

XIX Asia Pacific Military Medicine Conference

Randomized Controlled Trial: Online vs. In-person Counseling for Smoking Cessation

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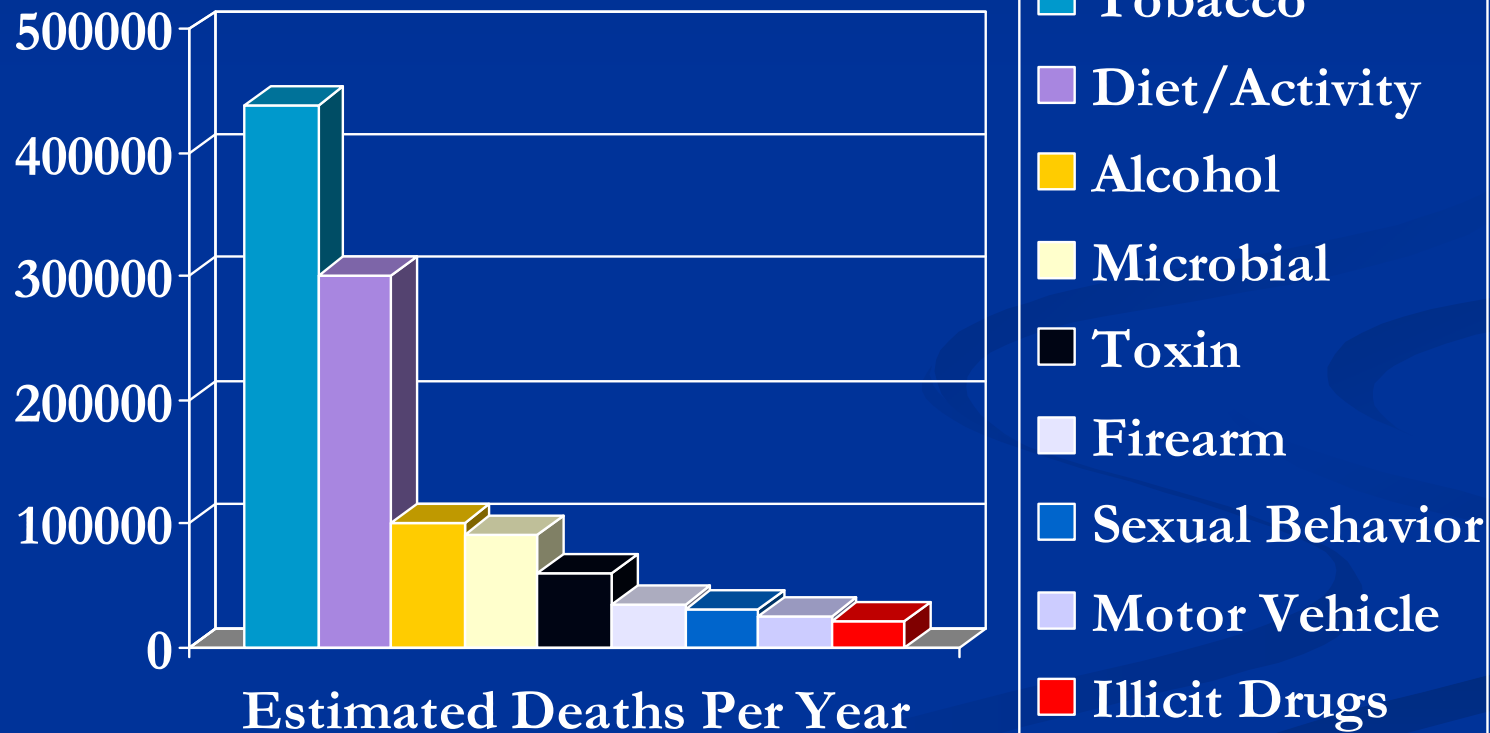
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Relevance

Study on Preventable Causes of Death¹



¹ McGinnis. Actual Causes of Death in the United States. JAMA 1993.

