



University of California  
San Francisco



# Recruiting Minority Adults Through Electronic Technology

Center of Aging in Diverse Communities

Celia P. Kaplan, DrPH, MA



# Outline

---

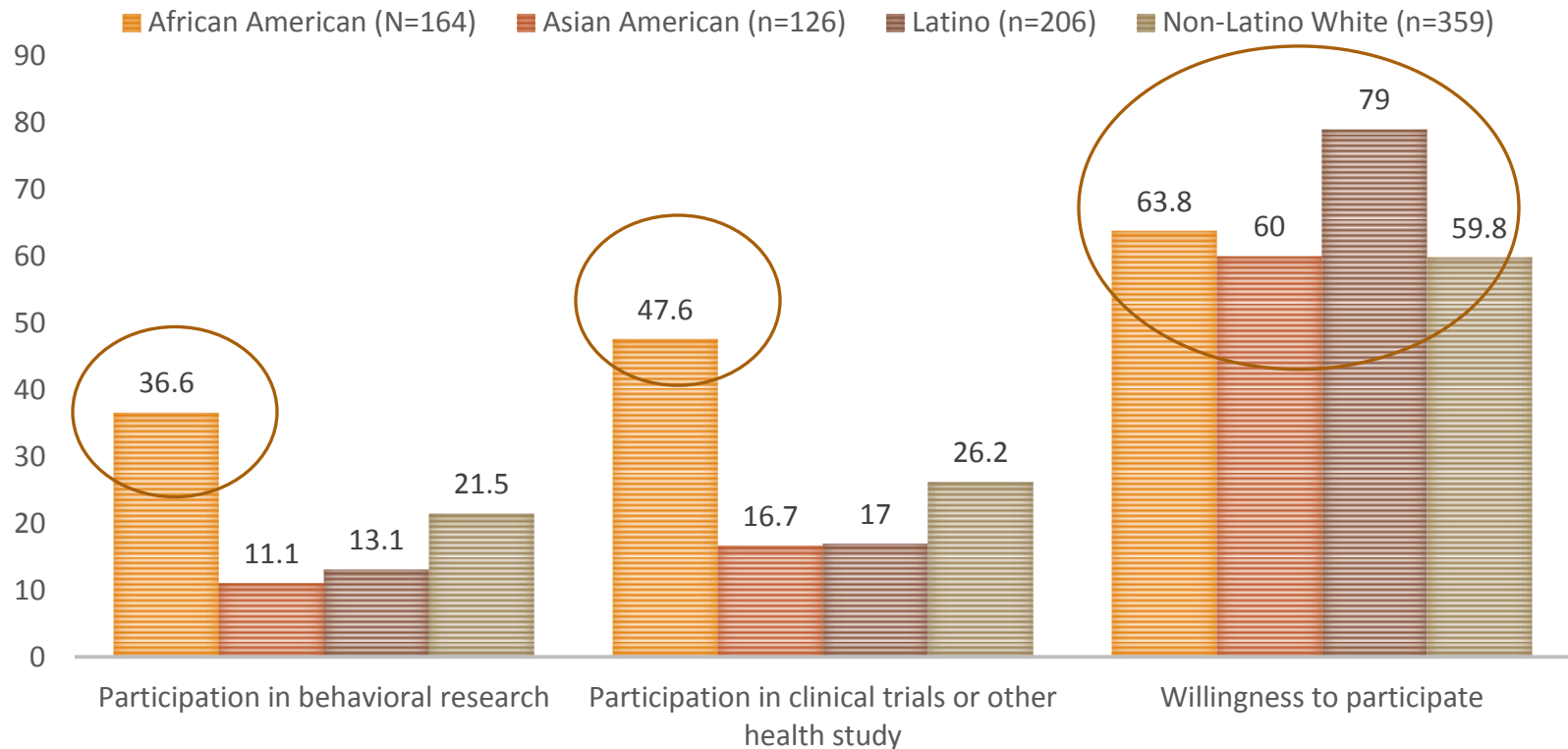
- Background
- Description of electronic technology recruitment methods
- Systematic Review
- Recruitment into voluntary registries
- Lessons learnt

