

Utilization of risk score tool of Internet I Want the Kit (IWTK) home self-collection program for STIs in males



Yu-Hsiang Hsieh¹, Mary Jett-Goheen², Laura Dize², Mathilda Barnes², Perry Barnes², Charlotte A. Gaydos²

¹Dept. of Emergency Medicine, ²Div. of Infectious Diseases School of Medicine, Johns Hopkins University, Baltimore, MD, USA.

INTRODUCTION

Thousands of participants in the U.S. have utilized Internet recruitment, IWTK (www.iwantthekit.org), for testing for chlamydia (CT), gonorrhea (NG), and trichomonas (TV) by mailing self-collected specimens to a laboratory.



During 2010 – 2013, the IWTK program asked male and female users to voluntarily take a six-question quiz which includes demographic and sexual risk behavior.

Table 1 Risk score

Questions	Score*
1. Are you ≤25 years old?	Yes=1 point. No=0 points
2. Have you had a new sex partner, or multiple partners, in the last 90 days?	Yes=1 point. No=0 points
3. Do you have more than one current sex partner at the present time?	Yes=1 point. No=0 points
4. Have you ever been told you had, or been treated for, an STI in the past?	Yes=1 point. No=0 points
5. How many sex partners have you had in the last 90 days?	10 or more=3 points. 5–9=2 points. 2–4=1 point. 0–1=0 points
6. When you have sex, do you use a condom?	Never=3 points. Sometimes=3 points. Always=0 points

Points were assigned to the responses for each question, and scores were calculated by adding the value of each response to obtain the score.
*Possible scores were 0–10. Higher scores were hypothesized to be of higher risk of having an STI, sexually transmitted infection.

- Our data demonstrated that a voluntary risk score tool predicted STIs well for the female volunteers but not for the males.
- The risk quiz became a mandatory part of IWTK in August 2013.

OBJECTIVE

- To investigate the association of IWTK risk score and the presence of STIs in male users when the risk score quiz became mandatory for the program.

METHODS

Study Setting and Population

- IWTK male users who requested an STI testing kit at the IWTK website and mailed back their penile and/or rectal specimens for STI testing.
- Age 14 years and older.
- Residing in Maryland or Washington DC, USA.
- Not for rescreening purpose.