Cardiovascular (CV) Disease

- **Significant effect on mortality¹**
 - **50% increased mortality after heart attack²**
 - **3 months intensive intervention needed³**
 - **Coronary event risk equalizes after 3 years²**

- **14.5 years follow-up on death after intervention⁴**
 - **Coronary disease 1.3 vs 0.4 deaths/ 1000**
 - **CV disease 1.0 vs 2.8 deaths/ 1000**

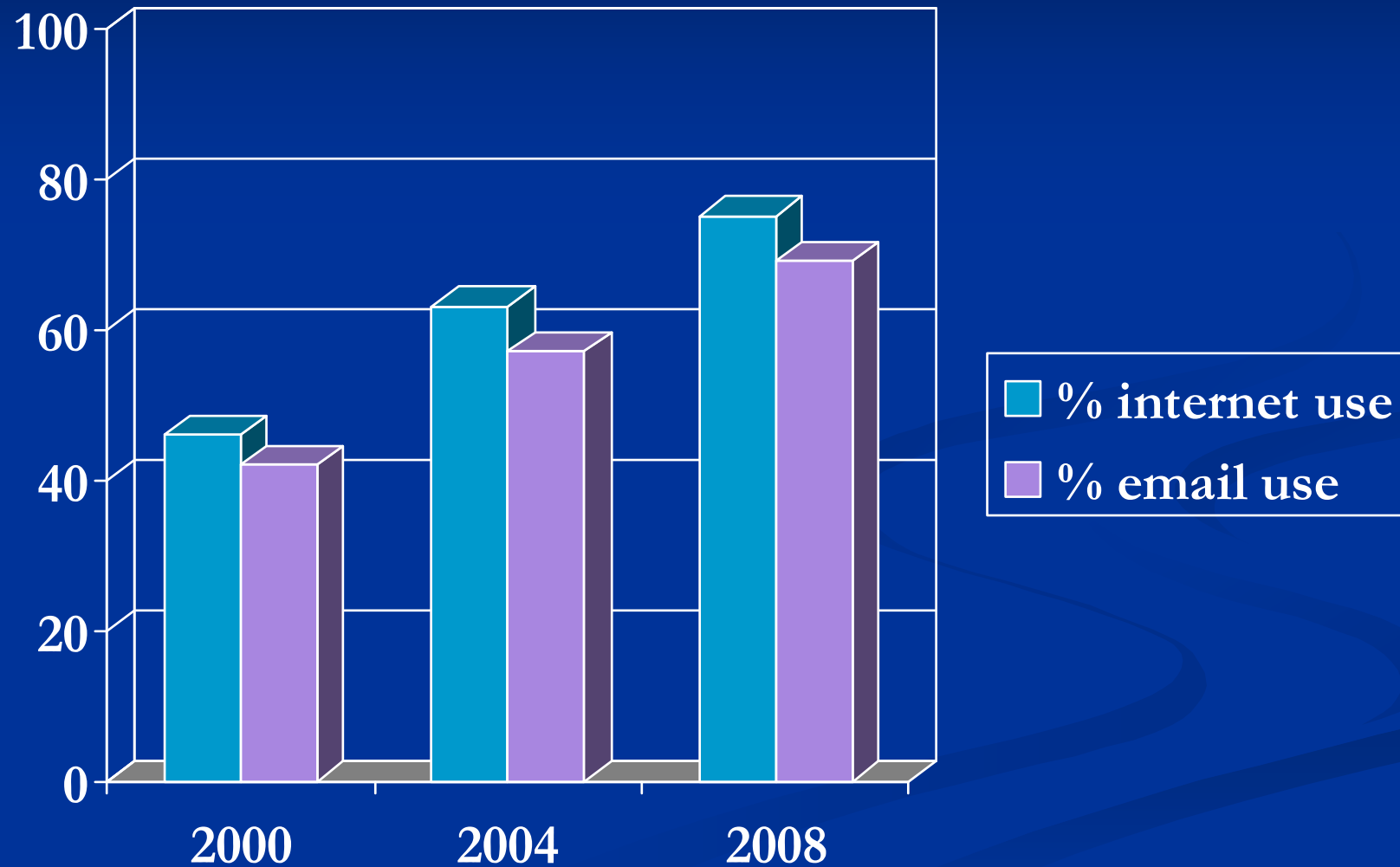
¹ Anthonisen NR, et al. Ann Intern Med; FEB 2005.