# Background

---

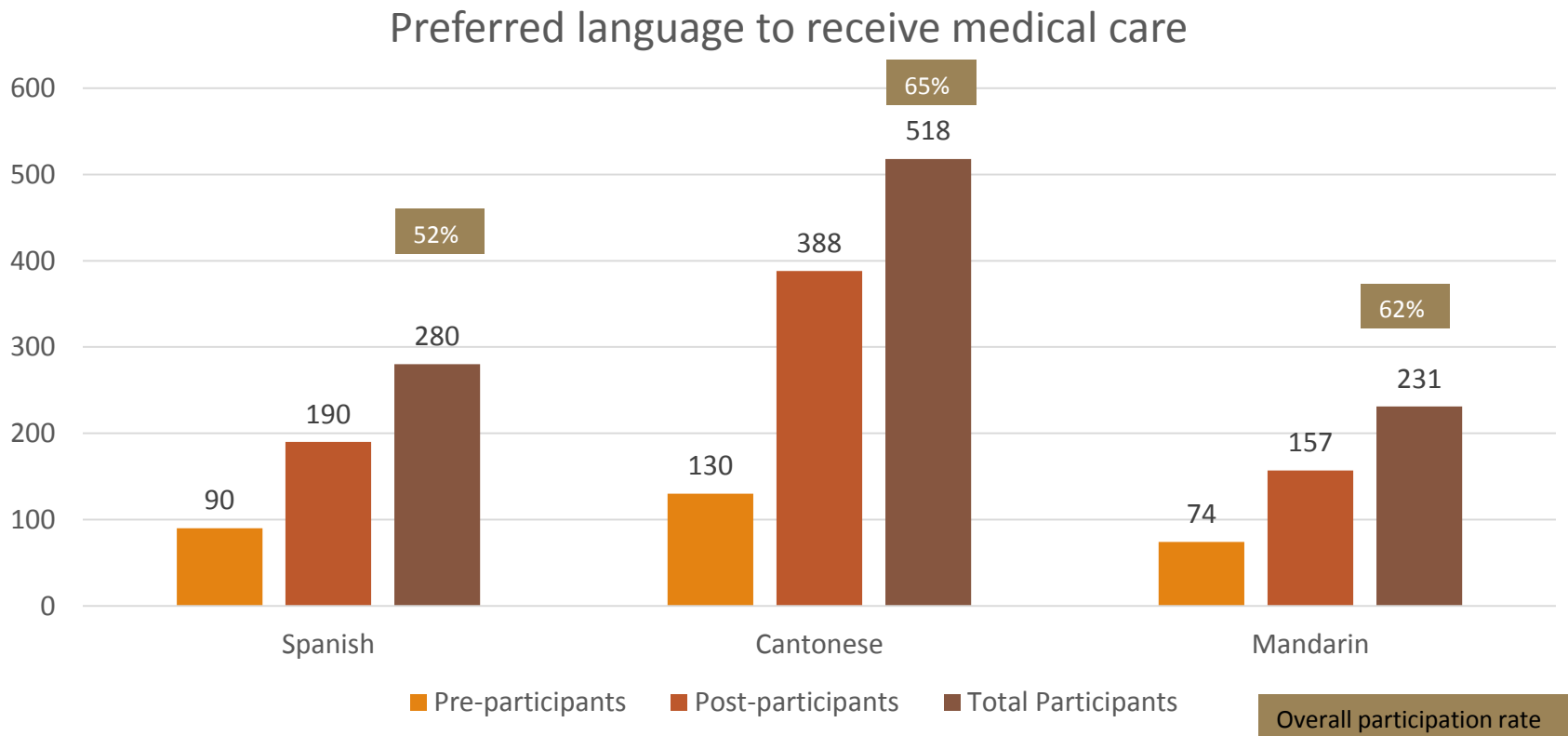
- There is need to increase the participation of older adults and underrepresented groups in research
- Treatments are often based on studies including younger, healthier, higher functioning individuals
- It is estimated that 20% of clinical trials need to be extended because of inadequate recruitment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

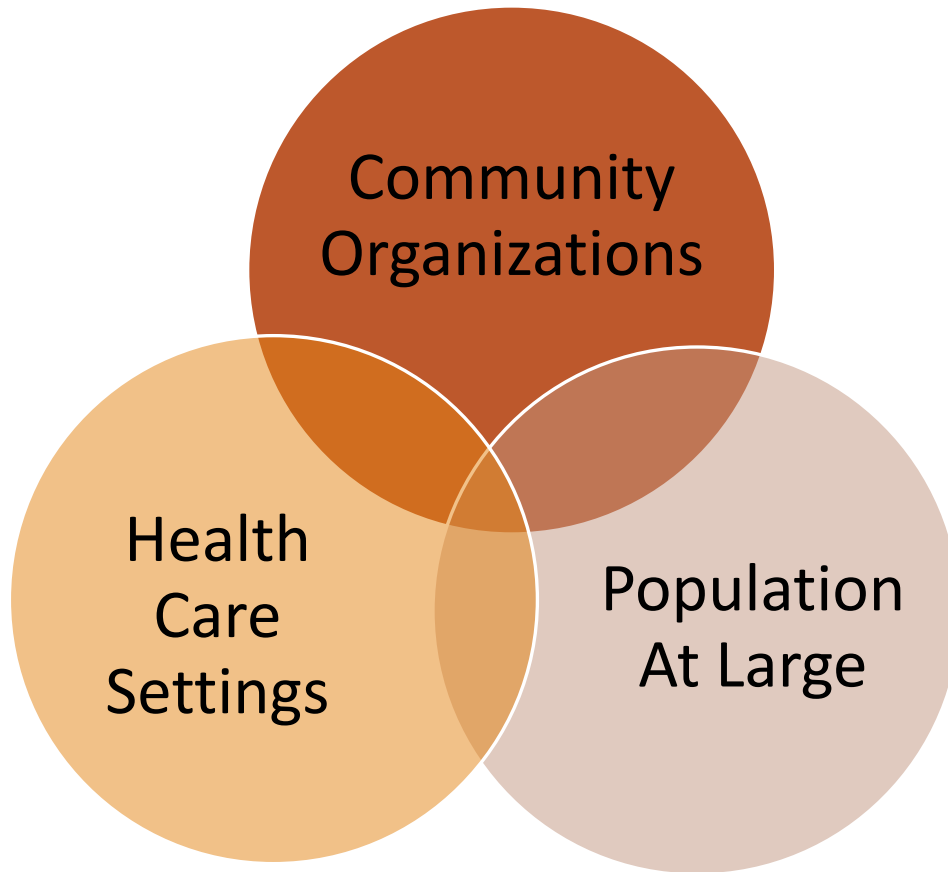
# Example of recruitment of diverse groups: Health care setting



