



University of California  
San Francisco



# Recruiting Minority Adults through Electronic Technology

Center of Aging in Diverse Communities

Celia P. Kaplan, DrPH, MA



# Outline

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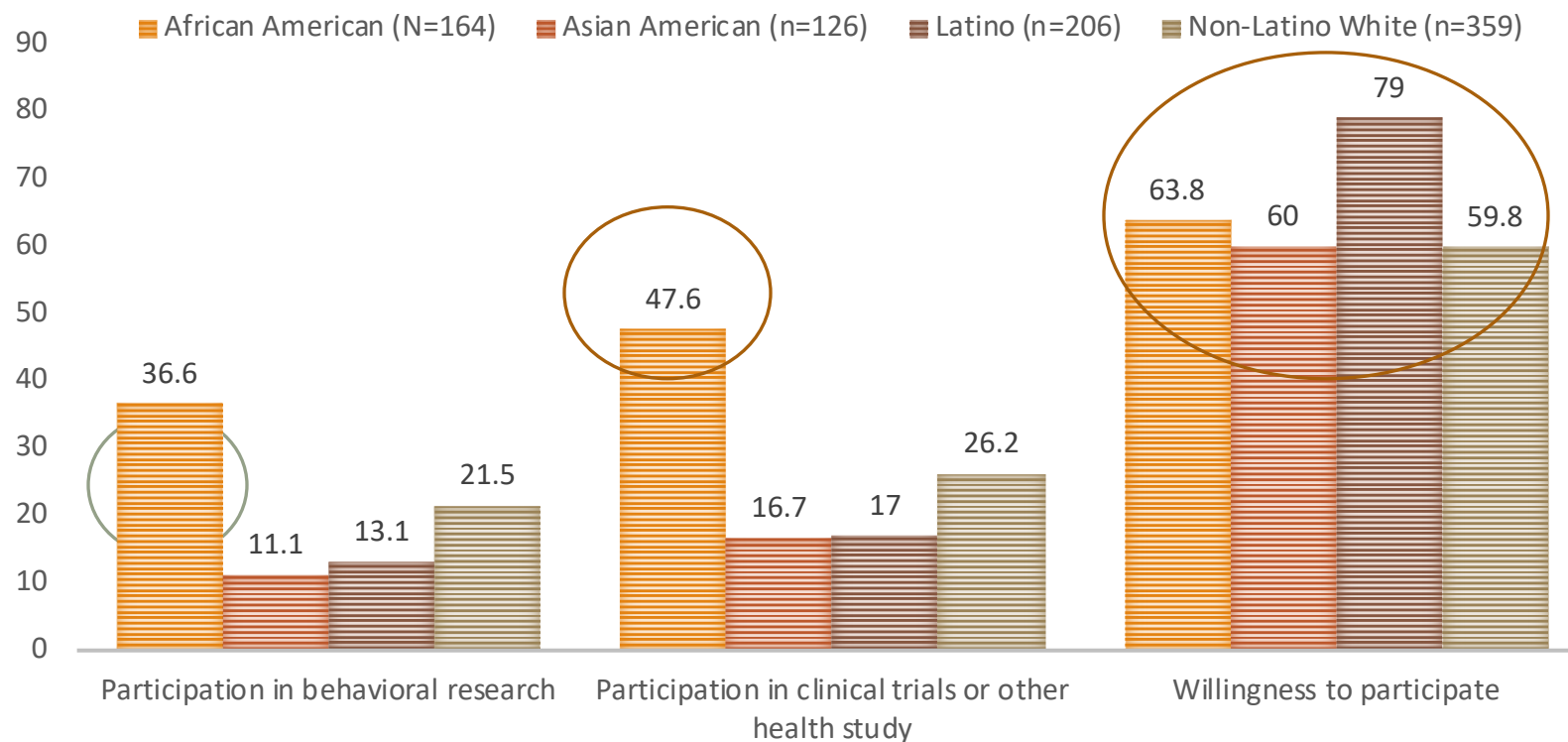
- Background
- Systematic Review

# Background

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- There is need to increase the participation of older adults and underrepresented groups in research
- Treatments are often based on studies including younger, healthier, higher functioning individuals
- It is estimated that 20% of clinical trials need to be extended because of inadequate recruitment
- Prior research has indicated underrepresentation of minorities and older adults in research

# Example of recruitment of diverse groups: Registry



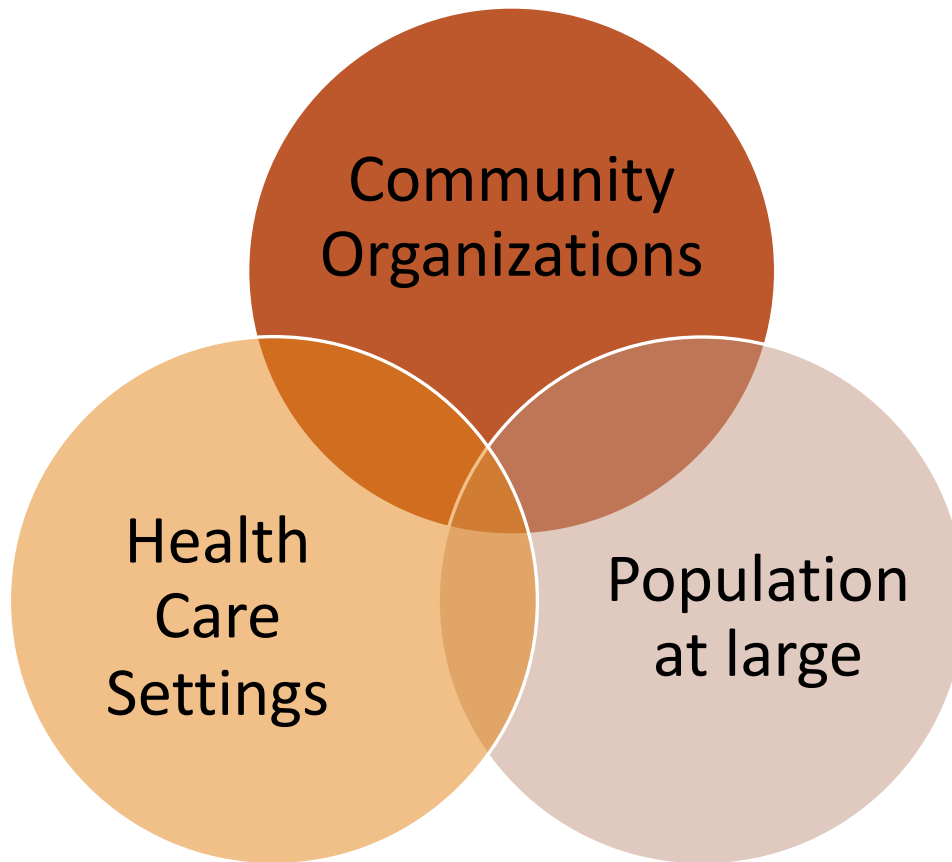
Kaplan et al. (2015). "Knowledge and attitudes regarding clinical trials and willingness to participate among prostate cancer patients." Contemp Clin Trials **45**(Pt B): 443-448.

