

# On-the-Farm Screening for Cardiovascular Risk Factors among Migrant Agricultural Workers in Southeast Minnesota

Tamim Rajjo, M.D.<sup>1</sup>, Jennifer Rho, M.D. MPH<sup>2</sup>, M. Hassan Murad, M.D. MPH<sup>1</sup>

<sup>1</sup>Division of Preventive, Occupational and Aerospace Medicine, Mayo Clinic, Rochester MN. <sup>2</sup>Community Health Inc. Rochester MN.

## Introduction

- Provision of healthcare, especially accessibility, to agricultural migrant workers (AMW's) in the US has been a challenge for decades.
- Additionally, AMW's are at higher risk for certain chronic illnesses that must be monitored frequently.
- In the United States, clinics devoted to providing medical care to this population have been one solution. Several factors, such as lack of reliable transportation or inability of workers to leave job duties for appointments, remain barriers to the success of this model of healthcare delivery.
- Mobile clinics have been one solution to improve accessibility to healthcare amongst AMW's. A review article noted that mobile clinics still face many challenges, including but not limited to: hours of operation, lack of bilingual staff, and transportation barriers.

## Objectives

To test the feasibility and satisfaction of implementing farm sites preventive screening stations to agricultural migrant workers (AMW's) in Southeastern Minnesota as a novel approach of healthcare delivery

## Methods

### Study Design:

Prospective cohort study with six months follow up. Pilot study.

### Inclusion and Exclusion Criteria:

Adult (male and female) migrant workers. Workers younger than 18 years old, non-migrant and workers who were not directly involved in agricultural work (e.g. administrative work) were excluded.

### Monthly Screening Visits:

Over 6 months period, using (CLIA)-waived testing, we visited with the farms monthly to screen and monitor weight, blood pressure, glucose and cholesterol regularly. Testing took place at a space designated by owner (meeting room) to insure privacy and access to all participants. Screening station is pictured here.



### Surveys:

At the end of the study, participants filled two surveys:

- Validated patient satisfaction questionnaire (PSQ-18) that taps on the seven different dimensions of satisfaction with medical care.
- Seven questions short survey we developed regarding testing site and schedule convenience, health awareness likelihood of future use.

Owners were also surveyed about their experience and thoughts of possible impact on workers' health and business improvement.

## Results

- Three farms participated. Thirty-eight workers provided consent, 30 (79%) completed the study. Median age 30 (18-59). Males (32) and females (6).
- Table 1 exhibits scores on different areas of satisfaction. High (5-4) Moderate (3) and Low (2-1).
- Fig.2 and Fig.3 depict levels of agreement with statements in the short survey. Stratified analysis according to sex, family and education was performed.
- Prevalence of detected risk factors: Pre-diabetes (37%), DM (5.3%), HTN (2.6%), HLD (16%), Overweight/Obese (71%). Smokers (45%).