Karliner et al. Clinician Language Concordance and Interpreter Use: Impact of a Systems Intervention on Communication and Clinical Outcomes. Unpublished data

# Recruitment: Sources of participants

---



# Electronic recruitment methods

---

- 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

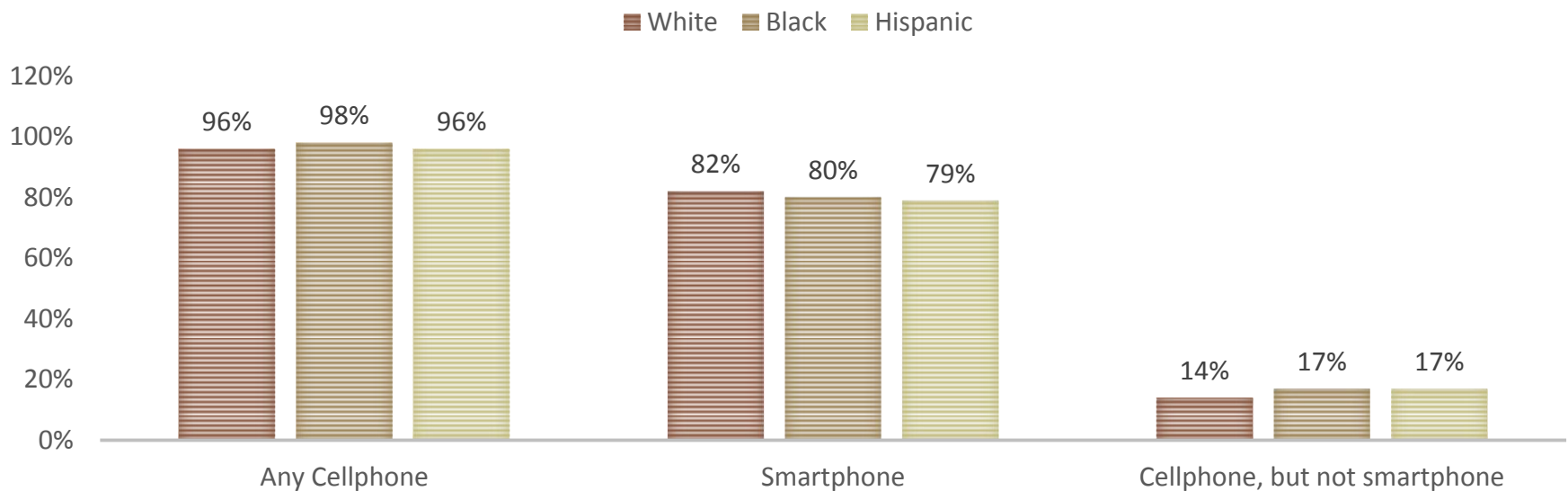
# Electronic recruitment methods

|            |  |
|------------|--|
| 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

