine (G) transition in the 2058 or 2059 position of the Treponema pallidum 23S rRNA gene, resulting in target site alteration due to methylation. In 2014, AZM was added to the syndromic management guidelines for genital discharge in South Africa (SA). Individuals exposed to macrolides are twice as likely to have a resistant strain of T. pallidum within the next year. We sought to ascertain the prevalence of macrolide resistance-associated T. pallidum in genital ulcer disease (GUD) specimens from patients, presenting to nine primary health care facilities (PHCs) (one PHC per province) in SA, between 2008 and 2016.

Methods Swab samples from genital ulcers were collected from 2238 adult patients (>18 years of age) presenting to PHCs throughout SA. Macrolide resistance testing was done using established polymerase chain reaction (PCR) and restriction digest assays described by Lukehart et al., (2004) and Matejkova et al., (2009) on the G-Storm platforms (Vacutec). The resultant 628 base-pair (bp) fragment of the 23S rRNA gene was submitted to digestion with BsaI and MboII-restriction enzymes to screen for the A2059G and A2058G mutations respectively. Amplicons with A2058G and A2059G mutations resulted in 2 distinct band sizes for each mutation. The SS14 strain (A2058G mutation), the A2059G (+) strain, were obtained in the years 2013 to 2016.

Results: T. pallidum was detected in 105/2,238 (4.7%) GUD specimens collected over a nine-year surveillance period. The A2058G mutation was detected in 4/105 (3.8%) specimens. The A2059G mutation was not identified. All specimens had the A2059G (+) strain, and the wild-type Nichols strain were included as controls.

Conclusion This is the first report of macrolide resistance-associated mutations detected among T. pallidum in SA. Ongoing surveillance for AZM resistance is essential to inform future management guidelines.

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Introduction Occupational accidents with biological material are an injury which can largely be prevented. This study describes the notified occupational accidents in the State of São Paulo.

Methods Descriptive data analysis of the accidents with biological material notified by SINAN in the State of São Paulo, in the period from 2007 to June 2016.

Results During this period 1 25 060 accidents were reported with biological material. 77.5% occurred in female health professionals and most frequently in the 20 and 39 years age group, in nurses and lab technicians (53.1%) followed by physicians (10.7%). Regarding the accident circumstances, 17.1% occurred during the administration of medication, inappropriate disposal of syringes and needles (15.5%) and surgical and dental procedures (15.1%). The proportions of accidents by inappropriate disposal over time remained unchanged. The accidents in procedures of realisation of capillary blood glucose test and recapping needles had a proportional decrease of two times. It was observed that 30.2% of