Study Period

- August 2013 to April 2015

METHODS

Figure 1. IWTK Mandatory Risk Quiz Questions

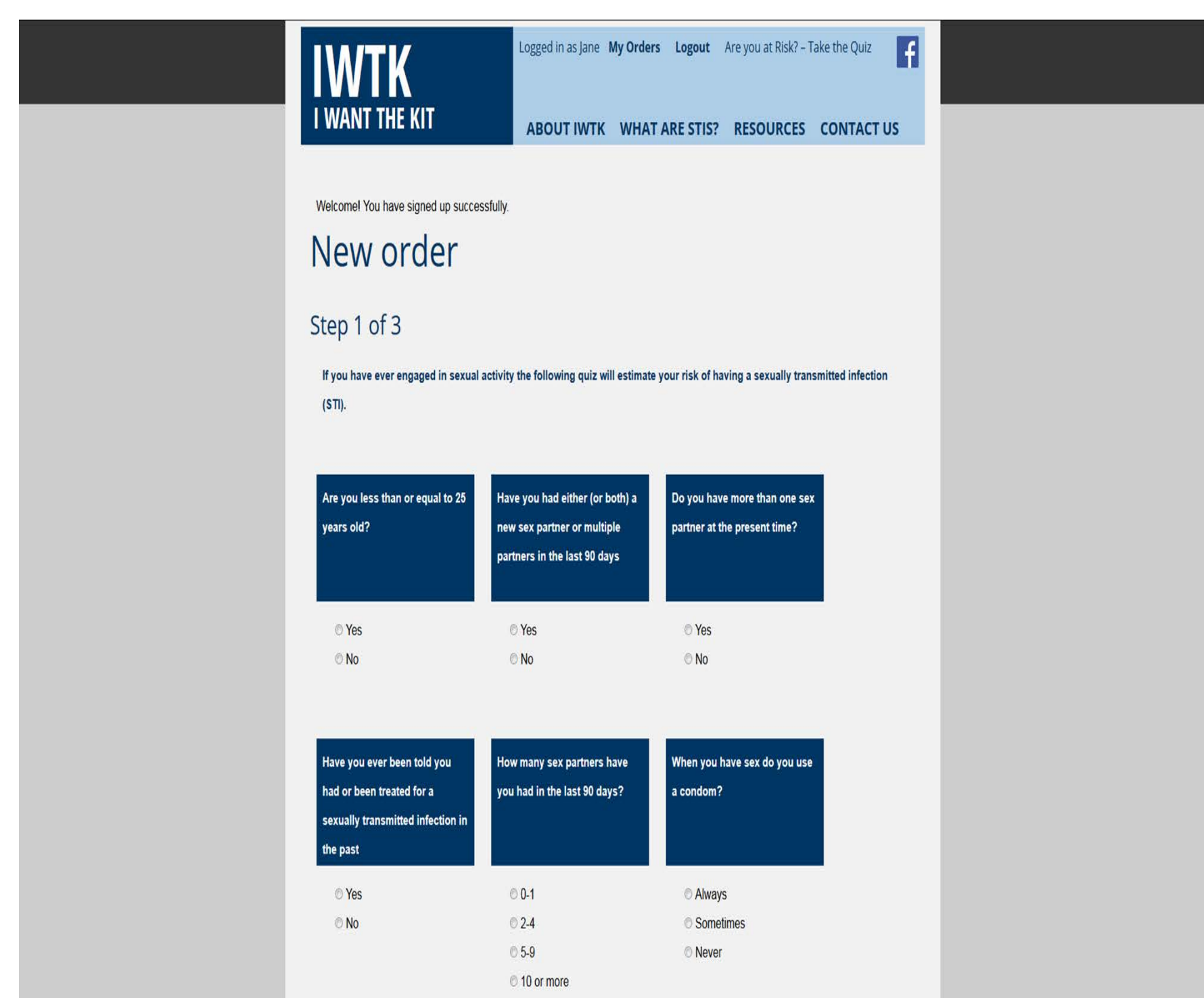
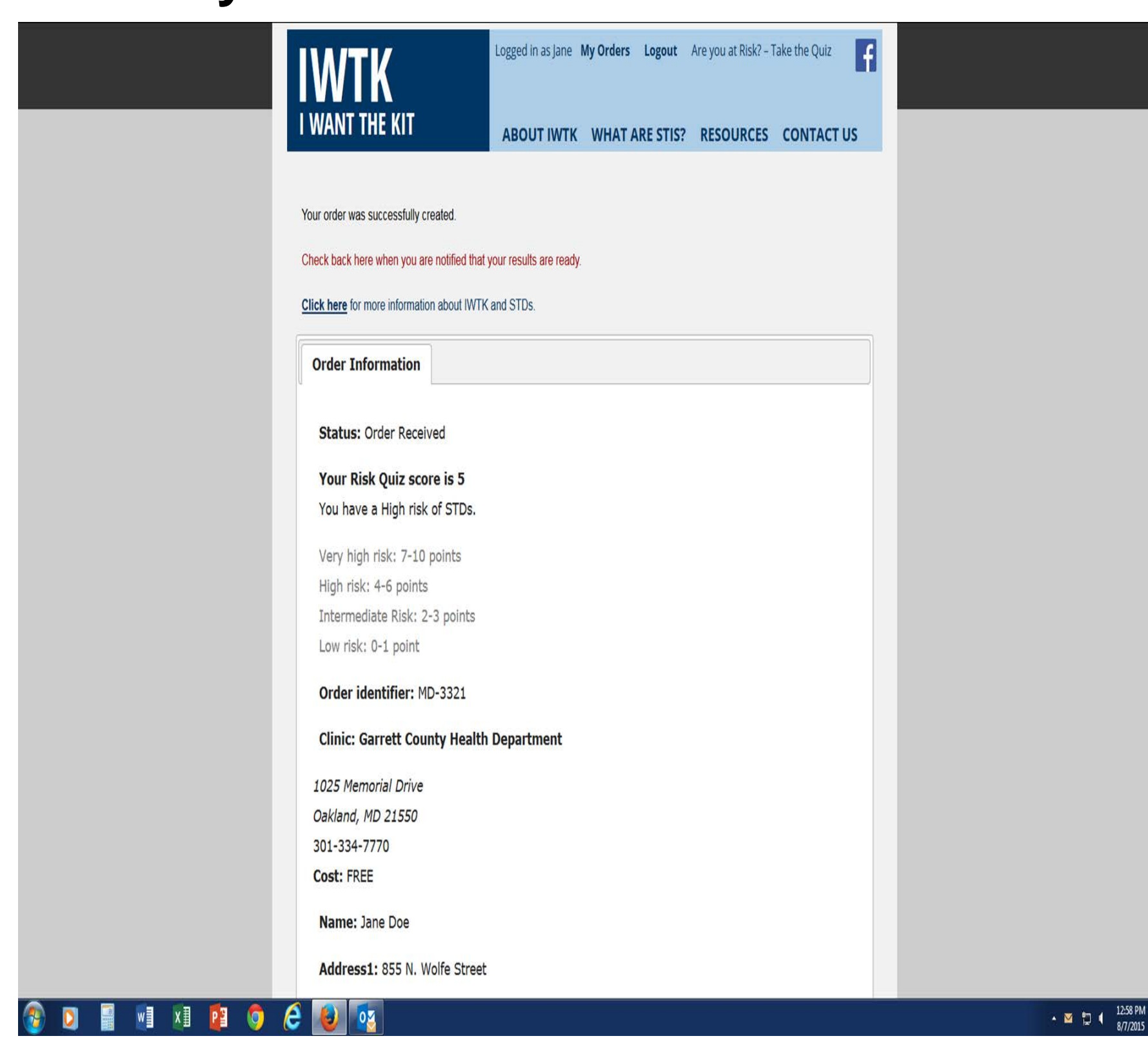