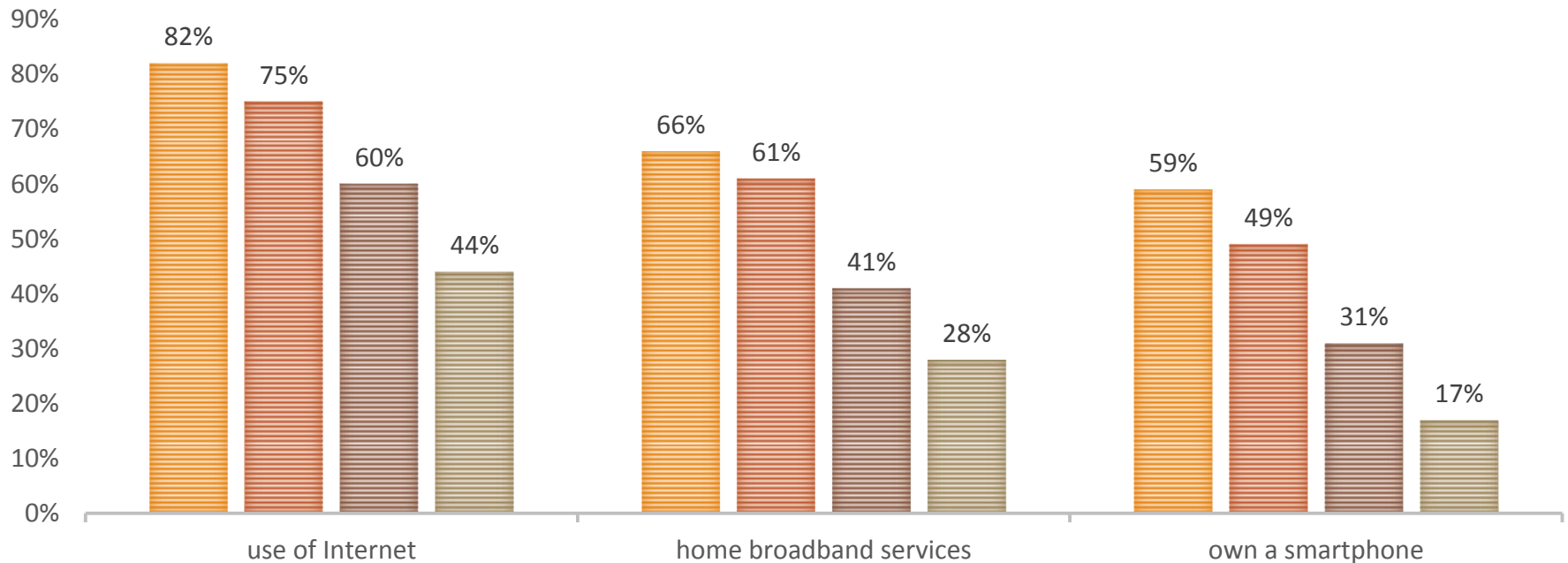


Pew Research Center. Survey conducted Jan.8 to Feb.7, 2019. <https://www.pewinternet.org/fact-sheet/mobile/>