² Rea TD, et al. Ann Intern Med 2002.

³ Mohiuddin SM, et al. Chest 2007.

⁴ Anthonisen NR, et al. Ann Intern Med 2005.

Internet Usage Survey



Online

- **Programs are effective^{1,2,3}**
- **Better than brief office intervention⁴**
- **Advantages:**
 - **Multimedia can appeal to different learning styles⁵**
 - **Availability and access**

¹ Ota et al. Japanese Journal of Public Health.; Nov 2005.

² Patten CA, et al. Patient Educ Couns; APR 2006.

³ Swartz LHG, et al. Tobacco Control; FEB 2006.

⁴ Patten CA, et al. Patient Educ Couns 2006.

⁵ Mayer RE, et al. J Educ Psychol 2001; 92:390-397.

In-person

- **Group counseling programs are effective¹**
- **Cost effective²**

¹ Hall SM, et al. J Behav Health Serv Res; OCT 2005.

² Stead LF, et al. Cochrane Database Syst Rev; APR 2005.

Online vs In-person

- **No direct comparison**
- **1st Study directly comparing online to in-person counseling**

Study Outline

- **Recruitment:**
 - **General Advertisements & Referrals**
- **To Qualify for the Study:**
 - **Smoke 10 Cigarettes per Day**
 - **Not have Kidney Disease**
 - **Not Pregnant**
 - **Not Hospitalized in Last 30 Days**
 - **Use e-mail \geq every other day**
 - **Ready to quit**

Methods, continued

- **Intake questionnaire**
 - **Demographics**
 - **Smoking habits**
 - **Previous counseling**
 - **Brief medical history**
 - **Attitudes**
- **Medication**
 - **All received varenicline**

Randomization

- **Random number table**
 - $\frac{1}{4}$ in-person counseling
 - $\frac{3}{4}$ online counseling
 - **Opaque envelopes**

Counseling

- **Online counseling**
 - **GetQuit™**
 - **Daily e-mail, daily activity, 12 weeks**
- **In-person counseling**
 - **Weekly, 2 hour classes x 4 weeks**

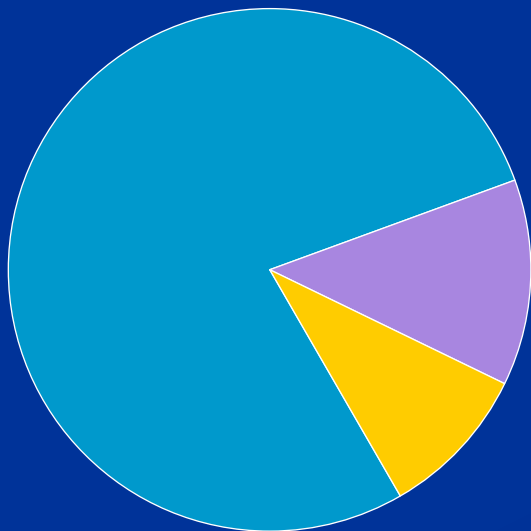
Outcomes

- **Successful quitter**
 - **No smoking, not even a puff**
 - **7 consecutive days after 12 weeks of therapy**
 - **Exhaled carbon monoxide ≤ 10 ppm**
- **All others classified as continued smokers**
- **Statistical analysis**
 - **Chi squared**
 - **P<0.05 significant**

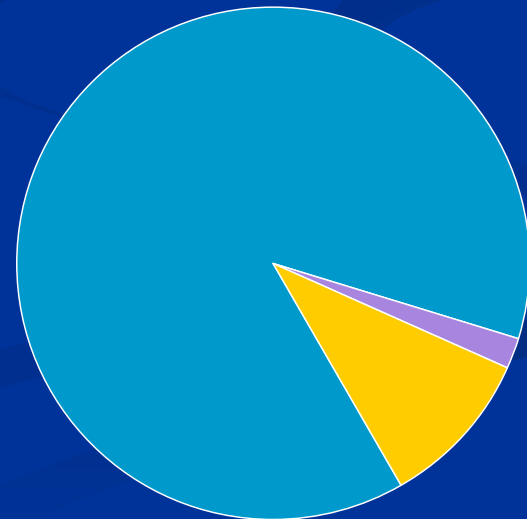
Results

Patient Demographics

	<u>Online</u>	<u>In-person</u>
Participants	173	44
Mean Age	41	40
Male	57%	66%
Some College	79%	86%