# Example of recruitment of diverse groups: Health care setting

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# Recruitment: Sources of Participants

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# Electronic recruitment methods

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- Methods that rely on the use of the Internet to identify or recruit participants into research studies
- Potential benefits
  - ✓ Increase recruitment
  - ✓ Cost effectiveness
  - ✓ Reach underrepresented groups
    - ✓ Ethnic/racial minorities
    - ✓ Rural populations
    - ✓ Isolated elders
    - ✓ Individuals affected by rare diseases

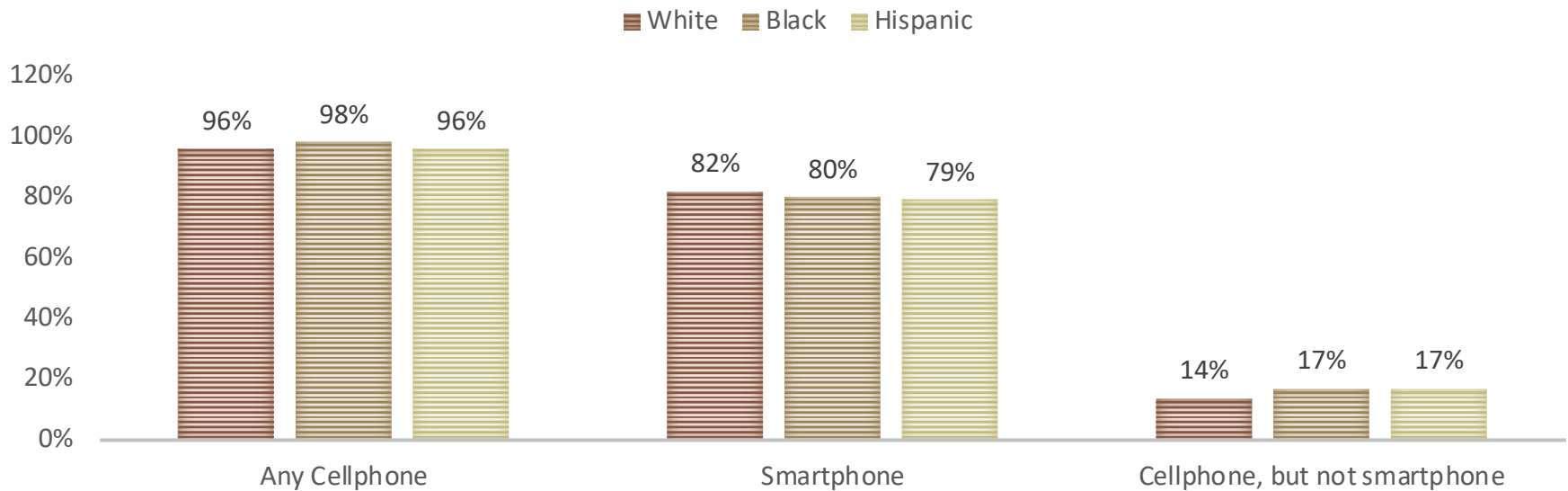
# Electronic recruitment methods

Internet	<ul style="list-style-type: none"><li>✓ General searches</li><li>✓ Social Media ( Facebook page, Twitter account)</li><li>✓ Study blogs</li><li>✓ Online newspapers, message boards, newsletters</li></ul>
Email	<ul style="list-style-type: none"><li>✓ Listings from prior studies</li><li>✓ Listings from electronic health records</li><li>✓ Purchased listings</li><li>✓ Insurance listings</li><li>✓ Use of patient portals</li></ul>
Paid Media	<ul style="list-style-type: none"><li>✓ Social Media ( Facebook Ads, Google AdWords)</li><li>✓ Web banner ads</li></ul>



# What is the Rationale?

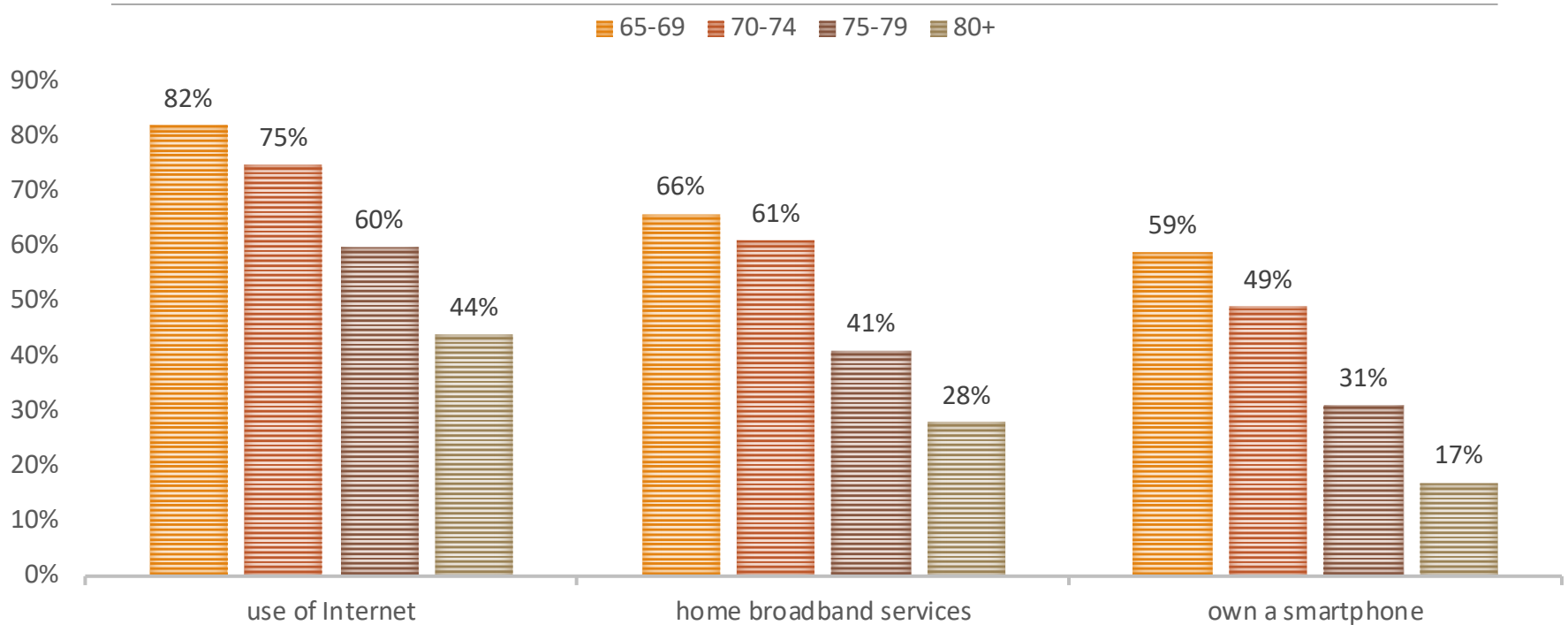
## % OF US ADULTS WHO OWN THE FOLLOWING DEVICES



