

# Kiosk-Facilitated Patient Self Testing for HIV in an Emergency Department

## Rapid HIV Screening Program

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### INTRODUCTION

- Increasing numbers of EDs have developed strategies to adapt HIV testing into routine practice since 2006 CDC recommendations. However, challenges in best practices remain regarding how to increase the penetration rate, efficiently identify undiagnosed infected patients, reduce costs, better utilize currently available resources.
- Recently, we have successfully implemented a novel kiosk system in an ED HIV screening program for offering rapid HIV testing and risk assessment as part of ED registration process.
- Studies in our ED have demonstrated that patients are willing to perform their own rapid HIV test and the self-testing results are highly concordant with health care professionals' test results.
- Coupling kiosk-facilitated test offering with patient self-testing for HIV may be one means of offsetting personnel resource and costs for routine HIV screening in the ED.

### OBJECTIVE

- To evaluate feasibility of patient self-testing for HIV linked with kiosk based offer and kiosk based instructions for patient HIV self-testing, as the routine mode of emergency department HIV screening. Outcomes assessed are the rates of uptake and successful completion of HIV testing.

### METHODS

#### STUDY SETTING

- Inner city ED; 60,000 visits/year; HIV prev. ~ 10%

#### POPULATION

- Eligible for Screening:** 18-64 years; registered during program hours; able to provide informed consent; not critically ill; English-speaking.
- Eligible for Testing:** As above, plus no test in past 3 months; no previous diagnosis of HIV

#### SCREENING PROGRAM

- Non-targeted rapid oral fluid HIV testing was instituted since Nov. 2005
- A 2-phase kiosk system was integrated into ED operations in 2011 for rapid HIV testing. It included a 'registration kiosk' (offering screening) and a 'risk assessment kiosk' (demographic, risk factor info) supplemented with self-testing instructions.
- HIV Testing Operational Procedures: Exogenous staff kiosk-facilitated/bed-side testing; medical staff to test during overnight hrs; Streamlined referral process and standardized follow-up calls by exogenous staff

#### STUDY DESIGN

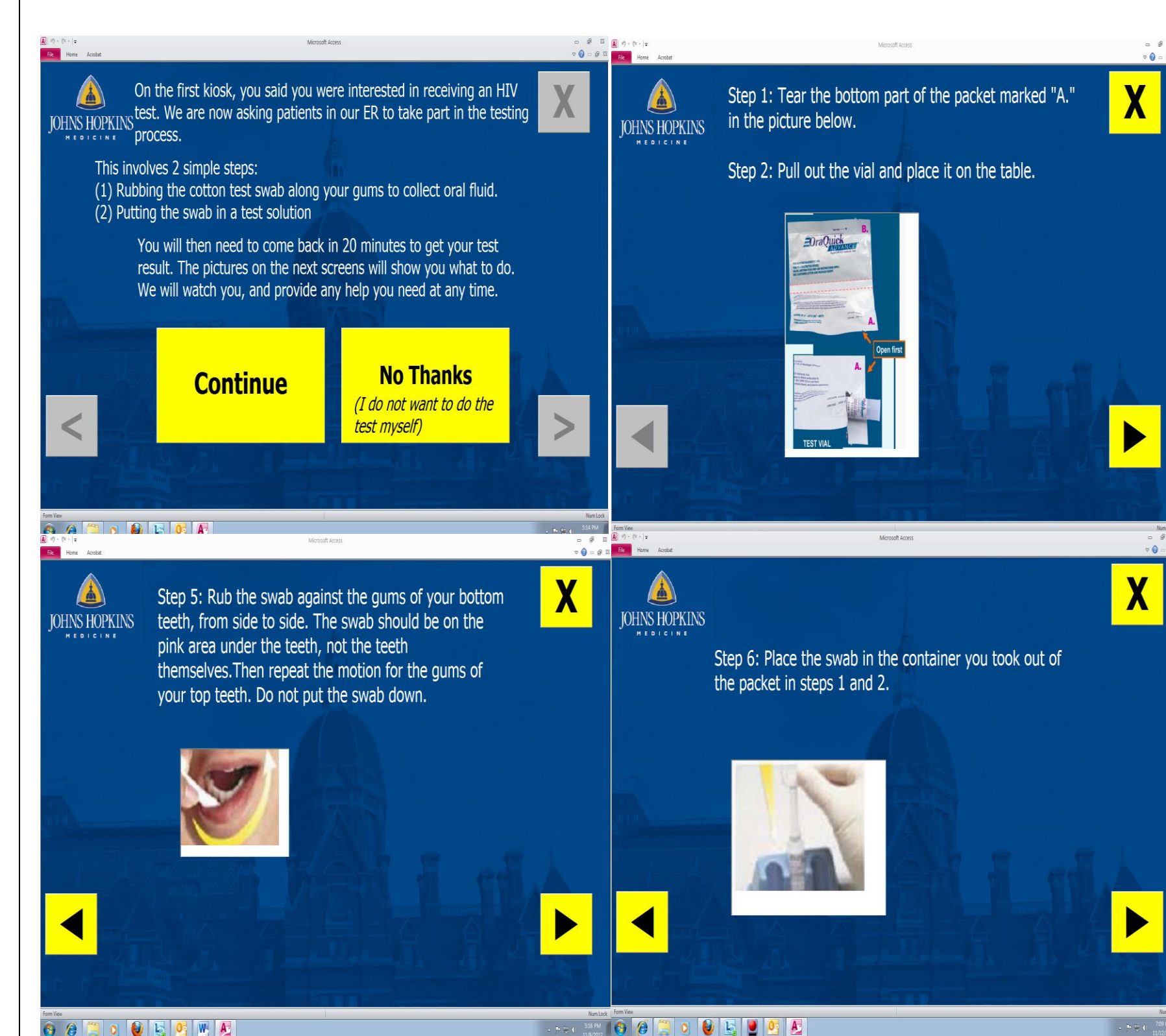
- Instructional self-testing kiosk screens added to 'risk assessment kiosk' providing step-by-step instructions for specimen collection/processing. Test results read by trained testing facilitators.
- Evaluation of Screening Program (40 days): 2 pairs of 10-weekday (16-hr/d) kiosk self-testing as the routine screening and 10 weekday (16-hr/d) kiosk facilitator-testing.
- Patients declining self-testing tested by a facilitator
- Facilitators observed patient-performed self-testing, provided assistance when requested or required.