■ Caucasian
■ African American
■ Hispanic



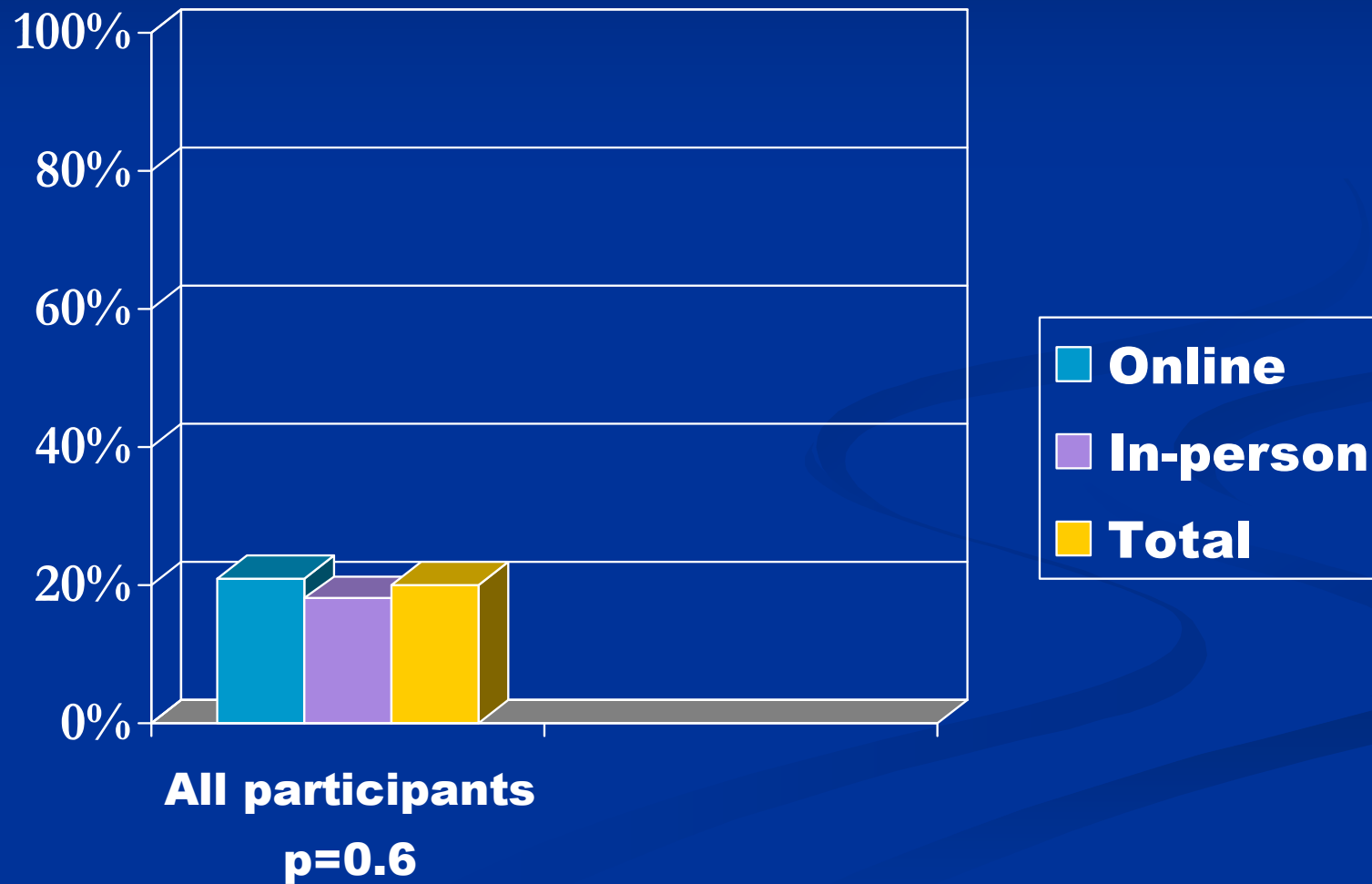
Patient Characteristics

	All	Online	In-person	P value
Participants	217	173	44	
Pack-years	23	23	22	0.7
Previous quit #	4.0	4.0	4.0	0.9
Fagerstrom score	5.3	5.3	5.3	0.9
Counseling Preference:				
Online	67%	67%	68%	0.9
Telephone	7%	7%	6.8%	0.9
In-person	26%	26%	25%	0.9
Health:				
≥1 CV risk factor	32%	31%	34%	0.7

