*****Updated June 2012***

MarketVIEW: Chlamydia trachomatis vaccines (CAT: VAMV003)

Product Name	:	MarketVIEW: Chlamydia trachomatis vaccines
Description	:	Comprehensive vaccine opportunity assessment
Contents	:	Executive presentation + MS Excel model
Therapeutic Area	:	Adolescent vaccines
Publication date	:	June 2012
Catalogue No	:	VAMV003

Background

After the global success of new HPV vaccines focused on sexually transmitted infections (STDs), vaccine manufacturers are considering other high-burden infections in the adolescent group, especially *Chlamydia trachomatis* (CT). CT is a major cause of serious reproductive complications in the female with outcomes such as pelvic inflammatory disease (PID) and ectopic pregnancies. Although diagnosed infections with *Chlamydia trachomatis* are curable with antibiotic therapy, the vast majority infections are "silent" and unrecognized. Even after treatment re-infection rates of CT remain high with little chance of eradication within the population.

This **MarketVIEW** product is a comprehensive MS Excel-based model + summary presentation which forecasts the potential commercial value of a prophylatic *Chlamydia* vaccine across the major Western and emerging markets (BRIC-M). The model contains value (\$ m) and volume (mio doses) predictions along with launch timeframe, pricing and penetration estimates. **LO/BASE/HI** forecast scenarios are included relative to Gardasil adoption as a case study. The impact of country dependent National Immunization Programs and funded "catch-up" campaigns is also studied.

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Methodology

VacZine Analytics has closely monitored all significant source material pertaining to *Chlamydia trachomatis* epidemiology/vaccines and consulted with global experts regarding their predictions of vaccine deployment. Secondary source materials used are literature articles, government websites, medical bodies and associations, conference proceedings etc. Previously published research by VacZine Analytics in the adolescent field has also been utilised.

PRODUCT CONTENTS:

Published June 2012 (CAT No: VAMV003) ****This product is composed of a model and summary presentation

Contents – Summary presentation (MS PowerPoint based)

Executive Summary Commercial model - key outputs Total available demand: Chlamydia vaccine, global, (000s doses) Total available demand: Chlamydia vaccine, high-income markets, (000s doses) Total available demand: Chlamydia vaccine, emerging markets, (000s doses) Total available market: Chlamydia vaccine, global, (\$ 000s) Total available market: Chlamydia vaccine, by market, (\$ 000s) Total available market: Chlamydia vaccine, price sensitivity analysis, (\$ 000s) Chlamydia vaccine: country volume analysis, 2025 (000s doses) Chlamydia vaccine: country value analysis, 2025 (\$ 000s) The role of a CT vaccine Commercial model - key assumptions Pricing Model forecast comparisons: June 2011 v current Chlamydia vaccine opportunity: target product profile Overall commercial model assumptions per country Chlamydia trachomatis: brief background **Clinical features** Chlamydia trachomatis: natural history of infection Chlamydia trachomatis: global incidence Chlamydia trachomatis: global prevalence US epidemiology UK epidemiology Reasons for increasing incidence Potential impact of a CT vaccine Competitor landscape: overview Competitive environment: major players Chlamydia trachomatis vaccine - HPV, a relevant case study? HPV vaccines: analysis of country uptake Bibliography Disclaimer About VacZine Analytics

PAGES: ~57 MS PowerPoint slides, fully referenced/sourced. Available in .pdf form

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Contents - Vaccine demand model (MS Excel-based)

Title Sheet Scenario definition Value Scenario Analysis Value Summary (Western) Volume Summary (Western) Value Summary (Emerging) Volume Summary (Emerging) Charts - volume (Western) Charts - value (Western) Charts - value/volume (Western) Females (Western) → US (13 yrs/ 14 - 18 yrs) Canada UK France Germany Italy Spain Other EU Australia Japan Females (Emerging) → Brazil Russia India China Mexico Population database Competition - IP landscape Assumptions - major markets Back page About VacZine Analytics Disclaimer