#### DATA ANALYSIS

- Descriptive statistical analysis and chi-squared tests performed.

### RESULTS

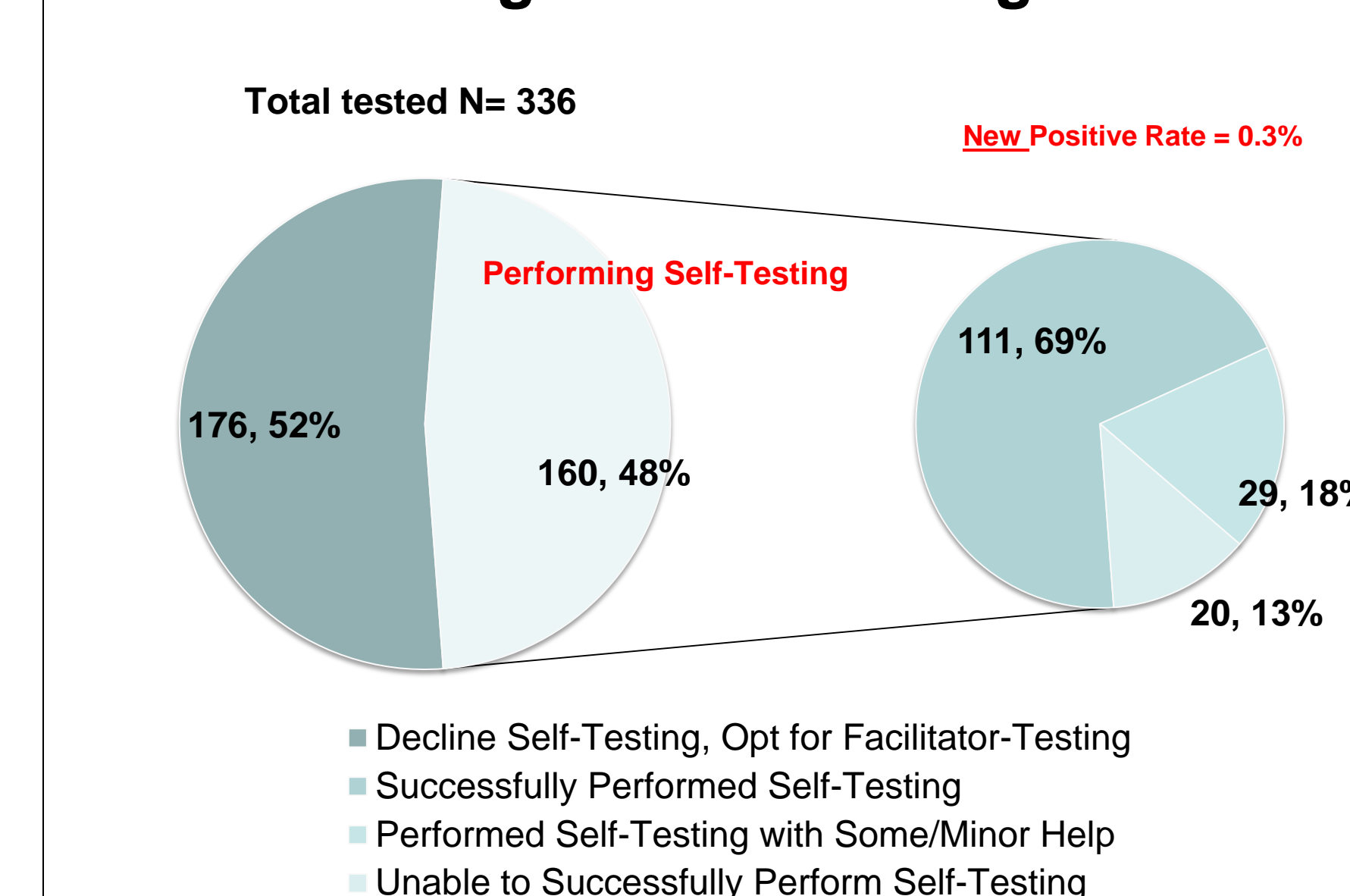
**Fig 1. Screen Shots of Self-Testing Kiosk Instructions**



