Earlier this week [1] the Center for Disease Control and Prevention (CDC) created a panic among healthcare workers when they released data confirming growing resistance to the antibiotics used in the treatment of Gonorrhea. While it appears we are on our way to losing the battle against antibiotic resistance, not all hope is lost for the fight against another sexually transmitted infection (STI) – Chlamydia.

Researchers [2] from McMaster University in Canada have made prevention of chlamydia a possibility through the development of a vaccine shown to be widely protective in mice. The researchers identified a number of new chlamydial antigens. One antigen in particular, BD584, sparked the development of the potential vaccine, which confers protection against the most common species known to cause chlamydia – *C. trachomatis*.

Chlamydia is the most common notifiable disease in the United States since 1994, with gonorrhea being a not-so-close second. According to the CDC [3], close to 1.5 million cases of chlamydia were reported across the US in 2014.

Unlike other STIs, chlamydia is not quite as predictable in its presentation. Most patients are asymptomatic, and thus are at an increased risk for complications of untreated infection. Particularly for women, the reproductive consequences can be grave, with increased risks of pelvic inflammatory disease and subsequent issues of infertility. For men, it can lead to inflammation and/or infection of the epididymis and the prostate. Beyond the reproductive system, the disease can spread to other parts of the body, most commonly the joints and the eyes. Furthermore, having chlamydia increases the risk of having other STIs.

With the aforementioned in perspective, the potential for this vaccine to be a big win for reproductive and sexual health is real. The study [4] highlights encouraging results, with a 95 percent decrease in chlamydial shedding from the vagina at the peak of the infection, in addition to 87.5 percent decrease in the rate of hydrosalpinx[1]. Both are established consequences of *C. trachomatis* infection.

The vaccine is being celebrated, not only for its efficacy, but also its anticipated cost efficiency,
given its route of administration. It is administered via a nasal spray, making it a simple and inexpensive process for both the patient and the healthcare provider. This also increases the likelihood of its accessibility across the developing world where healthcare resources (both human resources and medical supplies) tend to be scarce.

As the team of researchers move forward, they will be investigating how well the vaccine stands up against the various strains of chlamydia, and its effectiveness in different formulations.

Notes:

(1) Hydrosalpinx - refers to the abnormal distension of a Fallopian tube as serous fluid accumulates within it, due to a distal blockage (usually associated with an inflammatory process).