Figure 2. IWTK Kit Ordering Information and Summary of Risk Score



STI Testing

- Aptima Combo2 (AC2) for chlamydia and gonorrhea and Aptima TV for trichomoniasis (Gen-Probe/Hologic, San Diego, CA, USA)

DATA COLLECTION

- Demographic information was abstracted.

DATA ANALYSIS

- Cochran-Armitage trend test was performed to determine if the prevalence of STIs (chlamydia, gonorrhea, or trichomonas infection) increased with the higher score of risk score category.
- Geographical distribution of Baltimore City participants with high risk score (≥ 7) and STIs was mapped.

RESULTS

Figure 3. Prevalence of STI among IWTK Male Users by Demographic Variable

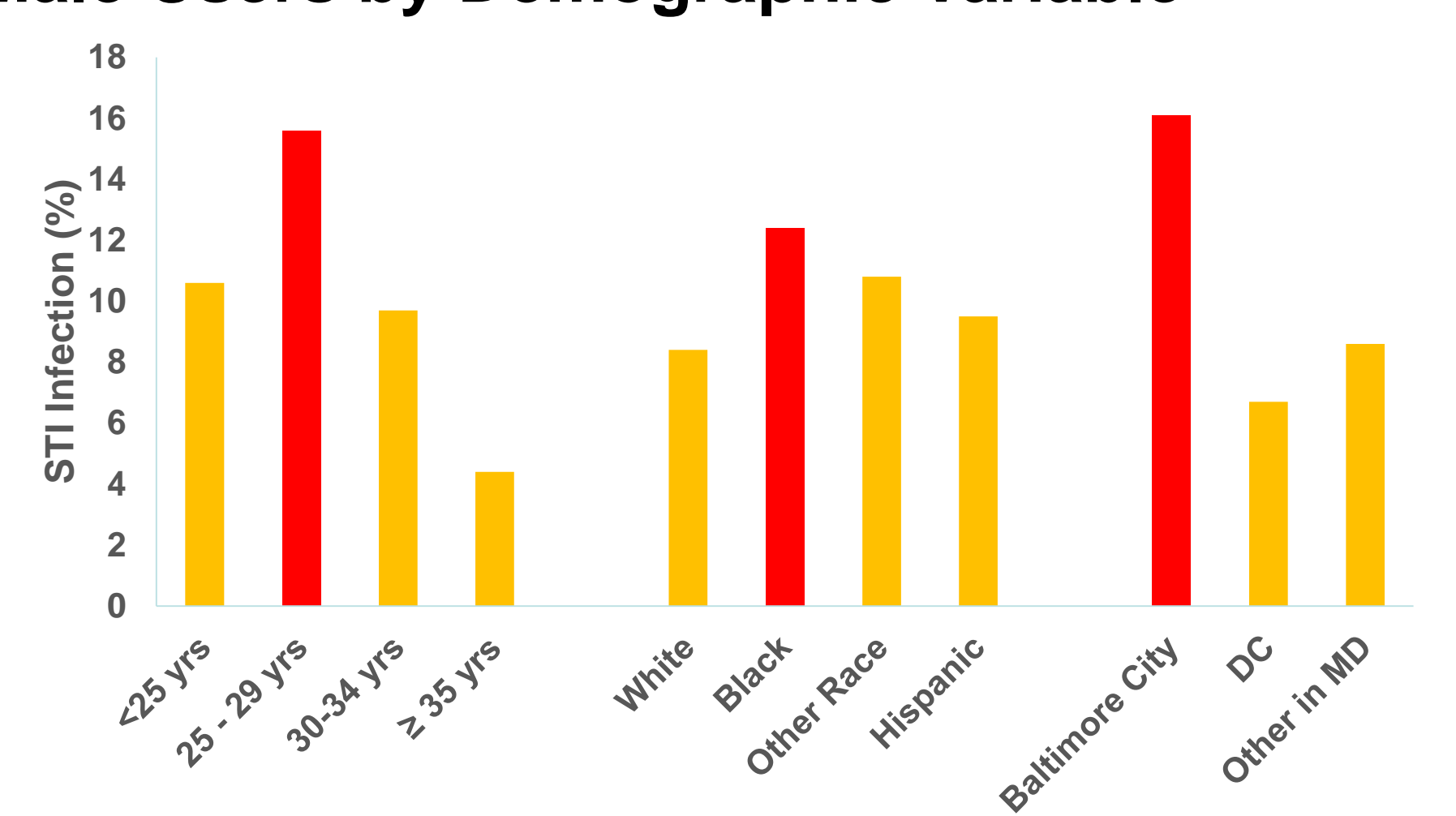


Figure 4. Prevalence of STI among IWTK Male Users by Risk Score Category

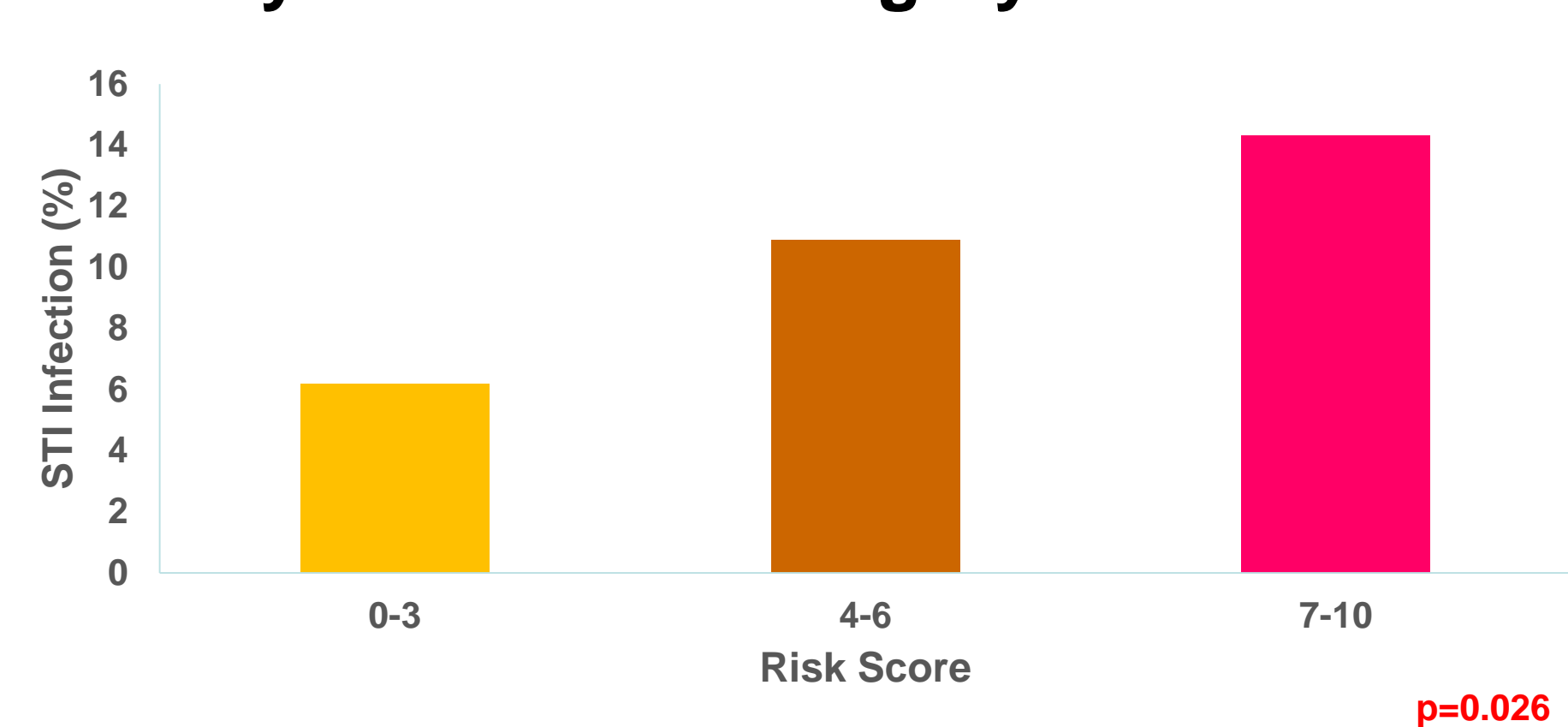
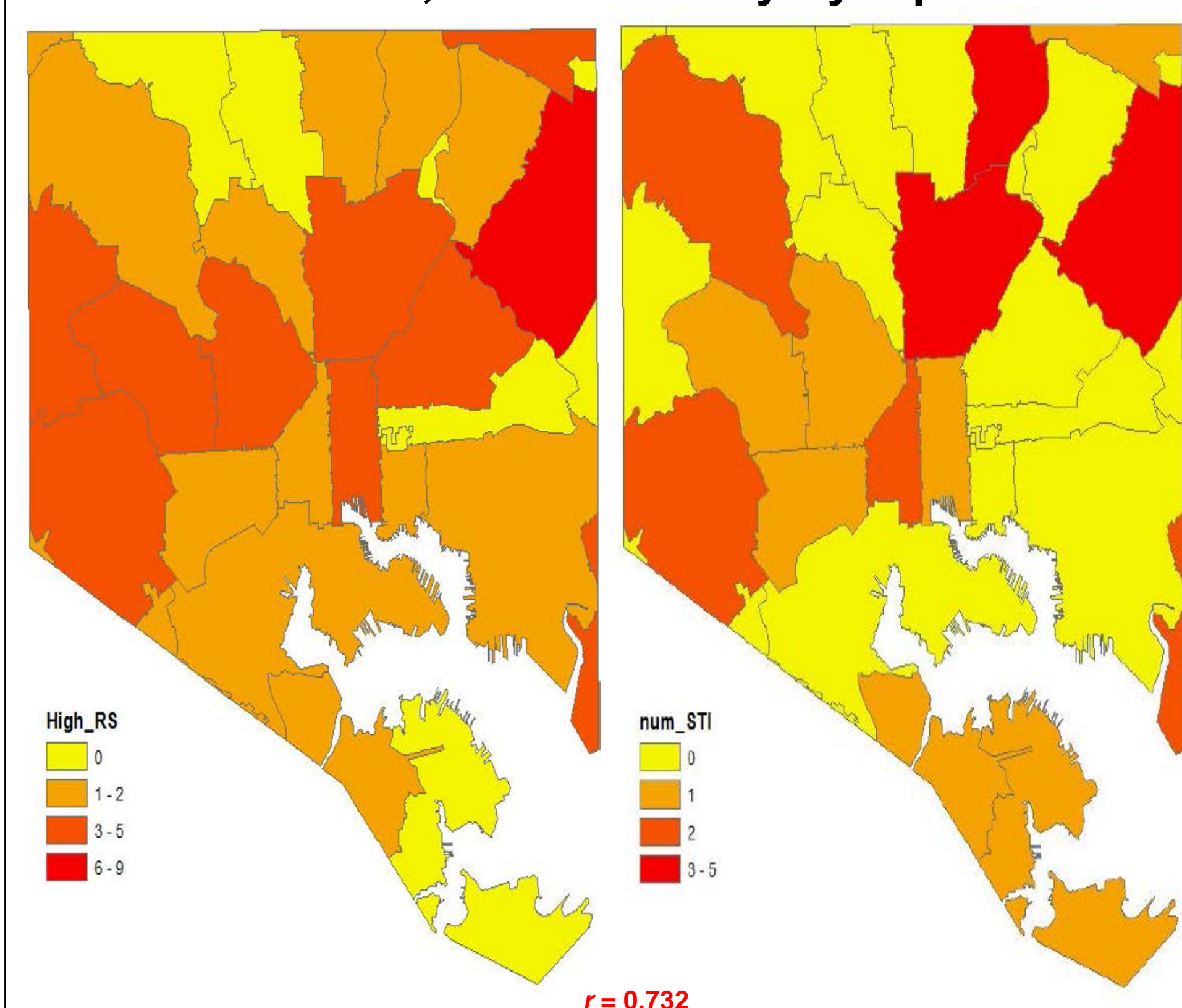