# What is the Rationale?

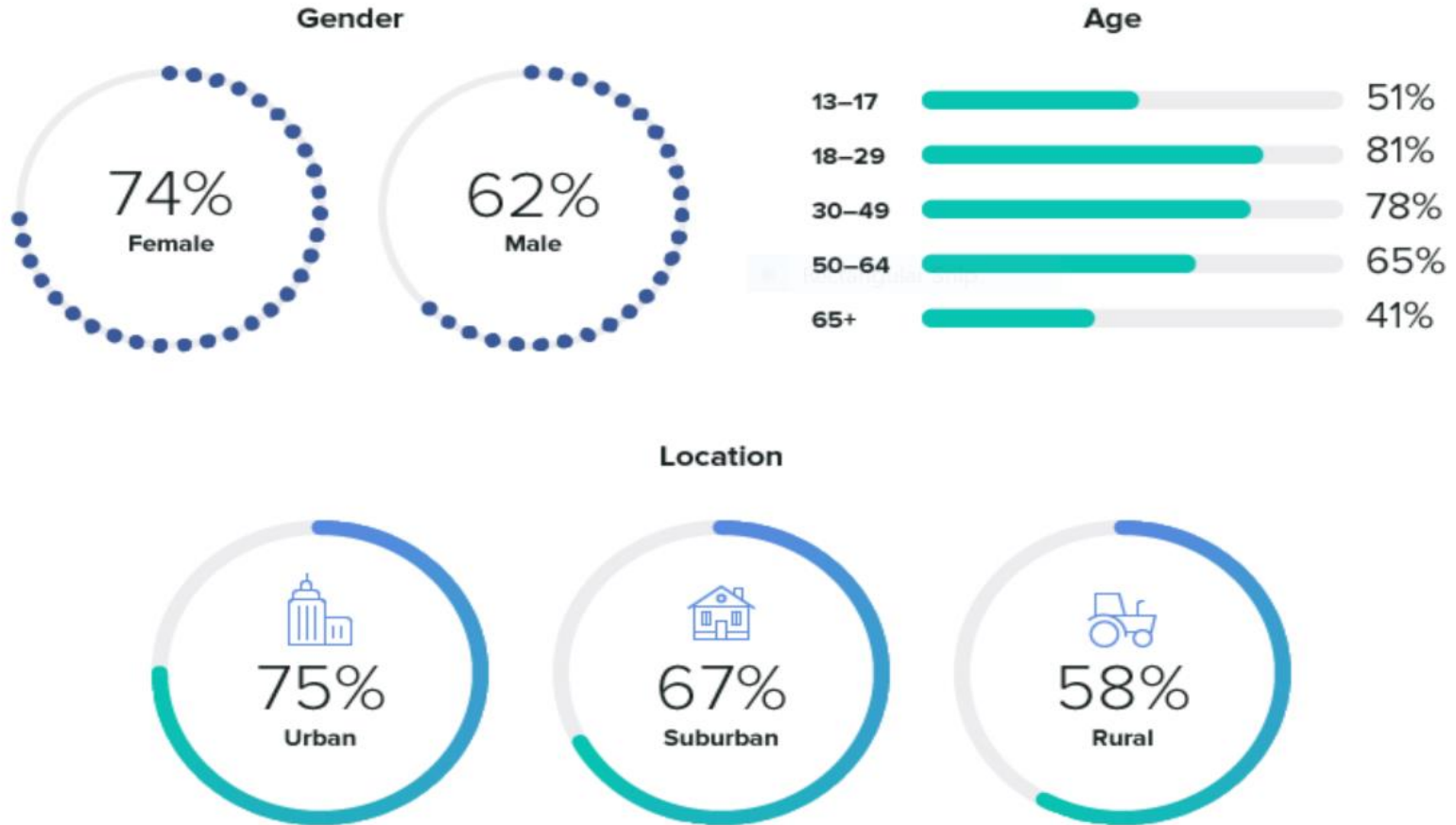
## % OF US ADULTS BY AGE GROUP

65-69 70-74 75-79 80+



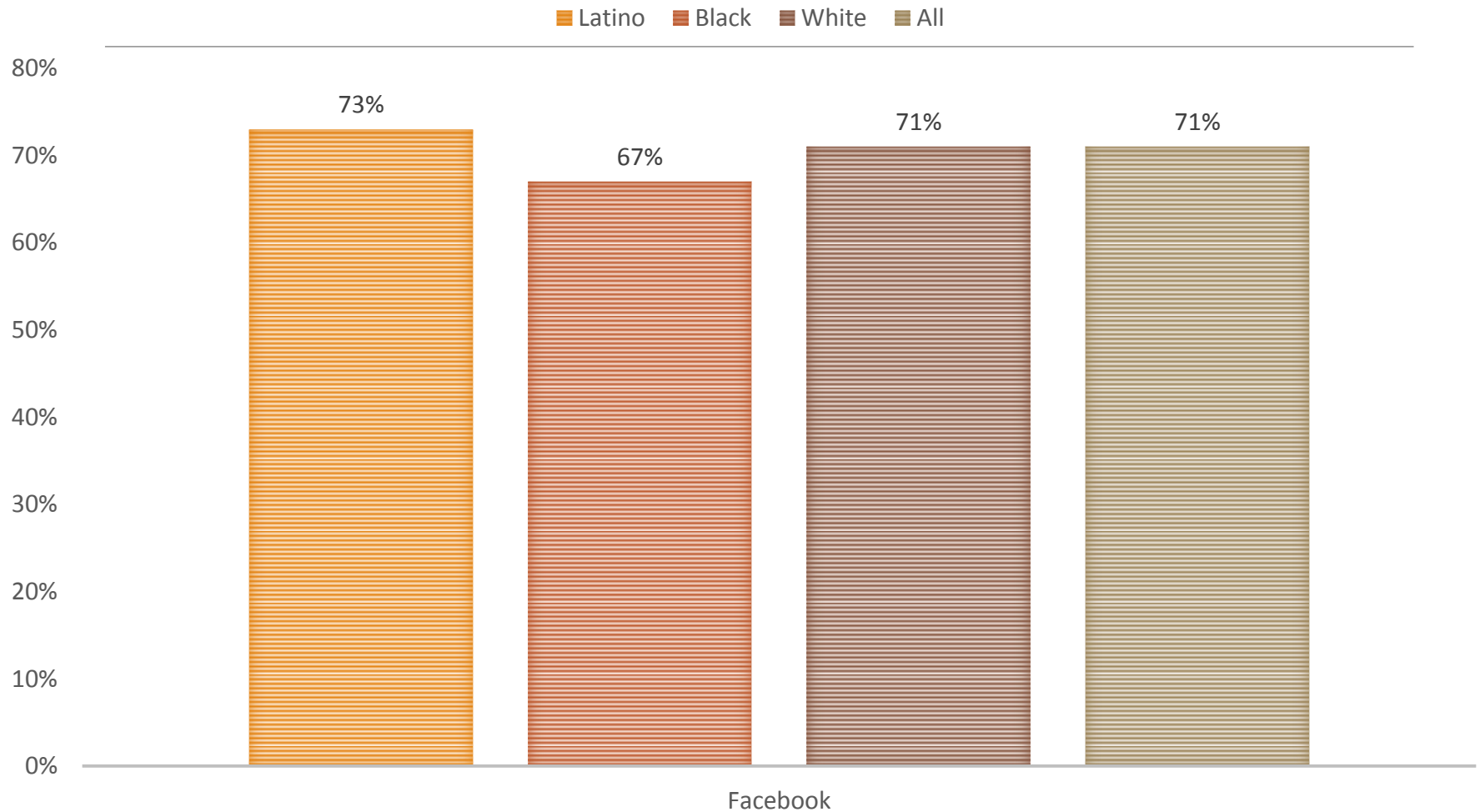
<https://www.pewinternet.org/2017/05/17/tech-adoption-climbs-among-older-adults/>