Pew Research Center. Survey conducted Jan.8 to Feb.7, 2019. <https://www.pewinternet.org/fact-sheet/mobile/>

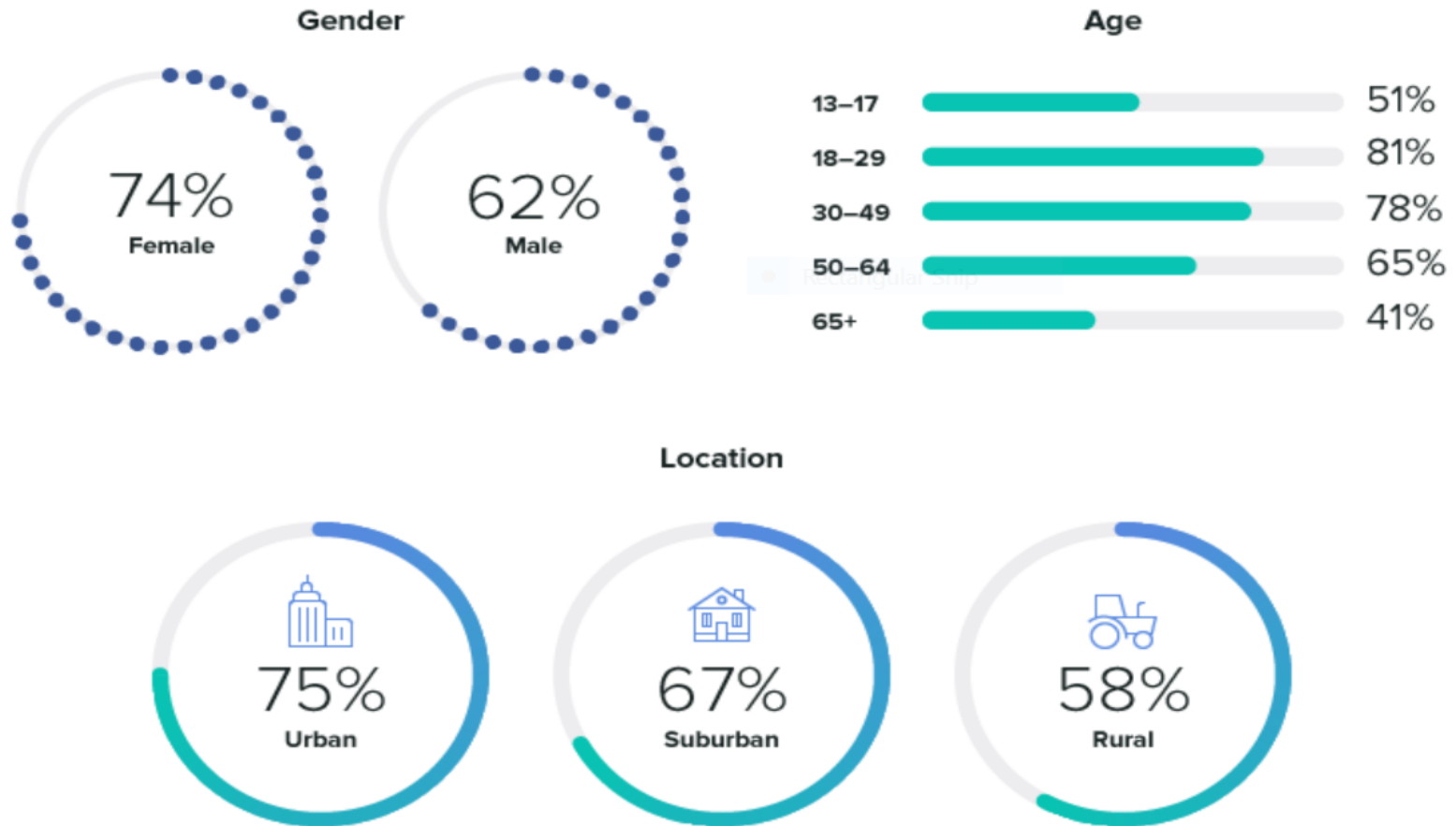
# What is the Rationale?

## % OF US ADULTS BY AGE GROUP



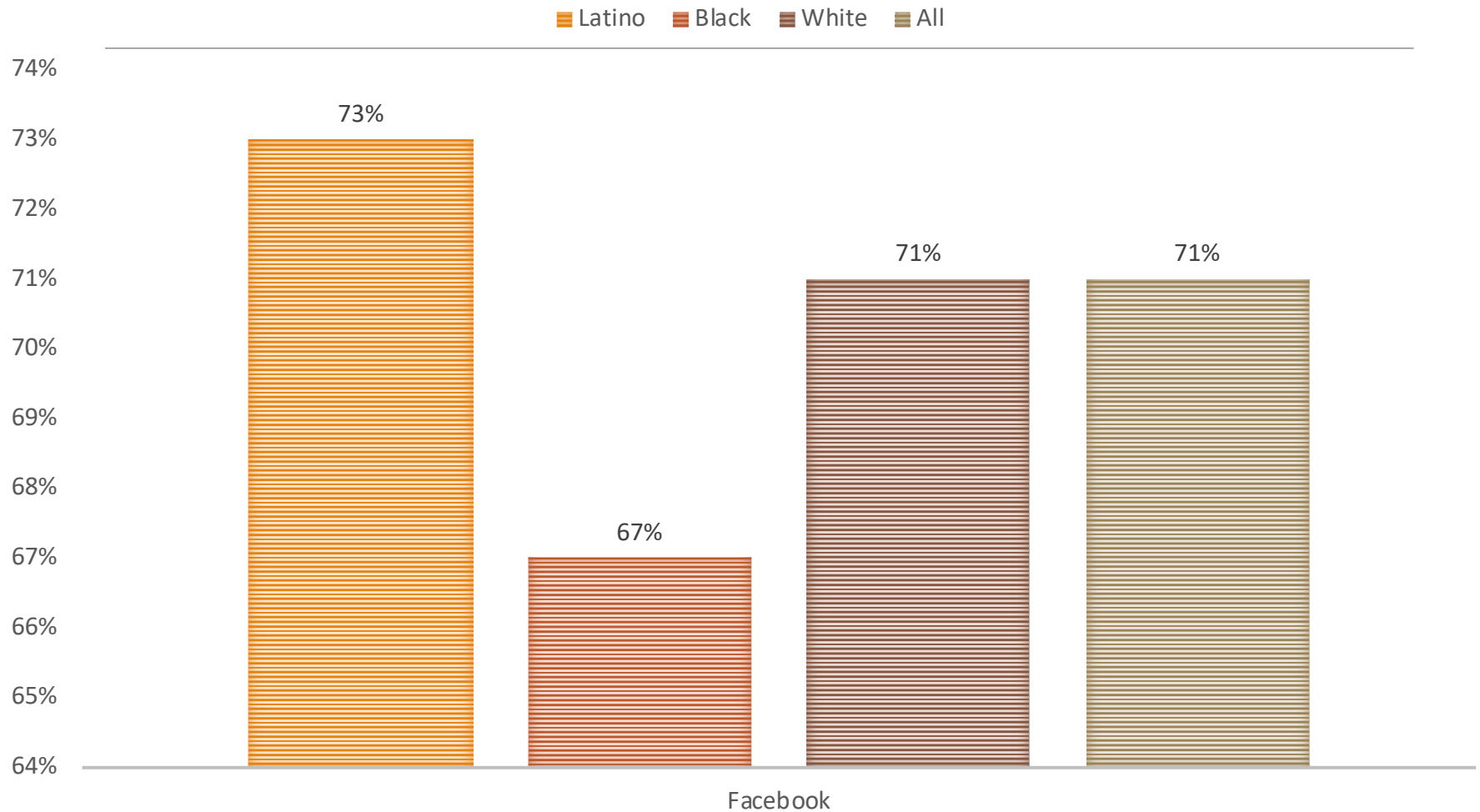
<https://www.pewinternet.org/2017/05/17/tech-adoption-climbs-among-older-adults/>