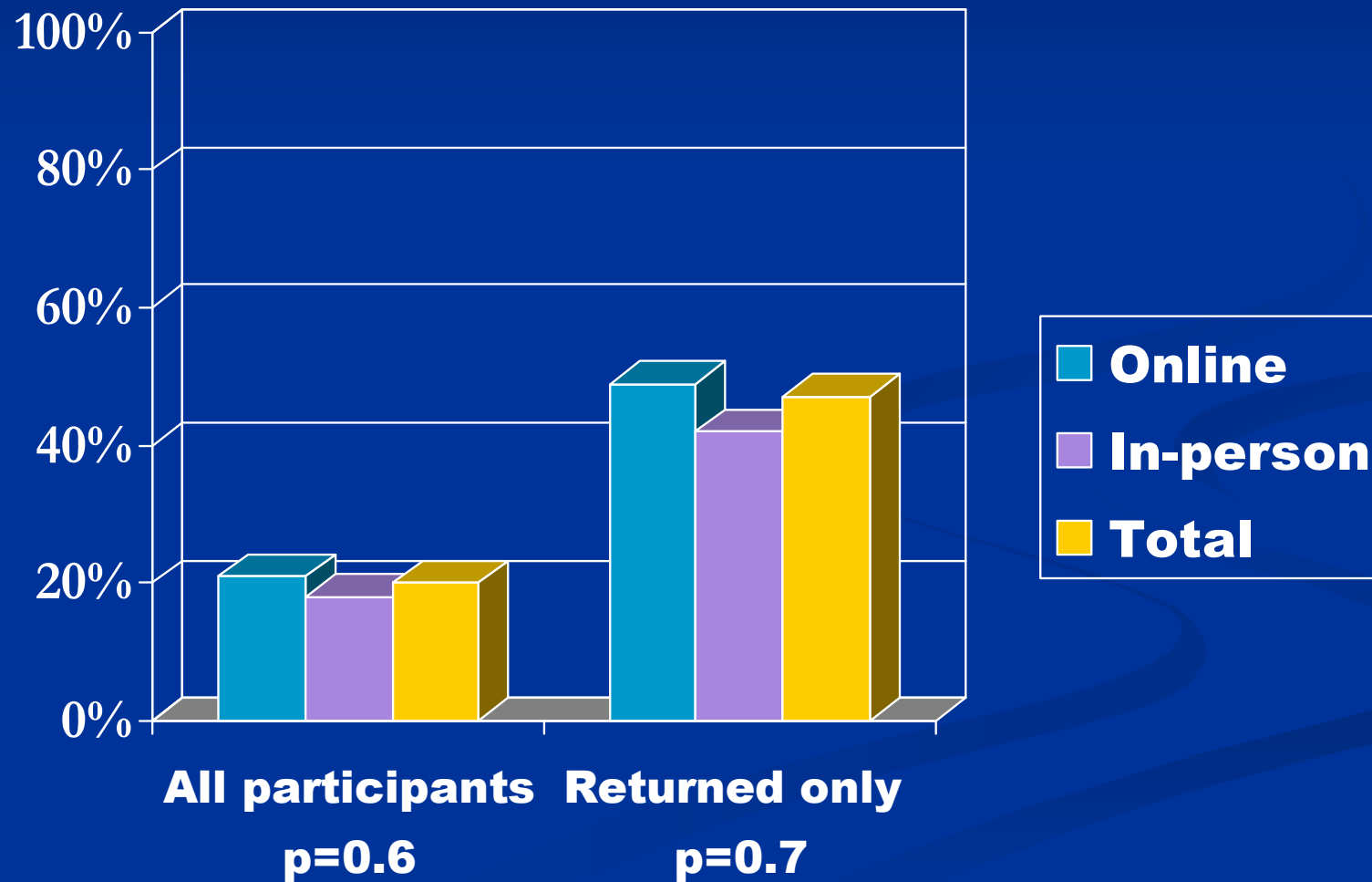
Follow-up

- **Exit questionnaire:**
 - **Total: 43% (n=93)**
 - **Online group: 43% (n=74)**
 - **In-person group: 43% (n=19)**
 - **P value 0.9**