# 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

---

- 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

---

## ➤ 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

Web News Images Maps Videos More - Search tools

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.

**Ads**

### 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

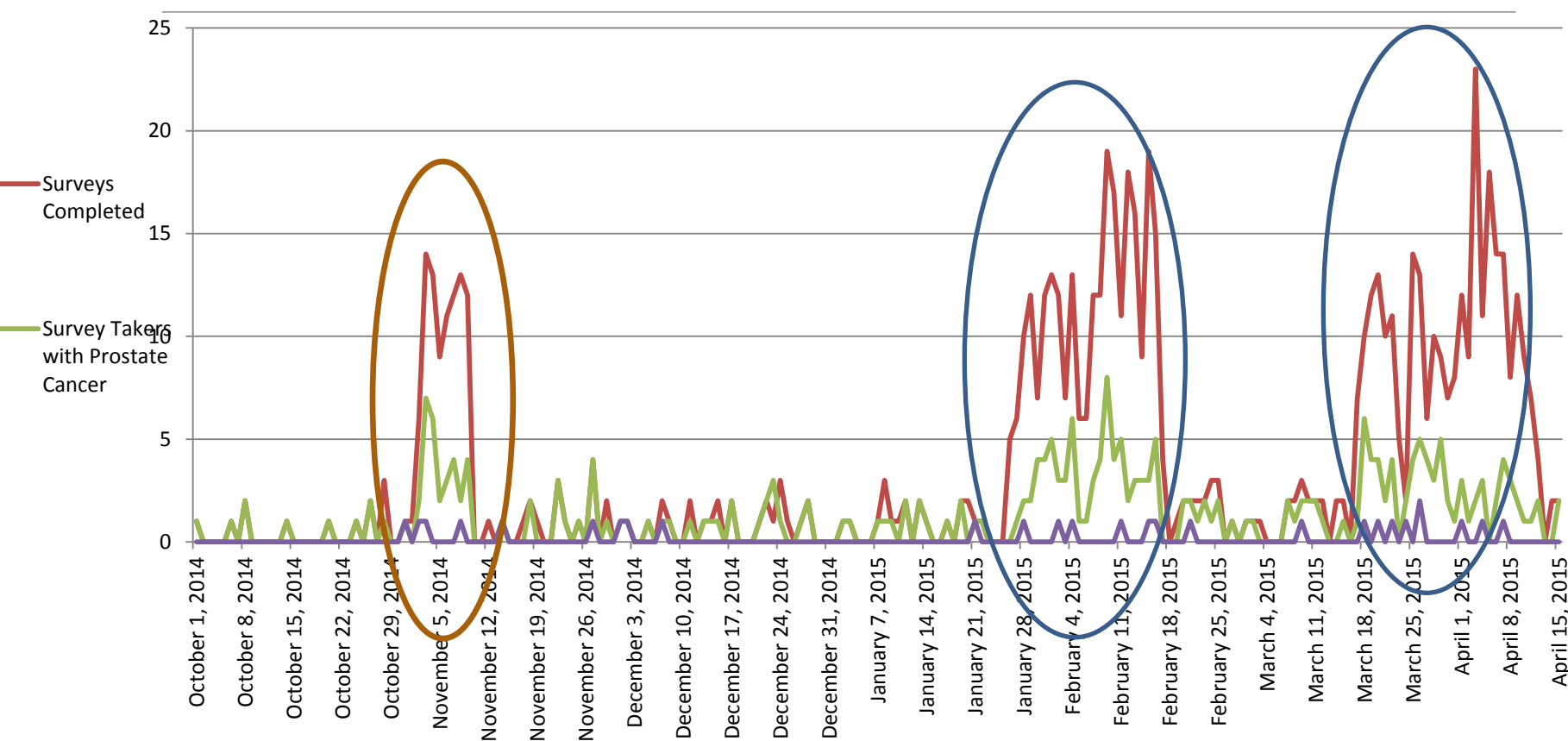
### WI Cancer Clinical Trials

[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

---

- 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

---

- 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

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

## 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 Chronological

27 shares 17 Comments

## ALTRUISTIC CAMPAIGN

**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

and 23 others Chronological