# Use of Facebook- 2019



<https://sproutsocial.com/insights/new-social-media-demographics/>

## % OF FACEBOOK USERS, BY RACE/ETHNICITY



<https://www.pewresearch.org/fact-tank/2015/02/03/social-media-preferences-vary-by-race-and-ethnicity/>

# Google Ads: How it works

## Researchers as advertisers

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- Determine the ad's goal (e.g., drive people to the study website)
- Decide where to advertise (e.g., geographical targeting)
- Create a message to attract “clicks” (ie. Words)
- Create key words
- Set the budget cap (per day, monthly cap)
- Ads appear on Google Searches based on bidding process

# Example: Prostate Cancer Clinical Trials

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- Components:
  - Matching tool with trial summaries
  - Google Ads campaign
- Implementation: October 2014 to April 2015
- Languages: English and Spanish
- Targeted advertised campaign
  - Ad Time: 8 weeks
  - Non-Ad Time: 22 weeks
  - \$ 4000 cost; 1.49 cost per click
  - 29 matched individuals who provided information

Kaplan et al. (2018). A bilingual, Internet-based, targeted advertising campaign for prostate cancer clinical trials: Assessing the feasibility, acceptability, and efficacy of a novel recruitment strategy. *Contemporary clinical trials communications*, 12, 60-67

About 5,240,000 results (0.50 seconds)

### Cancer Clinical Trials

**Ad** [www.cancercenter.com/](http://www.cancercenter.com/) - 3.7 ★★★★★ advertiser rating  
Learn About Cancer Research Trials And Discover New Treatment Options.

### Clinical Trial Option

**Ad** [www.monaleesatrials.com/](http://www.monaleesatrials.com/) -  
Learn More About an Advanced Breast Cancer Trial - Bay Area.  
Talking to Your Doctor - Health Care Professionals - About MONALEESA-2

### Cancer Clinical Trials

**Ad** [www.cityofhope.org/](http://www.cityofhope.org/) -  
City of Hope. Learn why we are one of the top hospitals in the nation.

### Scholarly articles for prostate cancer clinical trials

... recommendations of the Prostate Cancer Clinical Trials ... - Scher - Cited by 750

... clinical trials in androgen-independent prostate cancer ... - Bubley - Cited by 904

... of prostate cancer: results of a multicenter clinical trial ... - Catalona - Cited by 1359

### Prostate Cancer - Featured Clinical Trials - National Cancer ...

[www.cancer.gov/clinicaltrials/.../prostate-cancer](http://www.cancer.gov/clinicaltrials/.../prostate-cancer) - National Cancer Institute -  
A list of noteworthy NCI-supported clinical trials you can join concerning this particular type of cancer.

### Prostate Cancer Trial Results - National Cancer Institute

[www.cancer.gov/clinicaltrials/results/.../prostate](http://www.cancer.gov/clinicaltrials/results/.../prostate) - National Cancer Institute -  
Results of clinical trials concerning prostate cancer.

**Ad**

### Free Prostate Trial Tool

[tiny.ucsf.edu/trialmatch](http://tiny.ucsf.edu/trialmatch) -  
Want Prostate Cancer Trials?  
Click here for useful trial info!  
You visited ucsf.edu earlier today.

### Big Data Clinical Trials

[www.quintiles.com/RBM](http://www.quintiles.com/RBM) -  
Our Powerful Clinical Trial Data  
Expertise Allows Better Monitoring.

### mCRPC Treatment Option

[www.advanced-prostate-cancer-hcp.com/](http://www.advanced-prostate-cancer-hcp.com/) -  
HCPs - Get Information On A  
Treatment Option For mCRPC

### prostate cancer clinical trials

[www.clinicalconnection.com/Join.aspx](http://www.clinicalconnection.com/Join.aspx) -  
Search the largest database of  
clinical trials and join one today.

### Prostate Cancer Treatment

[www.ucsfhealth.org/](http://www.ucsfhealth.org/) -  
Get the most advanced care at  
UCSF's Prostate Cancer Center