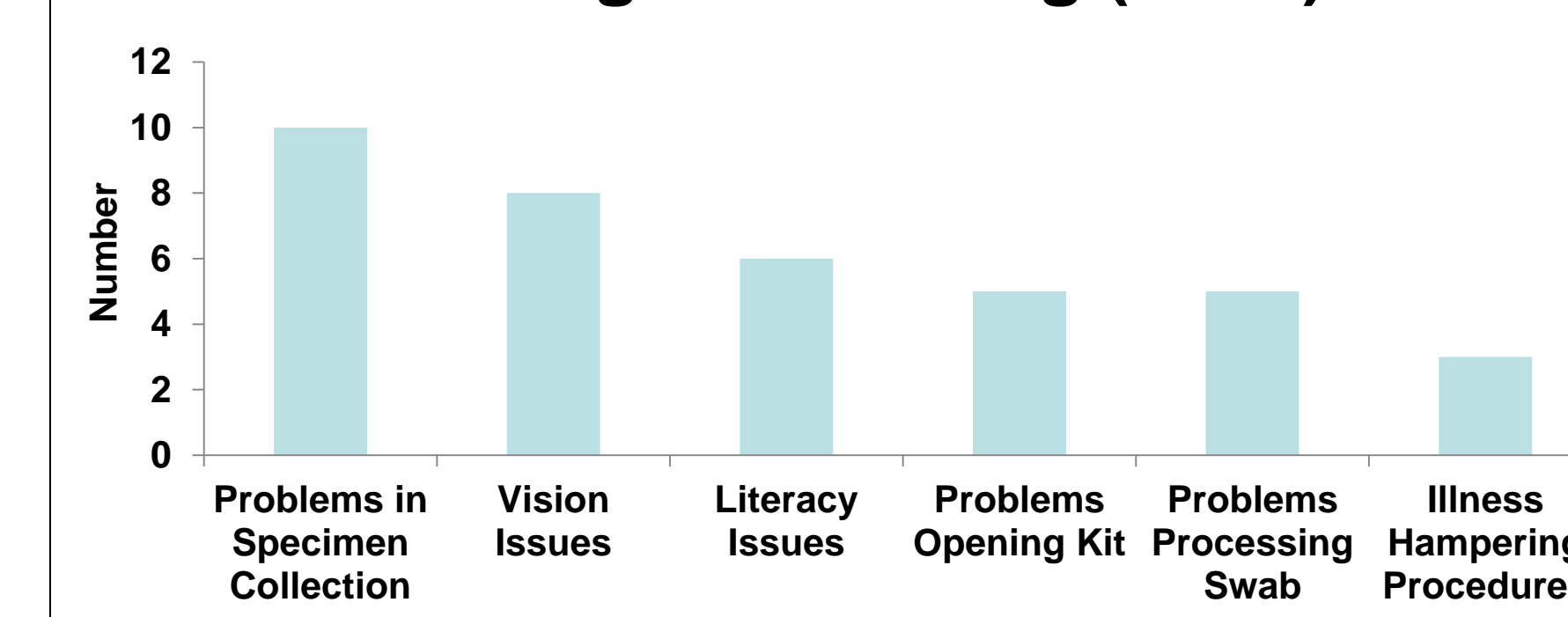
**Table 1. HIV Screening Rates during Kiosk Self-Testing and Kiosk Facilitator-Testing Phases**