Table 3. Multivariate Regression Analysis of Risk Score on STI Infection, IWTK Male Users

Characteristics	Category	Odds Ratio (95% CI)
Age (years)	14 – 24	2.33 (0.89, 6.11)
	25 – 29	4.22 (1.68, 10.55)
	30 – 34	2.43 (0.87, 6.81)
	≥ 35	1.00
Risk Score	0 – 3	1.00
	4 – 6	2.08 (0.96, 4.54)
	7 – 10	2.68 (1.15, 6.26)

Fig 5. Distribution of High Risk Score (≥ 7) / STI in IWTK Male Users, Baltimore City by Zip Code



RESULTS

Table 2. Characteristics of 592 IWTK Male Participants.

Characteristics	Category	Number (%)
Age (Years)	14 – 24	161 (27)
	25 – 29	180 (30)
	30 – 34	113 (19)
	≥ 35	138 (23)
	Race	White
	Black	250 (42)
	Other	93 (16)
Ethnicity	Hispanic	74 (13)
Residence	Baltimore City	155 (26)
	Other in Maryland	407 (69)
	Washington DC	30 (5)
	Chlamydial Infection	Yes
Gonococcal Infection	Yes	13 (2)
Trichomoniasis Infection	Yes	6 (1)
Any of Three STIs Infection Above	Yes	62 (10)
Risk Score	0 – 3	146 (25)
	4 – 6	313 (53)
	7 – 10	133 (22)

LIMITATIONS

- The results can only be generalized to IWTK male users living in limited geographical areas.
- We were not able to evaluate the association in subgroup of population, e.g. MSM.

CONCLUSIONS

- After excluding potential selection bias, IWTK risk score tool predicted the presence of STIs for male users and could potentially be used for identifying hotspots for STI intervention.

FUNDING SOURCES

- U54EB007958, NIBIB, NIH
- U-01 068613, NIAID, NIH