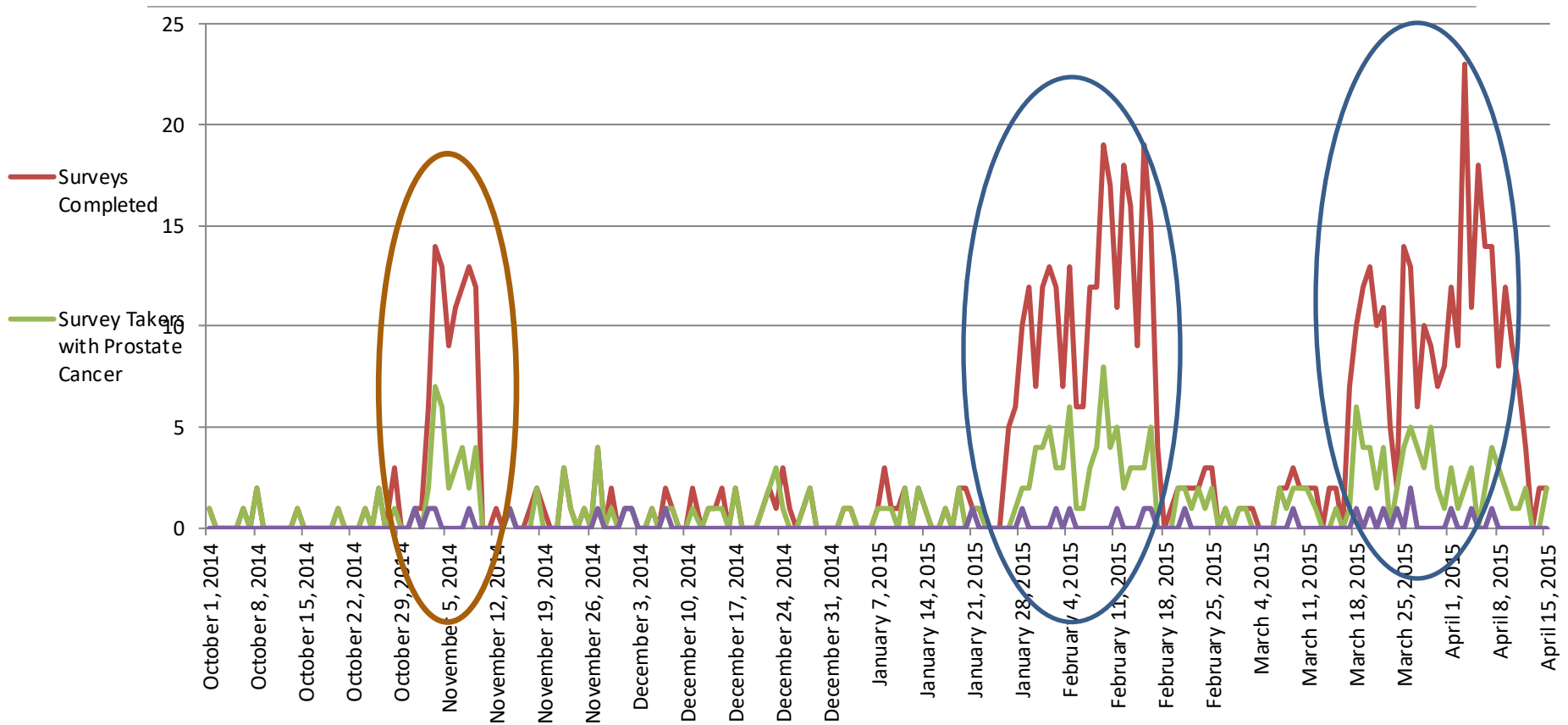
### WI Cancer Clinical Trials

[www.uwhealth.org/](http://www.uwhealth.org/) -  
UW Carbone Cancer Center Conducts  
Cancer Clinical Trials. Learn More

Kaplan CP, et al. A bilingual, Internet-based, targeted advertising campaign for prostate cancer clinical trials: Assessing the feasibility, acceptability, and efficacy of a novel recruitment strategy. *Contemp Clin Trials Commun.* 2018;12:60–67. Published 2018 Aug 15. doi:10.1016/j.conctc.2018.08.005

# Example: Prostate Cancer Clinical Trials

Survey Completion, Participants with Prostate Cancer, and Participants Who Left Information



Kaplan CP, Siegel A, Leykin Y, et al. A bilingual, Internet-based, targeted advertising campaign for prostate cancer clinical trials: Assessing the feasibility, acceptability, and efficacy of a novel recruitment strategy. *Contemp Clin Trials Commun*. 2018;12:60–67. Published 2018 Aug 15. doi:10.1016/j.conctc.2018.08.005



# Facebook ads

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- Ability to target by age, geography, income, eligibility and ineligibility criteria
- Advertiser places monetary bid
- Placement is based on:
  - Feedback from Facebook users
  - Facebook evaluation
  - The advertiser with the highest combination of all three elements gets that placed

# Example: Elderly Clinical Trial Enrollment

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- Phase 1 clinical trial for Alzheimer's disease
- Desired recruitment: 45 individuals 60 years and older
- Traditional campaign:
  - Traditional methods (billboards, direct mailer, bus advertising, newspapers ads)
  - Yield: 6 enrolled subjects over 11 weeks
- Social Media Campaign
  - Phase 1: Black and white campaign
  - Phase 2: Typical and Altruist campaigns

# Example: Facebook example: Elderly Clinical Trial

## 1<sup>ST</sup> CAMPAIGN

**Tetra Discovery Partners**  
Published by Julie Cowie · September 1 ·

Call 269.276.8899 to learn more about Tetra's study led by Jasper Clinic or visit [gobeyond.mpiresearch.com/2016bpncns102](http://gobeyond.mpiresearch.com/2016bpncns102)

We are looking for healthy nonsmoking individuals, 60 or older, who are willing to stay at the clinic for 10 days & 10 nights, with one outpatient visit.

Qualified participants may receive up to \$4000.

12,285 people reached

Like Comment Share

73

27 shares 17 Comments

## ALTRUISTIC CAMPAING

**Tetra Discovery Partners**  
Written by Julie Cowie · September 21, 2016 ·

You may qualify if you are 60 or older and able to remain at Jasper Clinic, Kalamazoo for 10 days and nights. Call 269.276.8899 to learn more about this study! Qualified participants may receive up to \$4000.

Healthy people like you are needed

Alzheimer's disease won't treat itself. Are you willing to help?

[GOBEYOND.MPIRESEARCH.COM/2016BPNCNS102](http://GOBEYOND.MPIRESEARCH.COM/2016BPNCNS102) [Learn More](#)

11,540 people reached

Like Comment Share

13 shares 1 Comment

...Dooooo it!!! I did, and I made great memories while helping to further research that will help in treating Alzheimer's. If given the opportunity, I would do it again in a heartbeat! Very rewarding experience!

message · September 25, 2016 at 9:38pm

Cowie et.al. (2018) The Use of Facebook Advertising to Recruit Healthy Elderly People for a Clinical Trial: Baseline Metrics JMIR Research Protocols

# Facebook example: Elderly Clinical Trial

Parameter	First Social Media Campaign	Second Social Media Campaign: Altruistic Campaign
Keywords	Alzheimers'disease; medical research Alzheimer's association ads	Neuroscience, Clinical trial, Alzheimer's disease research, Philanthropy, Mind games, Costco, Altruism, Medical research, Luminosity, or Lifelong learning
Exclusions	None reported	National Cancer Survivors Day, Diabetes mellitus type 2 awareness, Hypertension Awareness, Allergy, Prehypertension, Cancer signs and symptoms, Diabetic diet

Cowie et.al. (2018) The Use of Facebook Advertising to Recruit Healthy Elderly People for a Clinical Trial: Baseline Metrics JMIR Research Protocols

