College of Public Health News

March 14, 2016

Georgia Southern University

Follow this and additional works at: https://digitalcommons.georgiasouthern.edu/coph-news-online

Part of the Public Health Commons

Recommended Citation
https://digitalcommons.georgiasouthern.edu/coph-news-online/126
Georgia Southern hosts the 2016 Healthcare Symposium, “Truths and Myths behind Childhood Vaccinations”

March 14, 2016

In its third year, Georgia Southern’s Master of Healthcare Administration (MHA) program and the Jiann-Ping Hsu College of Public Health will sponsor the 2016 Healthcare Symposium, “Truths and Myths behind Childhood Vaccinations,” on March 24, 10 – 11:30 a.m., in the University’s Performing Arts Center (PAC). The symposium is free and open to students, staff, faculty and the community.

This year’s symposium will promote a greater understanding of childhood vaccinations and will provide stimulating information on one of the most important public health topics within our community.

Andi Shane, M.D. will serve as the program’s featured guest speaker. Dr. Shane is an associate professor of pediatrics for the Division of Infectious Disease and associate Professor of Global Health at Emory University School of Medicine. Dr. Shane is also the medical director for the Hospital Epidemiology and Infection Prevention at Children’s Healthcare of Atlanta. “We are most pleased to have an expert with infectious diseases such as Dr. Andi Shane to present this important symposium on children’s disease prevention,” said James Stephens, D.H.A., M.H.A, program director for the MHA. “It is an important discussion of the sciences associated with vaccinations for children which should be of value for all people in our communities.”

Georgia Southern University, a Carnegie Doctoral/Research University founded in 1906, offers 125 degree programs serving nearly 20,500 students. Through eight colleges, the University offers bachelor’s, master’s and doctoral degree programs built on more than a century of academic achievement. Georgia Southern is recognized for its student-centered approach to education.GaSouthern.edu.
Georgia Southern Examines Improved Nonparametric Estimations

March 14, 2016

A diagnostic cut-off point of a biomarker measurement is needed for classifying a random subject to be either diseased or healthy. However, the cut-off point is usually unknown and needs to be estimated by some optimization criteria. One important criterion is the Youden index, which has been widely adopted in practice. The Youden index, which is defined as the maximum of (sensitivity + specificity − 1), directly measures the largest total diagnostic accuracy a biomarker can achieve. Therefore, it is desirable to estimate the optimal cut-off point associated with the Youden index. Sometimes, taking the actual measurements of a biomarker is very difficult and expensive, while ranking them without the actual measurement can be relatively easy. In such cases, ranked set sampling can give more precise estimation than simple random sampling, as ranked set samples are more likely to span the full range of the population. In this study, kernel density estimation is utilized to numerically solve for an estimate of the optimal cut-off point.

The asymptotic distributions of the kernel estimators based on two sampling schemes are derived analytically and we prove that the estimators based on ranked set sampling are relatively more efficient than that of simple random sampling and both estimators are asymptotically unbiased. Furthermore, the asymptotic confidence intervals are derived. Intensive simulations are carried out to compare the proposed method using ranked set sampling with simple random sampling, with the proposed method outperforming simple random sampling in all cases. A real data set is analyzed for illustrating the proposed method.

"Improved nonparametric estimation of the optimal diagnostic cut-off point associated with the Youden index under different sampling schemes," was published in the Biometrical Journal.

Dr. Jingjing Yin, Assistant Professor of Biostatistics at the Jiann-Ping Hsu College of Public Health Georgia Southern University (JPHCOPH) was the lead author. Dr. Hani Samawi, Director of the K.E. Peace Center for Biostatistics, and Dr. Daniel Linder, Assistant Professor of Biostatistics at JPHCOPH were co-authors.
Georgia Southern Conducts a State-Level Analysis of MCH Partnerships

March 14, 2016

As one of many organizations within a system of networks, numerous U.S. local health departments (LHDs) use partnerships as a structural intervention to address physical, mental, social concerns of women and infants.

Drs. Barnes and Shah administered an eighteen-item online survey to 93 LHDs between March and June 2014. Descriptive and Pearson Chi-Square analyses were conducted using SPSS 23.0. The state level study examined current levels of maternal and child partnerships among Indiana LHDs and sectors in the public health system. Geography and organizational readiness (infant mortality listed as a goal in the strategic plan) were used as proxy measures to examine how likely LHDs work with these sectors.

The researchers concluded that LHDs reported having more formal (coordinating, cooperating, collaborating) partnerships with hospitals, the state health department, and physician practices/medical groups. LHDs less frequently reported partnerships with transportation, midwives, and parks and recreation. Furthermore, LHDs in non-metropolitan LHDs were more likely to have both informal and formal partnerships with non-public health sectors than LHDs in metropolitan jurisdictions. LHDs that did not have infant mortality as a goal in their strategic plan were more likely to have informal partnerships with health care, health insurance, and quasi-governmental organizations.

Dr. Priscilla A. Barnes, Indiana University-Bloomington was the lead author. Dr. Laura T. Haderxhanaj, Indiana University-Bloomington, and Dr. Gulzar Shah, Associate Dean of Research at the Jiann-Ping Hsu College of Public Health Georgia Southern University were co-authors.
In diagnostic medicine, the test that determines the true disease status without an error is referred to as the gold standard. Even when a gold standard exists, it is extremely difficult to verify each patient due to the issues of cost effectiveness and invasive nature of the procedures. In practice some of the patients with test results are not selected for verification of the disease status which results in verification bias for diagnostic tests. The ability of the diagnostic test to correctly identify the patients with and without the disease can be evaluated by measures such as sensitivity, specificity and predictive values. However, these measures can give biased estimates if we only consider the patients with test results who also underwent the gold standard procedure.

The emphasis of this paper is to apply the log-linear model approach to compute the maximum likelihood estimates for sensitivity, specificity and predictive values. We also compare the estimates with Zhou’s results and apply this approach to analyze Hepatic Scintigraph data under the assumption of ignorable as well as non-ignorable missing data mechanisms. We demonstrated the efficiency of the estimators by using simulation studies.


Dr. Haresh Rochani, Assistant Professor of Biostatistics at the Jiann-Ping Hsu College of Public Health Georgia Southern University (JPHCOPH) was the lead author. Dr. Hani Samawi, Director of the K.E. Peace Center for Biostatistics, Dr. Robert Vogel, Dual Department Chair for Biostatistics and Epidemiology, and Dr. Jingjing Yin, Assistant Professor of Biostatistics at JPHCOPH were co-authors.