ED Patients	Self-Testing	Facilitator-Testing
N	4241	4230
N Eligible for Screening	2446	2409
N (%) Offered HIV Testing, of Those Eligible for Screening	877 (35.9%)	884 (36.7%)
N (%) Consented and Tested, ... of Those Offered, and Eligible for, HIV Testing	336 (38.3%)	350 (39.6%)
... of Those Eligible for Screening	(13.7%)	(14.5%)
N (%) Newly Identified as HIV+ of Those Consented and Tested	1 (0.3%)	0 (0.0%)

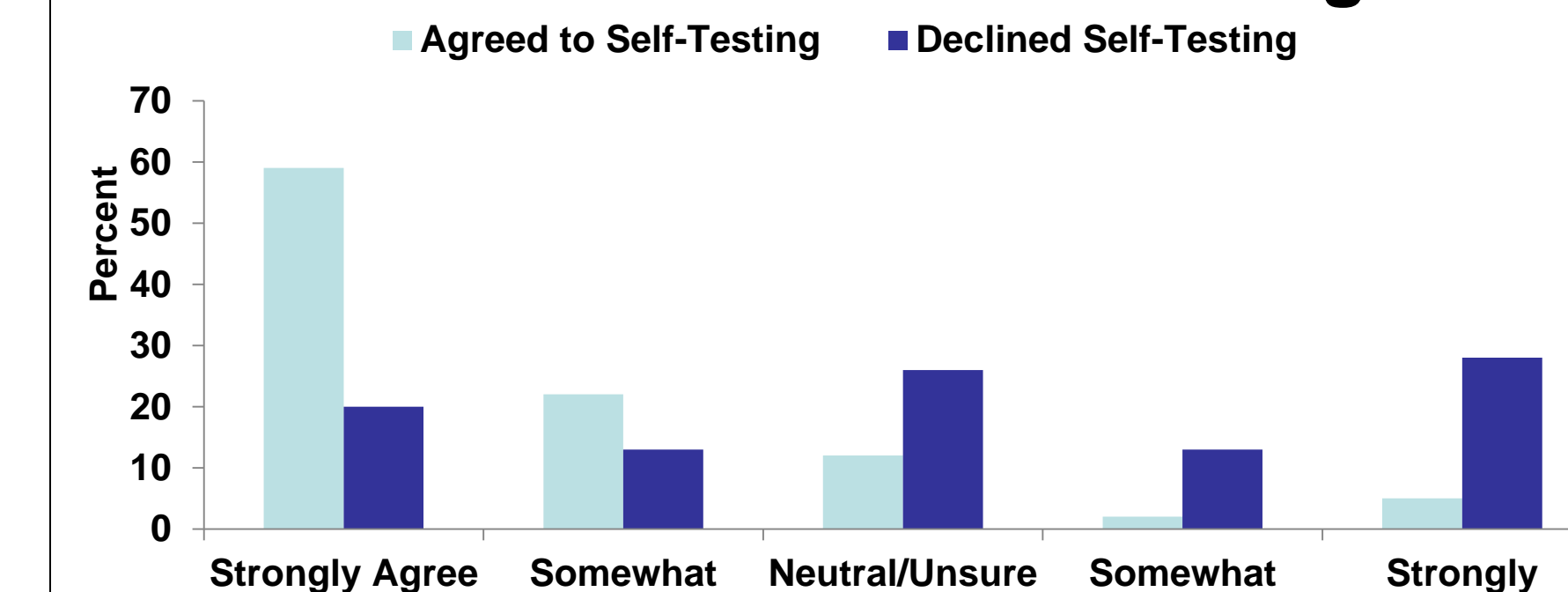
**Fig 2. Performance of Self-Testing by ED Patients During the Self-Testing Phase**



**Fig 3. Reasons Patients Needed Assistance with Performing Self-Testing (n=29)**



**Fig 4. Attitudes Regarding Self-Testing in the Future in Patients in Self-Testing Phase**



### LIMITATIONS

- Single institution.
- Reasons for declining self-testing were not collected during this program evaluation.
- Demographic, socioeconomic factors, and reason for visit, which may contribute to ED patients not self-testing for HIV, are under investigation.

### CONCLUSIONS

- This is the first demonstration of kiosks for engaging patients and guiding HIV self-testing in a health care setting.
- Notably, while rates of agreement for self-testing were similar to facilitator testing, more than half of patient declined to perform their own test; further a substantial number of patients needed assistance from staff or failed to complete self-testing.
- Approximately, 40% of patients who declined self-testing stated that they would not try self-testing in the future but 33% of patients stated that they would.
- Additional operational and educational interventions are required prior to consider full implementation of kiosks for HIV self-testing in EDs; further administrative regulations regarding patients officially 'reading their own results' must be pursued in order to realize the potential value of this approach.

### FUNDING SOURCES

- Gilead Sciences, Inc.
- Baltimore City Health Department