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## **Evaluation of Electronic Technology Recruitment Strategies**

# Systematic review

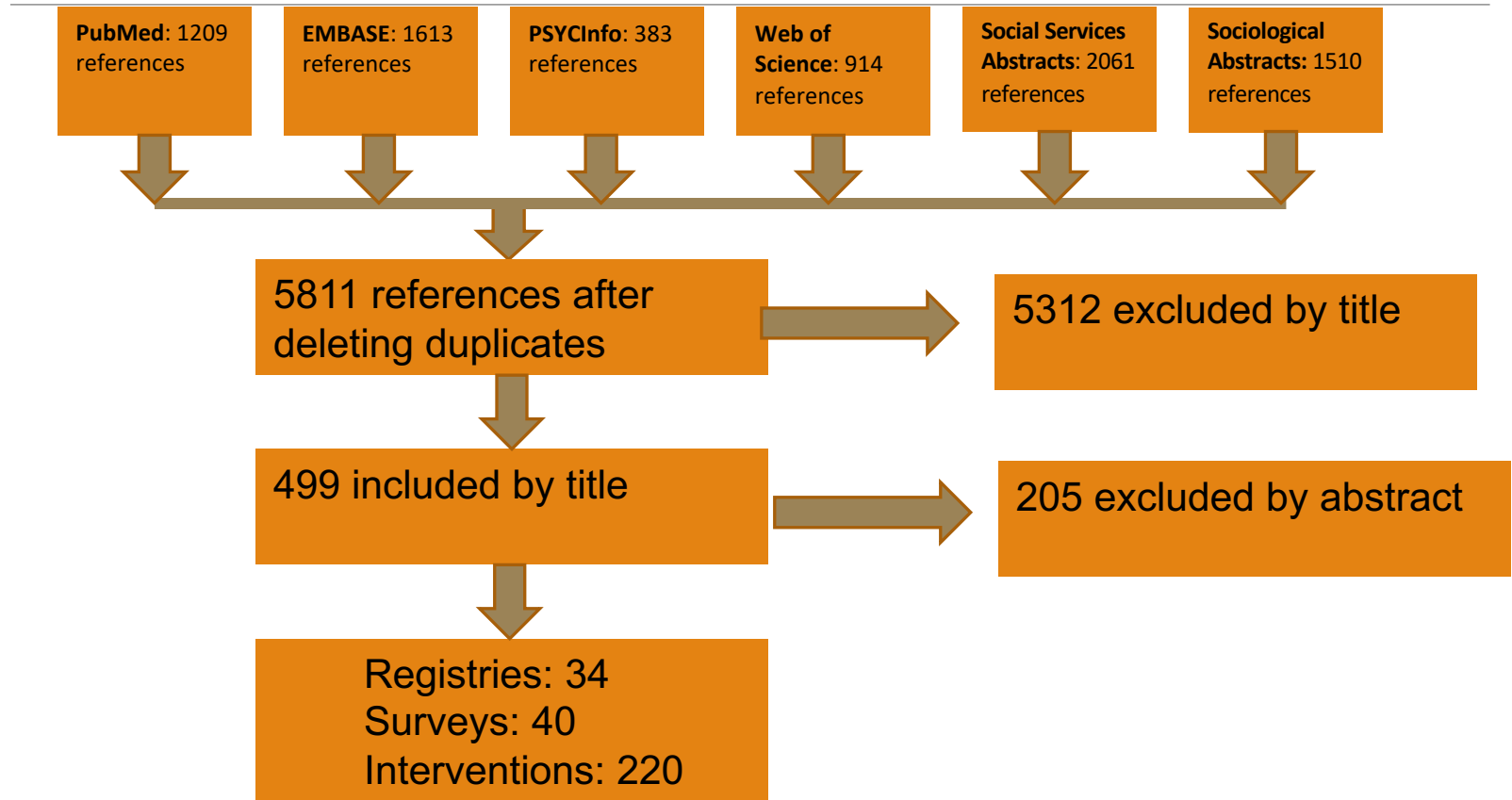
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- Technology based recruitment studies
- Study period 2008-2018
- Data bases
  - PubMed: EMBASE: PSYCInfo: Web of Science: Social Services Abstracts: Sociological Abstracts:
- Studies included
  - Comparative analysis of methods
  - Primarily adults
  - Registries

# Why Registries?

- Useful tools to improve recruitment into health research
- Voluntary: Includes indicate interest or agree to be contacted for future research
- Type of registries
  - ✓ Rare diseases
  - ✓ Minority populations
  - ✓ Local or international
- Examples
  - Research

# Systematic Review- PRISMA





# Comparative studies

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## ➤ Alzheimer's disease

- Grill et al. Constructing a local potential participant registry to improve Alzheimer's disease clinical research recruitment (2018)

## ➤ African American

- Green et al. Connecting communities to health research: Development of Project CONNECT minority research registry (2013)

## ➤ Rare Disease

- Johnson et al. Evaluation of Participant recruitment methods to a rare disease online registry (2014)

# Evaluation

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## ➤ Reach (i.e. numbers of participants)

- Are electronic methods (EM) more effective at research participant recruitment than traditional methods

## ➤ Representation

- Do EM recruit a sample comparable to traditional methods
- Do EM recruit a more diverse sample than traditional methods

## ➤ Cost

- Are EM more cost effective at research participant recruitment than traditional methods

# Alzheimer Disease Registry

**Recruitment:** Irvine California

## **Traditional Recruitment methods**

- **Earned Media** (Pro-Bono public relations company)
  - Newspaper ; TV; Radio
- **Public Education**
  - 17 Alzheimer Walks/Fairs
- **Referrals**
  - ✓ Friends, Research Participants, Partner Organizations , Physicians, Alzheimer's Trial Match

## **Electronic Recruitment Methods**

- **Emails**
- **Internet**
  - ✓ Searches, Social Media (Facebook post, Facebook campaigns, tweets)
  - ✓ News and Blogs

# Alzheimer's disease Registry : Reach

Intervention Type		N	%
TRADITIONAL METHODS		503	85%
ELECTRONIC METHODS		89	15%
Email	UCI prior study	41	7%
	UC Campus email	6	1%
Internet	Search	25	4%
	Social Media (15 Facebook posts, 2 paid Facebook ads and 26 tweets)	15	3%
	News	1	<1%
	Blogs	1	<1%

Grill, J. Et al. (2018). "Constructing a Local Potential Participant Registry to Improve Alzheimer's Disease Clinical Research Recruitment." J Alzheimers Dis **63**(3): 1055-1063.

# Alzheimer's disease Registry : Representation

		N=592
Age Mean		63.1
Race/ethnicity	White	88.2
	African American	0.3
	Asian American	6.9
	Latino	6.3
	Other/Refuse	3.9

Grill, J. Et al. (2018). "Constructing a Local Potential Participant Registry to Improve Alzheimer's Disease Clinical Research Recruitment." J Alzheimers Dis **63**(3): 1055-1063.