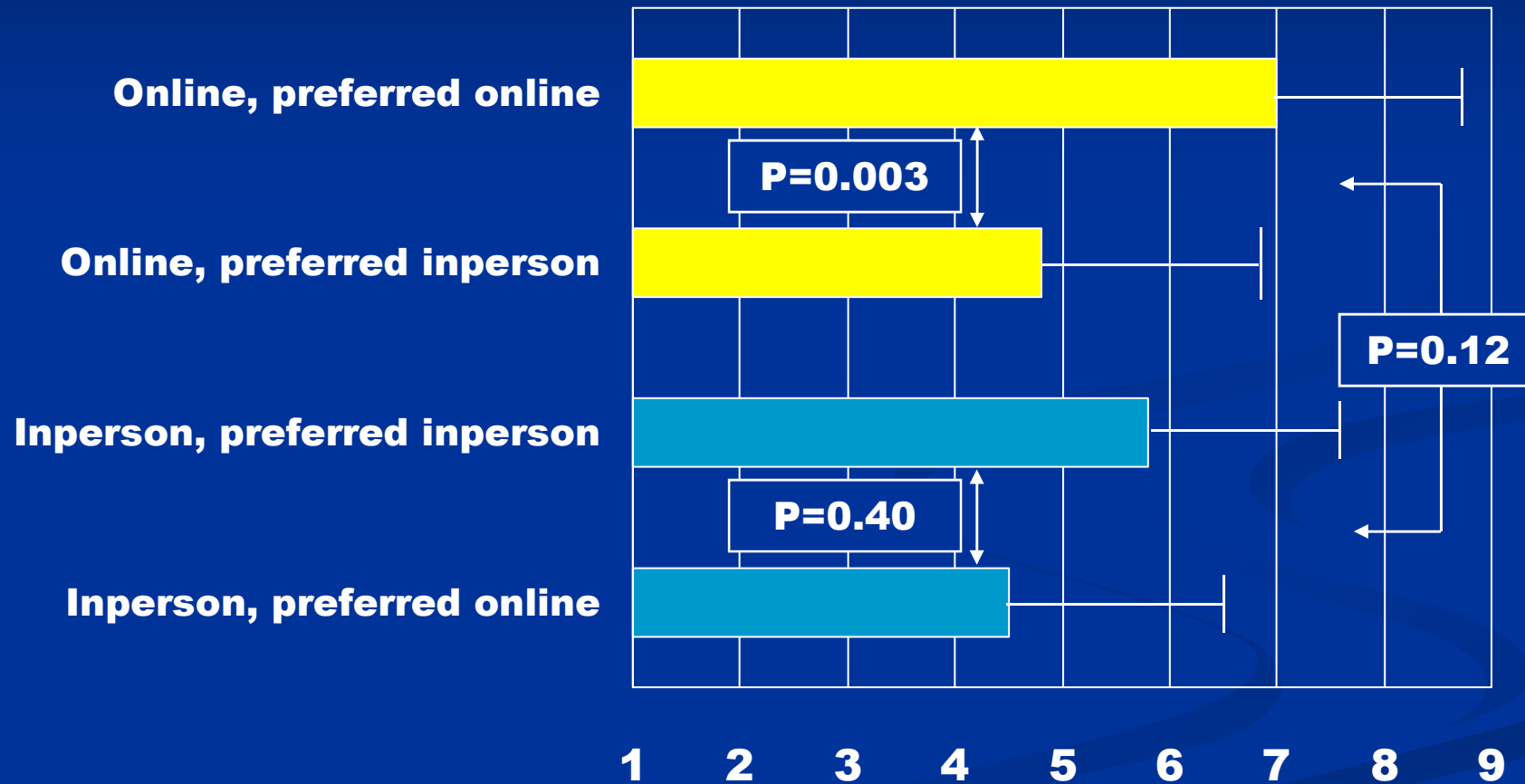
Quit Rates



Quit Rates



Program Satisfaction



Cardiovascular Risk Factors

- **Cardiovascular risk factors were defined as:**
 - **Heart disease (CAD)**
 - **Heart attack (MI)**
 - **Hypertension (HTN)**
 - **Hyperlipidemia (HLP)**
 - **Diabetes Mellitus (DM)**

Cardiovascular Risk Factors

- **32% quit rate compared to 15% without a CV risk factor**
 - **p = 0.004**
- **Differential loss to follow-up**
 - **65% vs. 32%**
 - **Quit rates among those who returned**
 - **CV risk factor: 49%**
 - **No CV risk factor: 46%**

Side effects

Symptom	Bothered a little (%)	Bothered a lot (%)
Nausea	38	20
Insomnia	18	21
Vivid dreams	19	17
Headache	16	8
Constipation	8	7
Diarrhea	9	3

Suicidal ideations, n=4

Admission for psychosis, n=1

Discussion

- 1. Equal quit rates for online and in-person counseling**
- 2. Satisfaction was higher if online participants got preferred counseling group**
- 3. Reasonable quit rates for those with cardiovascular disease or risk factors**

Internet Counseling

- **Works as well as group daytime in-person counseling**
- **Army is a mobile force**
- **Increased satisfaction**
- **Disadvantages**

Cardiovascular Risk Factors

- **Health effects #1 reason to attempt quitting**
- **Increase likelihood to cite as a reason to quit**
 - **CAD: 81% vs 46%**
 - **HTN: 67% vs 42%**
 - **HLP: 70% vs 41%**
 - **P<0.01 for all above**

Limitations

- **Incomplete follow up**
- **Underpowered**
- **Counseling requires varenicline prescription**

Conclusion

- 1. Online counseling is equivalent to in-person counseling**
- 2. Allowing patient to choose counseling type increases counseling satisfaction**