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:<br>Altruistic Campaign   |
|------------|---|--|
| Keywords   | Alzheimers'disease; medical research<br>Alzheimer's association ads | Neuroscience, Clinical trial, Alzheimer's<br>disease research, Philanthropy, Mind<br>games, Costco, Altruism, Medical research,<br>Luminosity, or Lifelong learning    |
| Exclusions | None reported   | National Cancer Survivors Day, Diabetes<br>mellitus type 2 awareness, Hypertension<br>Awareness, Allergy, Prehypertension,<br>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

# Systematic review

---

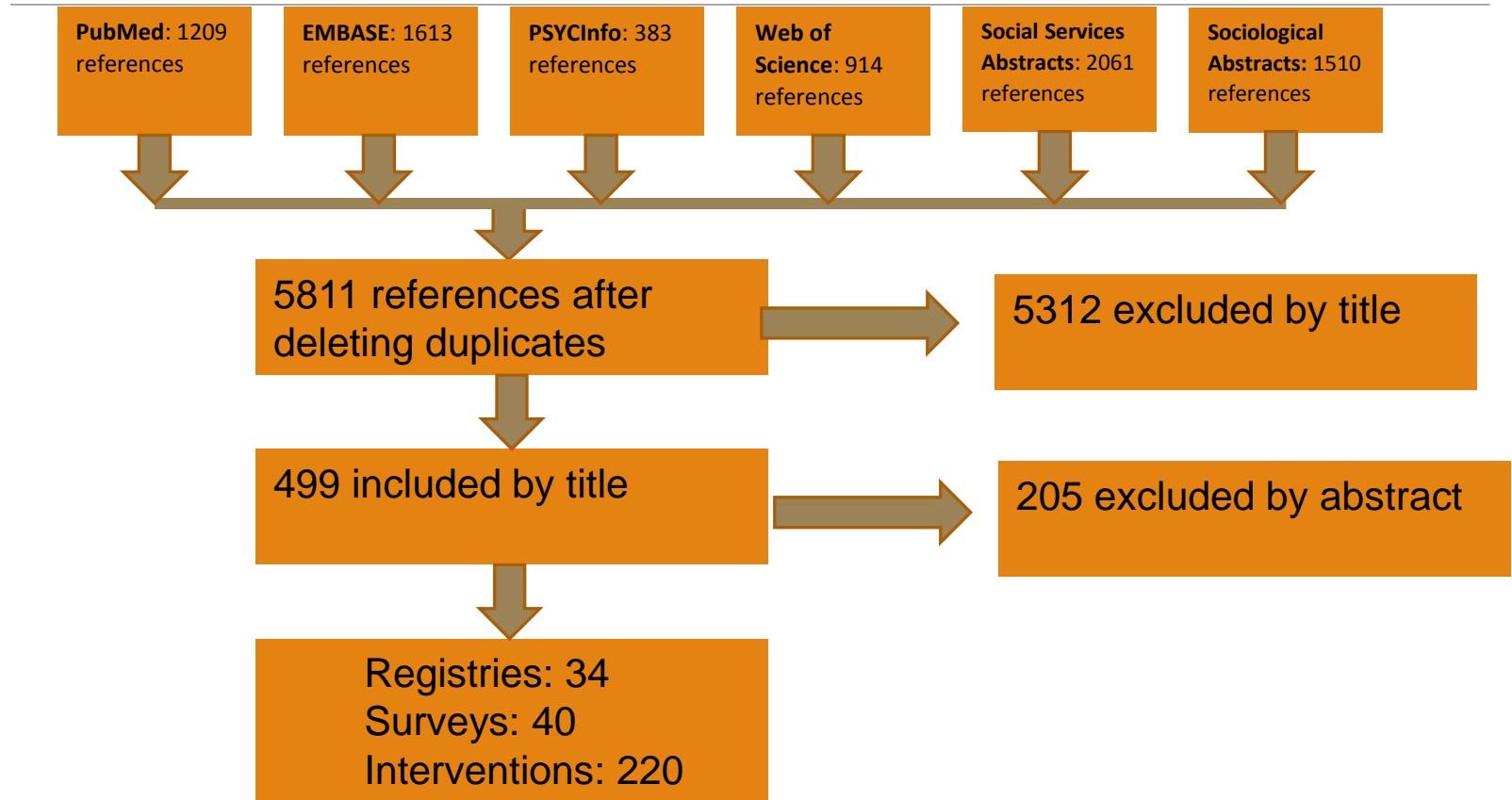
- Technology based recruitment studies
- Study period 2008-2018
- Data bases
  - ✓ PubMed: EMBASE: PSYCInfo: Web of Science: Social Services Abstracts: Sociological Abstracts:
- Studies included
  - ✓ Comparative analysis of methods
  - ✓ Primarily adults
  - ✓ Registries