Fig.2 Percentage of different areas of agreement among AMWs

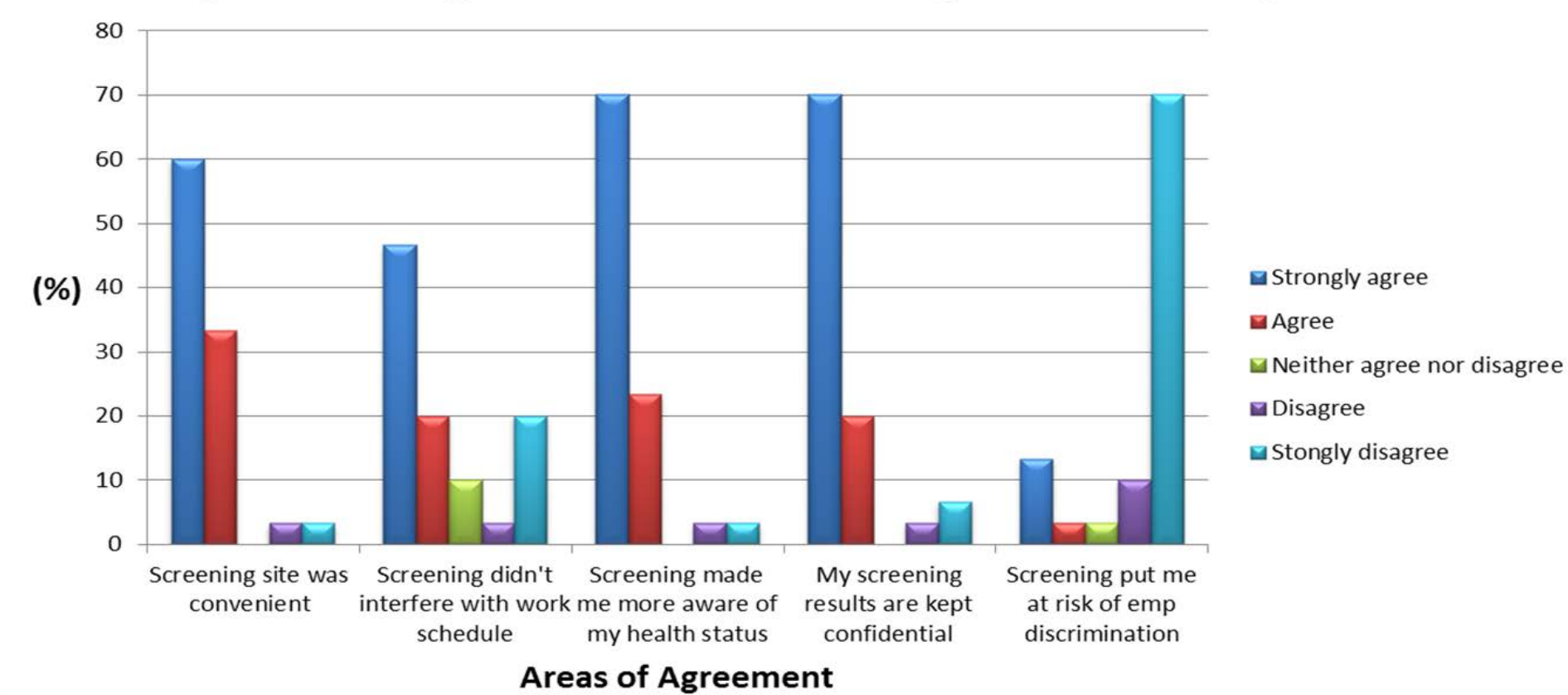


Fig.3 Likelihood of use or recommend

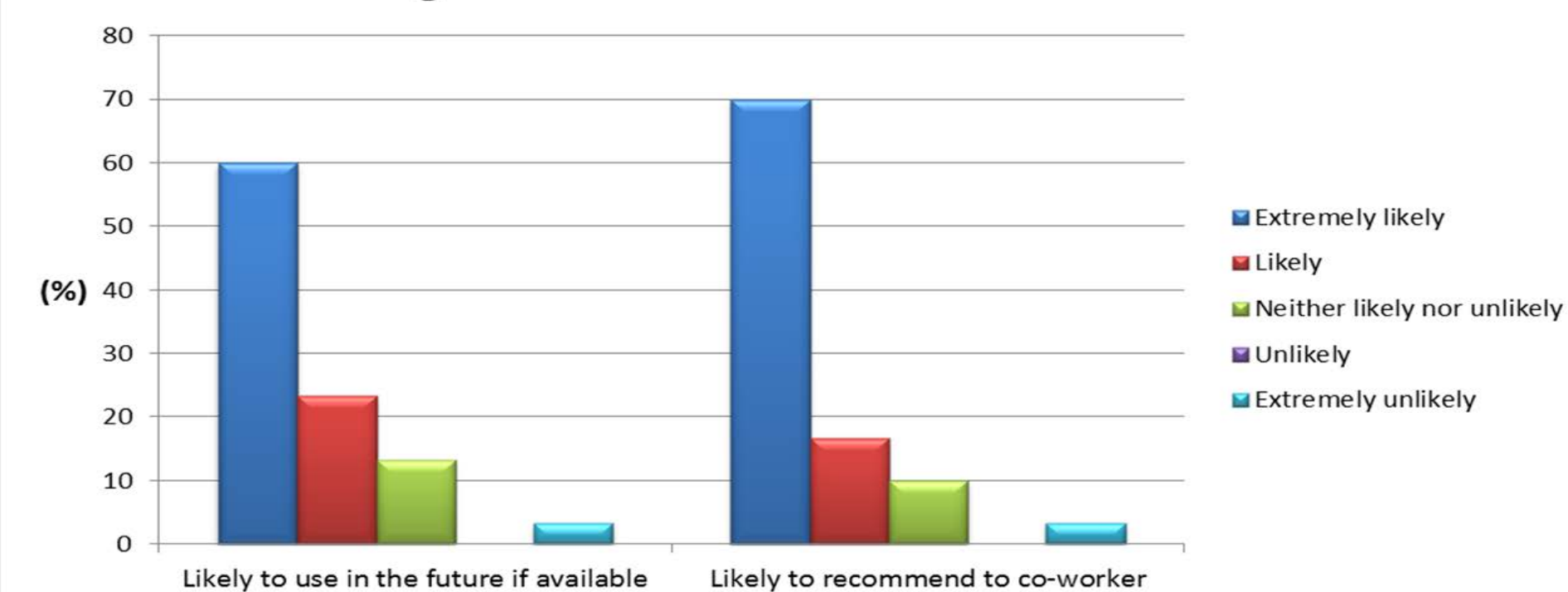


Table.1 Different Areas of Satisfaction

Area of Satisfaction	Mean ± SD
General Satisfaction	4.46 ± 0.79
Technical Quality	4.48 ± 0.65
Interpersonal Manner	4.43 ± 0.89
Communication	4.45 ± 0.75
Financial Aspects	4.7 ± 0.55
Time spent with provider	3.86 ± 1.6
Accessibility and Convenience	4.36 ± 0.87

## Conclusions

- Worksite cardiovascular risk factors screening for agricultural migrant workers is a novel approach to fill in gaps of health care delivery to AMW's population. It is quite feasible to further implement it at the farms to screen for HTN, HLD, DM, cigarette smoking and excess body weight.
- Further research is needed with a larger sample of farms with integrating a model of on-site treatment for prevalent and newly diagnosed conditions.

