and the World Bank (through the African Center of Excellence project) has demonstrated capabilities for in-country real-time surveillance and tracking of infectious agents during outbreaks.[5,6,8]

Previous reports[2,5,6,9] from many parts of Africa indicate that long-term capacity building, continued technology transfer among partners, deep rooted investments[3] in in-country real-time genomics surveillance, and the integration of such capacity into the established but siloed pathogen-specific diagnostic platforms in Africa are needed for quick response in outbreaks.

Additionally, improved trust and transparency through immediate public sharing of data, resources and samples if feasible, and strong partnerships with local communities, will help prevent the next major Ebola outbreak on the continent.

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Point-of-care tests to reduce the burden of sexually transmitted infections


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WHO recommends syndromic management of sexually transmitted infections in patients attending health-care facilities in resource-limited settings where laboratory services are limited. With a syndromic approach, care providers treat all the common causes of a presenting syndrome, and provide counselling, condom promotion, and contact tracing. Syndromic management has been successfully rolled out to primary health care in many countries, and has been shown to reduce the prevalence of sexually transmitted infections and HIV.[1]

Limitations of syndromic management include its lack of specificity, leading to overtreatment in many cases, and its inability to identify asymptomatic infections. WHO algorithms work reasonably well for the management of urethral discharge in men and for patients with genital ulcers, but the algorithm for vaginal discharge is neither sensitive nor specific. In *The Lancet Infectious Diseases*, the women's improvement of sexual and reproductive health (WISH) study by Janneke van de Wijgert and colleagues[2] compared the performance of point-of-care testing in the WISH algorithm with that of syndromic management in the WHO algorithm and gold standard testing. 705 women in Kigali, Rwanda were enrolled in the study and completed a study visit in which they were interviewed and asked about current urogenital symptoms. Next, the WISH algorithms were implemented; patients had rapid point-of-care tests for bacterial vaginosis,

Trichomonas vaginalis, Chlamydia trachomatis, and *Neisseria gonorrhoeae*. Treatment based on point-of-care tests reduced overtreatment by approximately 50% for *N gonorrhoeae* and *C trachomatis* and 42% for *T vaginalis*. Compared with gold standard testing, the WISH algorithm had high sensitivity but low specificity for bacterial vaginosis; but the specificity could be improved by adding a confirmatory test if the vaginal pH of participants was at least 5·5. Van de Wijgert and colleagues[2] concluded that point-of-care tests in the WISH algorithm are more sensitive and specific compared with syndromic management, and that their use is feasible in resource-poor settings.

Point-of-care tests could revolutionise the management of sexually transmitted infections in resource-poor settings. They are now available for HIV, syphilis, and *T vaginalis* because they fulfil the ASSURED criteria (affordable, sensitive, specific, user-friendly, rapid and robust, equipment-free, and deliverable to end users).[2] Making these point-of-care tests available to primary health care could have a major effect on the prevalence and incidence of sexually transmitted infections. Both single and dual rapid diagnostic tests for HIV and syphilis are being used to screen pregnant women in many countries, and have the potential to eliminate mother-to-child transmission of these infections.[4,5] Point-of-care tests for *N gonorrhoeae* and *C trachomatis* have the potential to identify the high proportion of women with asymptomatic infections, and reduce unnecessary treatment for these infections in women presenting with vaginal discharge; however, the cost of the point-of-care molecular assay for *N gonorrhoeae* and *C trachomatis* remains prohibitive. Many current point-of-care molecular platforms offer a broad range of tests, so that testing can be more affordable if devices purchased for HIV or tuberculosis can also be used to test for *C trachomatis* or *N gonorrhoeae*.

Innovation in the development of affordable point-of-care tests for sexually transmitted infections has been a priority for WHO. To accelerate the pathway from development to impact, WHO has developed target product profiles for priority point-of-care tests for sexually transmitted infections, published a point-of-care diagnostic landscape for sexually transmitted infections, and set up a network of clinical sites for the evaluation of novel point-of-care tests.

Innovation in this area is also being driven by antimicrobial resistance. To slow the threat of untreatable *N gonorrhoeae*, funding is available from the Global Antibiotic Research and Development Partnership for the development of new antibiotics for *N gonorrhoeae* as well as rapid point-of-care tests that can identify the pathogen and its susceptibility or resistance pattern in approximately 30 min or less, ensuring that doctors prescribe an appropriate drug.[6] A UK study[7] showed that in 2014, 33 431 ceftriaxone treatments were given for gonorrhoea. Modelling showed that if rapid tests for *N gonorrhoeae* and ciprofloxacin resistance were available, 66% of the treatment could be replaced by ciprofloxacin, and if rapid tests for *N gonorrhoeae* and penicillin resistance were available, 79% of current treatment could be replaced by penicillin. Thus, there is optimism for the future of sexually transmitted infection diagnosis and prevention; point-of-care tests can reduce loss to follow-up, extend the life of our current last-line treatments, and reduce costs.

For more on **WHO's efforts to accelerate development of point-of-care tests** see https://www.who.int/reproductivehealth/topics/rtis/pocts/en/

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