# Why registries?

---

- Useful tools to improve recruitment into health research
- Voluntary registries: 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



# Comparative studies

---

## ➤ Alzheimer's disease

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

## ➤ Rare Disease

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

## ➤ African American

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



# Evaluation

---

## ➤ 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's disease registry: Reach

Recruitment: Irvine California

## **Traditional Recruitment methods**

- Earned Media
  - ✓ Newspaper ; TV; Radio
- Public Education
  - ✓ 17 Alzheimer Walks/Fairs
- Referrals :
  - ✓ Friends, Research Participants, Partner Organizations ,  
Physicians, Alzheimer's Trial Match, Research 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

Disease: Neurofibromatosis Type 1

173000 individuals

Recruitment: International

## **Traditional Recruitment methods**

- Health care providers (letters to eligible to patients)
- Relevant centers (mailing of postcards)

## **Electronic Recruitment Methods**

- Facebook page and ads
- Google search and Google ads
- Academic/Government websites
- Advocacy groups

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

# Rare Disease Online Registry: Reach

|                     |                              | N=811 | %    |
|---------------------|------------------------------|-------|------|
| TRADITIONAL METHODS |                              | 143   | 17.6 |
| ELECTRONIC METHODS  |                              | 668   | 82.4 |
|                     | Facebook page and ads        | 395   | 48.7 |
|                     | Google search and Google ads | 155   | 19.1 |
|                     | Academic/Government websites | 71    | 8.8  |
|                     | Advocacy groups              | 25    | 3.1  |
|                     | Other Internet based methods | 21    | 2.6  |

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

# Rare Disease Online Registry:Cost

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

# Rare disease Online Research: Representation

|           |                          | Electronic Methods |               |                                  | Traditional Methods |
|-----------|--------------------------|--------------------|---------------|----------------------------------|---------------------|
|           |                          | Google Search/Ads  | Facebook /Ads | Government and Academic Websites | Healthcare Provider |
|           |                          | N=155 %            | N=395 %       | N=71 %                           | N=74 %              |
| Race      | White                    | 55.1               | 76.7          | 80.3                             | 78.4                |
|           | Black/African American   | 5.8                | 4.6           | 4.2                              | 4.1                 |
|           | Asian                    | 16.0               | 4.3           | 8.5                              | 2.7                 |
|           | Other/More than one race | 22.6               | 14.5          | 7                                | 14.9                |
| Ethnicity | Hispanic                 | 11.3               | 10.3          | 11.4                             | 8.2                 |

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



# African American Registry

## Project Connect

**Developed with guidance from the University of Alabama projects**

**Inclusion criteria:** African American age 18 and older

## Traditional Recruitment methods

- Community outreach and presentations
- Health fairs and conferences at Black churches
- Radio
- Public databases: Telephone recruitment

## Electronic Recruitment Methods

- Email : University students, faculty, and staff
- Internet: Web enrollment

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

# African American Registry : Reach

---

|                            | N=608 | %    |
|----------------------------|-------|------|
| <b>Electronic Methods</b>  | 257   | 42.3 |
| Email                      | 182   | 29.9 |
| Intenet                    | 75    | 12.3 |
| <b>Traditional Methods</b> | 351   | 57.7 |

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 Registry: Representation

|                            |                    | >60 years<br>%<br>N=608 |
|----------------------------|--------------------|-------------------------|
| <b>Electronic Methods</b>  |                    |                         |
|                            | Email              | 5.6                     |
|                            | Internet           | 2.7                     |
| <b>Traditional Methods</b> |                    |                         |
|                            | Community Outreach | 17.1%                   |
|                            | Public Databases   | 61.9                    |
|                            | Existing studies   | 64.3                    |

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 Registry: Cost

|                            | Yield<br>Enrollment/<br>Individuals Reached | Staff time per<br>enrolled<br>participant<br>(hours) |
|----------------------------|---|--|
| <b>Electronic Methods</b>  |   |  |
| email                      | 0.4%  | .30  |
| Internet                   | 1.0%  | .73  |
| <b>Traditional methods</b> |   |  |
| Community outreach         | 3.2%  | 12.69  |
| Public databases           | .0.7%                                       | 4.97   |
| Existing studies           | 2.8%  | 12.29  |

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.

# Conclusions

---

- Reduced number of comparative recruitment studies
- Recruitment of older adults and minorities is possible
- Electronic methods are an additional tool
- May need to be combined with traditional methods
- Reduced number of comparative recruitment studies
- Electronic methods success depends
  - Population
  - Type of study
  - Communication style



University of California  
San Francisco

---

*advancing health worldwide™*