- 3. Varenicline + online counseling reasonable choice for those with cardiovascular risk factors**

Implications

- 1. Removes barriers to counseling**
- 2. Cardiovascular risk factors**
 - **Need to counsel patients**
- 3. Further Research**
 - **Larger patient cohort for subgroup analysis**

Disclosures

- **Any opinions expressed in this presentation do not necessarily represent the beliefs of the US Army or William Beaumont AMC**
- **I have no connections to Pfizer, maker of varenicline (Chantix)**
- **Dr. DeZee was previously on the Speaker's Bureau for Pfizer prior to this study.**

References

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- 2. United States Department of Health and Human Services: Office of the Surgeon General. <http://www.surgeongeneral.gov/publichealthpriorities.html>
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- 4. McGinnis. Actual Causes of Death in the United States. *JAMA*, 1993;270: 2207-2212.
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- 6. Stead LF, et al. Group behaviour therapy programmes for smoking cessation. *Cochrane Database Syst Rev*; APR 2005. (2): CD001007
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Questions?

Smoking and the Warfighter

Decreased night vision

Decreased mental acuity

Decreased ability
to deal with stress

Increased need for water

Decreased lung capacity

Decreased fine
motor coordination

Decreased wound healing

Decreased stamina

Increased injuries

Are you compromising the mission?



Poster based on original design by Major James Tonde, Army CIM (July 2003)
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