WORKSHEETS: ~65

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Bibliography

- 1. Dempsey AF et al. Cost-effectiveness of routine vaccination of adolescent females against cytomegalovirus. Vaccine. 2012 Apr 21. [Epub ahead of print]
- 2. Cervical cancer vaccines see growth despite controversy. Available at: http://www.thehindubusinessline.com/companies/article1579518.ece. Accessed: June 2012.
- 3. Macleod J. Coverage and uptake of systematic postal screening for genital Chlamydia trachomatis and prevalence of infection in the United Kingdom general population: cross sectional study.BMJ. 2005 Apr 23;330(7497):940.
- 4. Lee V Relationship of cervical ectopy to chlamydia infection in young women. J Fam Plann Reprod Health Care. 2006 Apr;32(2) 104-106.
- 5. Nogales MC. [Diagnosis of Chlamydia trachomatis infection in a clinic for sexually transmitted disease: evaluation of cervical, urethral and rectal swab samples by polymerase chain reaction] Enferm Infecc Microbiol Clin. 2007 Jan;25(1):11-5
- 6. Simms I. Has the incidence of pelvic inflammatory disease following chlamydial infection been overestimated? Int J STD AIDS, April 1, 2008; 19(4): 285 – 286
- Niccolai LM Burden of recurrent Chlamydia trachomatis infections in young women: further uncovering the "hidden epidemic". Arch Pediatr Adolesc Med. 2007 Mar;161(3):246-51. Ann Intern Med. 2006 Oct 17;145(8):564-72.
- 8. Brunham RC. The unexpected impact of a Chlamydia trachomatis infection control program on susceptibility to reinfection.J Infect Dis. 2005 Nov 15;192(10):1836-44.
- 9. WHO. Global prevalence and incidence of selected curable sexually transmitted infections: overview and estimates. Geneva: World Health Organization, 2001
- 10. Vaccines and Related Biological Products Advisory Committee May 18, 2006. GARDASIL Quadrivalent HPV (Types 6, 11, 16, 18) L1 VLP Vaccine, Merck Research Laboratories.
- 11. Centers for Disease Control and Prevention. Chlamydia Reported Cases and Rates per 100,000 Population by Age Group and Sex, United States, 2006-2010. Available at: http://www.cdc.gov/std/stats10/tables/10.htm. Accessed: June 2012.
- 12. CDC Grand Rounds: Chlamydia prevention: challenges and strategies for reducing disease burden and sequelae. MMWR Morb Mortal Wkly Rep. 2011 Apr 1;60(12):370-3.
- 13. Centers for Disease Control and Prevention. 2010 Sexually Transmitted Diseases Surveillance. Available at: http://www.cdc.gov/std/stats10/figures/g.htm. Accessed: June 2012.
- UK Health Protection Agency. STIs Annual Slide Set 2000 2010. Available at: <u>http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/STIs/STIsAnnualDataTables/AnnualSTISlideset/</u>. Accessed June 2012
- 15. Gray RT et al. Modeling the impact of potential vaccines on epidemics of sexually transmitted Chlamydia trachomatis infection. J Infect Dis. 2009 Jun 1;199(11):1680-8.
- 16. de la Maza MA et al. A new computer model for estimating the impact of vaccination protocols and its application to the study of Chlamydia trachomatis genital infections. Vaccine. 1995 Jan;13(1):119-27.
- 17. Time to rethink the expectations for a chlamydial vaccine. Available at: http://www.nature.com/mi/journal/v2/n4/full/mi200911a.html. Accessed: June 2012.
- 18. Fince O et al. Approach to discover T- and B-cell antigens of intracellular pathogens applied to the design of Chlamydia trachomatis vaccines. Proc Natl Acad Sci U S A. 2011 Jun 14;108(24):9969-74.
- 19. 9th Annual Vaccines Discovery and Development: All Things Considered Conference (Nov. 7-8, 2011, in Boston, MA). Available at: http://www.sbwire.com/. Accessed June 2012.
- 20. Genocea unlocks T cell response to create new class of vaccines. Available at: <u>http://ebdgroup.com/partneringnews/2012/05/genocea-unlocks-t-cell-response-to-create-new-class-of-vaccines</u>. Accessed: June 2012
- 21. Annual HPV vaccine coverage in England in 2010/11. Available at: http://immunisation.dh.gov.uk. Accessed: May 2012

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CONTINUED

- 23. Quadrivalent Human Papilloma Virus Vaccine. MMWR Recommendations and Reports. March 23 2007 /56 (RR02);1 -24
- 24. 2010 NIS-Teen Vaccination Coverage Table Data. Available at: http://www.cdc.gov/vaccines/statssurv/nisteen/data/tables_2010.htm. Accessed: June 2012.
- 25. Fagot JP et al. HPV vaccination in France: uptake, costs and issues for the National Health Insurance. Vaccine. 2011;29:3610–3616.
- 26. Limia A and Pachón I. Coverage of human papillomavirus vaccination during the first year of its introduction in Spain. Euro Surveill. 2011; 16(21):pii=19873. Available online: www.eurosurveillance.org/ViewArticle.aspx?Articleld=19873
- 27. Chadenier GM et al.Assessment of the first HPV vaccination campaign in two northern Italian health districts. Vaccine. 2011 Jun 10;29(26):4405-8.
- 28. Progress Toward Implementation of Human Papillomavirus Vaccination --- the Americas, 2006—2010. MMWR. October 14, 2011 / 60(40);1382-1384.
- 29. Australian Government Department of Health and Ageing. Available at: http://www.health.gov.au/internet/immunise/publishing.nsf/Content/immunise-hpv. Accessed: June 2012.
- 30. British Columbia CDC. Available at: <u>http://www.bccdc.ca/imm-</u> vac/BCImmunizationCov/schoolagecoverage/default.htm. Accessed: June 2012.

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About VacZine Analytics:

VacZine Analytics is an established strategic research agency based in the United Kingdom. Its aim is to provide disease and commercial analysis for the vaccine industry and help build the case for developing new vaccines and biologics.

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