# Rare Disease Online Registry

Johnson Et al. (2014). "Evaluation of participant recruitment methods to a rare disease online registry." Am J Med Genet A **164a**(7): 1686-1694

## Johnson et.al. Evaluation of Participant Recruitment Methods to a Rare Disease Online Registry (2014)

	N	%
Facebook page and ads	395	48.7
Google search and Google ads	155	19.1
Health Care provider	74	9.1
Academic/Government websites	71	8.8
Advocacy groups	25	3.1
Other methods	91	11.2
	811	

## Johnson et.al. Evaluation of Participant Recruitment Methods to a Rare Disease Online Registry (2014)

	Self-reported	Cost	Cost per participant
Facebook page and ads	203	771	3.79
Google search and Google ads	110	1447	13.2



Johnson et al. Evaluation of Participant recruitment methods to a rare disease online registry (2014) (continuation)

		Google Search/Ads	Facebook /Ads	Healthcar e Provider	Government and Academic Websites
		N=155 %	N=395 %	N=74 %	N=71 %
<b>Sex</b>	Female	65.2	62.5	59.5	60.6
<b>Race</b>	White	55.1	76.7	78.4	80.3
	Black/African American	5.8	4.6	4.1	4.2
	Asian	16.0	4.3	2.7	8.5
	Other/More than one race	22.6	14.5	14.9	7
<b>Ethnicity</b>	Hispanic	11.3	10.3	8.2	11.4
<b>Age</b>	>40	34.8	36	16.2	28.6
<b>Geographic</b>	USA	56.3	67.9	97.3	88.6

# Minority

Community Outreach	Community presentations Health fairs and conferences at Black churches Presentations: health topics impacting AfAm	268	44.1%
Email	University students, faculty, and staff	182	29.9%
Internet	Web enrollment	75	12.3%
Public Databases	Commercial sampling Telephone recruitment	63	10.4%
Existing studies	Prior cancer epidemiological study	14	2.3%
Earned Media	Radio Three regional radio stations	7	1%

Green, et al, (2013). "Connecting communities to health research: development of the Project CONNECT minority research registry." Contemp Clin Trials **35**(1): 1-7

## African American

Green et.al. Connecting communities to Health Research: Development of the Project CONNECT minority Research Registry		
		>60 years
Community Outreach N=268	Community presentations Health fairs and conferences at Black churches Presentations: health topics impacting AfAm	17.1%
Email 182	University students, faculty, and staff	5.6
Internet 75	Web enrollment	2.7
Public Databases 63	Commercial sampling Telephone recruitment	61.9
Existing studies 14	Prior cancer epidemiological study	64.3
Earned Media 7	Radio Three regional radio stations	0

Green, et al; (2013). "Connecting communities to health research: development of the Project CONNECT minority research registry." Contemp Clin Trials **35**(1): 1-7

## African American

	Time period (months)	Individual Reached	Enrollment	Yield by method	Additional costs	Staff time per enrolled participant (hours)
Community outreach	54	8303	268	3.2%	\$1,858	12.69
email	27	42,317	182	0.4%		.30
Internet	27	7685	75	1.0%		.73
Public databases	4	900	63	.07%	\$5,813	4.97
Existing studies	2	500	14	2.8%		12.29
Radio	1.5	80,000	7	0.01	\$10,000	2.86

Green, et al, M (2013). "Connecting communities to health research: development of the Project CONNECT minority research registry." Contemp Clin Trials 35(1): 1-7.



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Helen Diller Family  
Comprehensive  
Cancer Center

**Questions?**

**Comments?**



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*advancing health worldwide™*

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## Internet/Social media

- Paid– Google ads Facebook ad
- Not paid
- Community
  - Advocacy groups

## Use of technology in recruitment: Considerations

- Use of technology by minorities and older adults
- Barriers to participation
- Types of studies
  - Alzheimers disease
  - Older adults in general
  - Specific disease that affect older adults (i.e. Cancer)



# Facebook key word

clinical studies alzeimers

Celia

Home

Find Fr

All

Posts

People

Photos

Videos

Marketplace

Pages

Places

Group

Filter Results

POSTS FROM

Anyone

You

Your Friends

Your Groups and Pages

Public

Choose a Source...

POST TYPE

All Posts

Posts You've Seen

POSTED IN GROUP

Any Group

Your Groups

Choose a Group...

TAGGED LOCATION

Anywhere

San Mateo, California

San Francisco, California

Choose a Location...

FDA

U.S. Food and Drug Administration

625K like this · Government Organization

Jun 26 ·

...

make a difference and join an Alzheimer's clinical trial today! For more info on how to participate in preventative research studies, visit: <https://go.usa.gov/xmFUu>

41

8 Comments

22 Shares

FDA

JUNE IS ALZHEIMER'S & BRAIN AWARENESS MONTH

Videos

Rectangular

See All

CARRIE JACKSON

Alzheimer's Association | Clinical Studies

"It's not just about hoping for a cure, it's about helping to make a cure..."

Alzheimer's Association: Greater ...

October 11, 2017 · 135 Views

Alzheimer's Association TrialMatch

Volunteering for research studies is one way to help in the fight against...

Alzheimer's Association, Dallas & ...

January 12, 2017 · 224 Views

# Background

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NIH mandate to recruit minorities women and minorities must be included in clinical research supported by NIH

In 2005 FDA required that trial participant ethnicity be documented

Prior research has indicated underrepresentation of minorities and older adults in research

older adults continue to be underrepresented in research ([Mody et al., 2008](#)). Underrepresentation has serious consequences for older adults because clinical treatments are often based on studies involving younger, healthier, higher functioning samples

# Facilitators among minority participants

Facilitators	African American	Asian American	Latino
<b>Cultural congruence</b>	<ul style="list-style-type: none"> <li>Community education at fraternities and sororities</li> <li>Use of culturally diverse staff</li> </ul>	<ul style="list-style-type: none"> <li>Culturally matched research personnel and information in appropriate language</li> </ul>	<ul style="list-style-type: none"> <li>Research staff that speaks Spanish and can relate to patients</li> </ul>
<b>Benefits to participation</b>	<ul style="list-style-type: none"> <li>Money or free medical services</li> <li>Access to new, better, or free medicines</li> <li>Learn about their own health</li> <li>Receive adequate information about the study purpose</li> </ul>	<ul style="list-style-type: none"> <li>No out-of-pocket costs</li> <li>No other effective treatment available</li> <li>More information about clinical trials</li> </ul>	<ul style="list-style-type: none"> <li>Monetary compensation</li> <li>Access to medical services</li> <li>Sufficient or appropriate study information provided</li> </ul>
<b>Altruism—helping family or community</b>	<ul style="list-style-type: none"> <li>Contribution to future generations and community</li> <li>Increase scientific knowledge</li> <li>Personal or family history of the disease</li> </ul>	<ul style="list-style-type: none"> <li>Want to help family member or Asian American community in general</li> <li>Care about the purpose of the research</li> </ul>	<ul style="list-style-type: none"> <li>Help others</li> <li>advance medical knowledge</li> <li>Burden of disease on family or community</li> </ul>
<b>Convenience of participation</b>	<ul style="list-style-type: none"> <li>Having workplace support</li> </ul>	<ul style="list-style-type: none"> <li>Transportation compensated</li> </ul>	<ul style="list-style-type: none"> <li>Childcare provided</li> </ul>

# Recruitment Strategies: Traditional Methods

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Community Outreach	<ul style="list-style-type: none"><li>• Public Education</li><li>• Walks / Fairs</li><li>• Brochures or fliers</li><li>• Media outreach<ul style="list-style-type: none"><li>• Newspapers, TV, Radio</li></ul></li></ul>
Direct participant contact	<ul style="list-style-type: none"><li>• Mail</li><li>• Phone</li><li>• Provider recruitment</li></ul>
Referrals	<ul style="list-style-type: none"><li>• Friends</li><li>• Research Participants</li><li>• Partner Organizations</li><li>• Physicians</li><li>• Registries</li></ul>
Paid Media	<ul style="list-style-type: none"><li>• Publicity in news outlets<ul style="list-style-type: none"><li>• Newspaper</li><li>• Television</li><li>• Radio</li></ul></li></ul>

# Studies Linked to Web-Based and Mobile Health

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Five studies included 18 years and older

Primarily smoking cessation interventions

Recruitment Methods: Facebook ads, search engines, banner ads, Google Ad words, free twitter post, forum post

Results:

- Facebook Ads cost twice as much as traditional methods
- Google ads had the highest participation yield
- Very few participants older than 55
- In some studies online participants were slightly younger
- In one case online methods reached hard to reach populations
- Google ads had the highest participation yield

# Research Match

Comprised of:

136,362 Volunteers  
6,651 Researchers  
661 Studies  
163 Institutions  
369 Publications

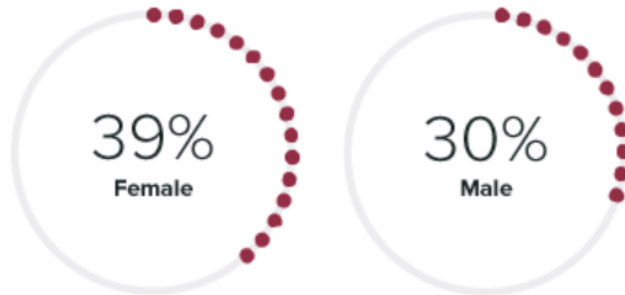
**Developed and hosted at Vanderbilt University**

Funded by the National Institutes of Health (NIH) Clinical and Translational Science Award (CTSA) Program grants

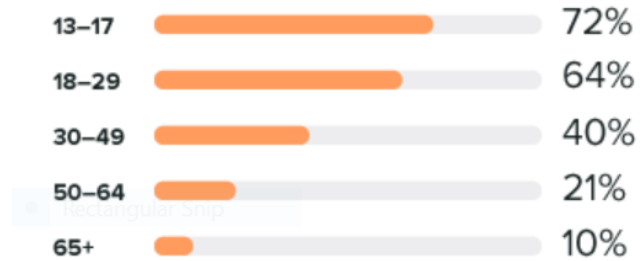


# instagram

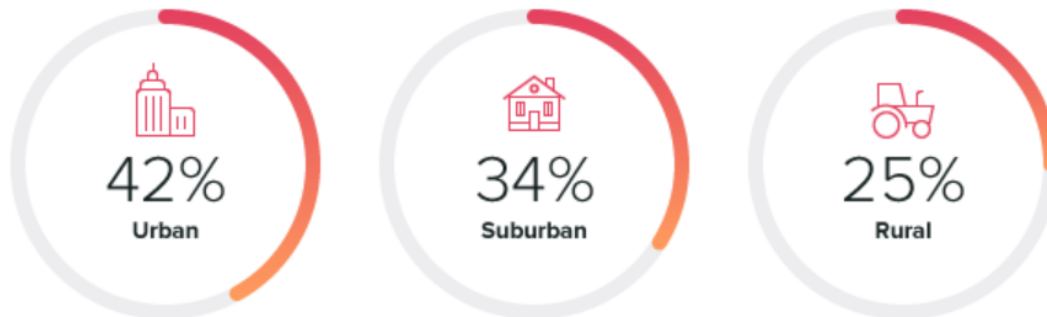
Gender



Age



Location



# Google Ads

Key word: Alzheimer studies

## Neuroscience Conferences - Learn About The Latest Updates

(Ad) [www.neurodiem.com/](http://www.neurodiem.com/) ▼

Read About Journal Summaries For Neurologists And Hear From Clinical Experts. Relevant Articles. World Medical News. Neurologist Content. Latest Neurology Research. Conference Coverage. Article Summaries. Services: For Neurologists, Neurologist News.

### Neurology Research

Read Daily Abstracts And  
Exclusive Articles From Experts.

### About Neurodiem

All The News In Neurology  
Adapted To Your Preferences.

Rectangular Snip

## Latest Alzheimer's News | Facts, Treatment, Policies

(Ad) [www.usagainstalzhaimers.org/Alzheimer's/Disease](http://www.usagainstalzhaimers.org/Alzheimer's/Disease) ▼

Latest Info on **Alzheimer's Disease** & Treatment. Learn More From Our Community. 3. Improve care standards. 1. Increase ALZ Funding. 2. Faster Drug Develop. Sign Stop ALZ Petition. Highlights: An Innovative Nonprofit Organization, Online Donation Options Available. [ALZ Talks](#) · [Support us](#) · [Patients' stories](#) · [Alzheimer networks](#) · [Take action](#) · [Our mission](#)

## Alzheimer's Studies

(Ad) [www.alz.org/trialmatch](http://www.alz.org/trialmatch) ▼

Find Current Clinical **Studies**. Explore our Free TrialMatch Service. 250+ Clinical **Studies**.

⏪ ⏴ ⏵ ⏩

✕



# Types of Ad Objectives











Create New Campaign ⓘ

Use Existing Campaign ⓘ

**Campaign:** Choose your objective.

Switch to Quick Creation

What's your marketing objective? [Help: Choosing an Objective](#)

Awareness	Consideration	Conversion
 Brand awareness	 Traffic <span>Rectangular Snip</span>	 Conversions
 Reach	<input checked="" type="checkbox"/> Engagement	 Catalog sales
	 App installs	 Store traffic
	 Video views	
	 Lead generation	
	 Messages	

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