



Online Consumer Health Information for African American Audiences

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Overall Aim



The purpose of this infodemiology* study is to assess the quality and usability of health information on the Internet intended for African American audiences.

*infodemiology: information epidemiology, studying the determinants and distribution of health information and misinformation, globally

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Background / Importance



- Many factors contribute to health disparities for African Americans, including information access
- Project focus: Internet-based health information for African American audiences
 - Literature addressing this specific topic is sparse
 - Literature on digital divide is plentiful
- It has been established that the digital divide (the gap between those with and without access to information tools such as the Internet) still exists but is narrowing...

Background / Importance



Divide is narrowing, but still a divide in Internet access:

Internet use (2005):

- 68% of American adults use the Internet (up from 63% in 2004)
- Lagging in internet adoption: age >65; Afr Americans; less educated
- 57% of African Americans use Internet; 70% of Caucasian Americans do

Health info search (2006):

80% of all American Internet users searched for health info online

Cell Phones access is comparable (2004):

73% of African American adults, 74% of white American adults had cell phones

More parents go online (2005):

60% of American adults without a child at home go online; 83% of parents of minors do

Susannah Fox. Digital Divisions. Washington, DC: Pew Internet & American Life Project. Oct 5, 2005.

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Background / Importance



- As the digital divide narrows, access to the Internet is greater, but the quality of information must be assessed
 - If traditionally underserved populations gain access to Internet-based health info, but content is poor, health disparities persist.
 - Alternatively, if Internet-based health info is adequate, then working to train and guide African American patients/families (and their health professionals) to adequate websites could help reduce health disparities.

Methods



- Health information web sites with missions to serve an African American audience were identified, then assessed for quality and usability using criteria developed from previously published measures.
- A comparison to general (i.e. non-targeted) health sites was also conducted.

Examples of mission statements



- ...a website that keeps you informed on health related issues as they affect Blacks and minorities at risk, for the betterment of their lives.
- ...a culturally oriented and ethnically focused comprehensive internet-based health and medical information provider dedicated to addressing the special health problems of African-Americans.
- ...an educational resource designed to provide information on the various health disparities and major health conditions adversely affecting the African American community.
- ...to be the premier Internet site dedicated to promoting the physical, mental and spiritual wellness of today's African American woman.

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Kellogg African American Health Care Project
Resources



Black Womens Health.com

Empowering You to Live Healthy and Well... For Life

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African American
Health Initiative



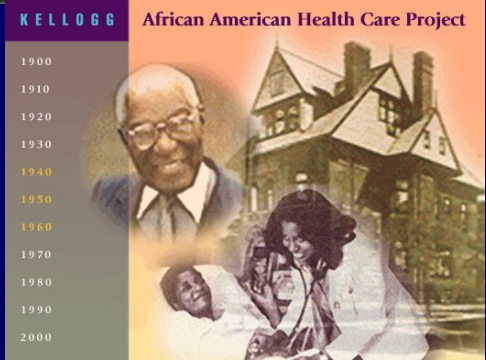
BlackHealth
NOW!



African American Health
Disparities Information



BlackDoctor



KELLOGG African American Health Care Project

- 1900
- 1910
- 1920
- 1930
- 1940
- 1950
- 1960
- 1970
- 1980
- 1990
- 2000



Find a Doctor CATEGORY



Health & Wellness

BlackDoctor
Your trusted resource for black health



African American Health Network

Methods (continued)

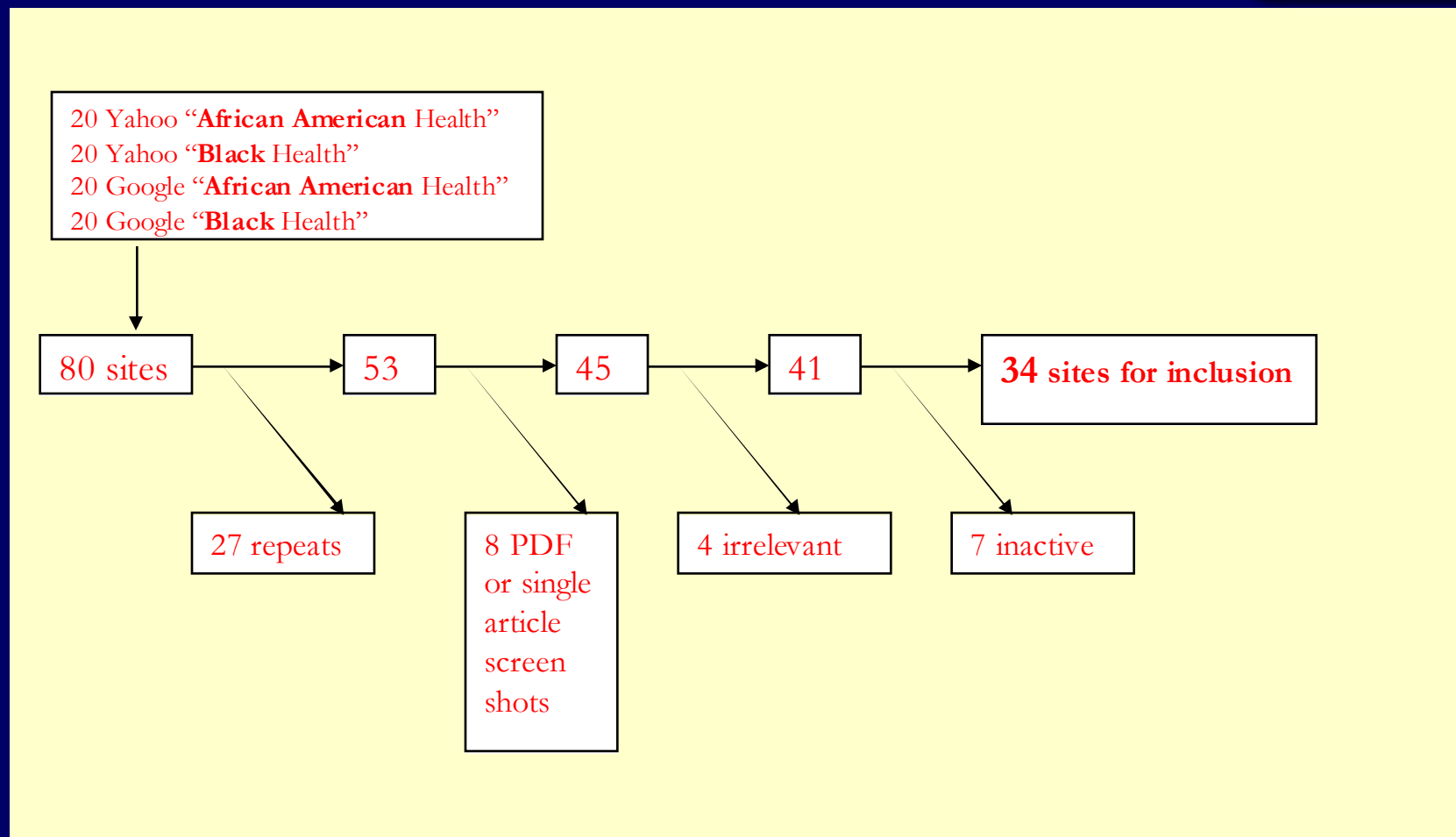


Selecting web sites for potential inclusion:

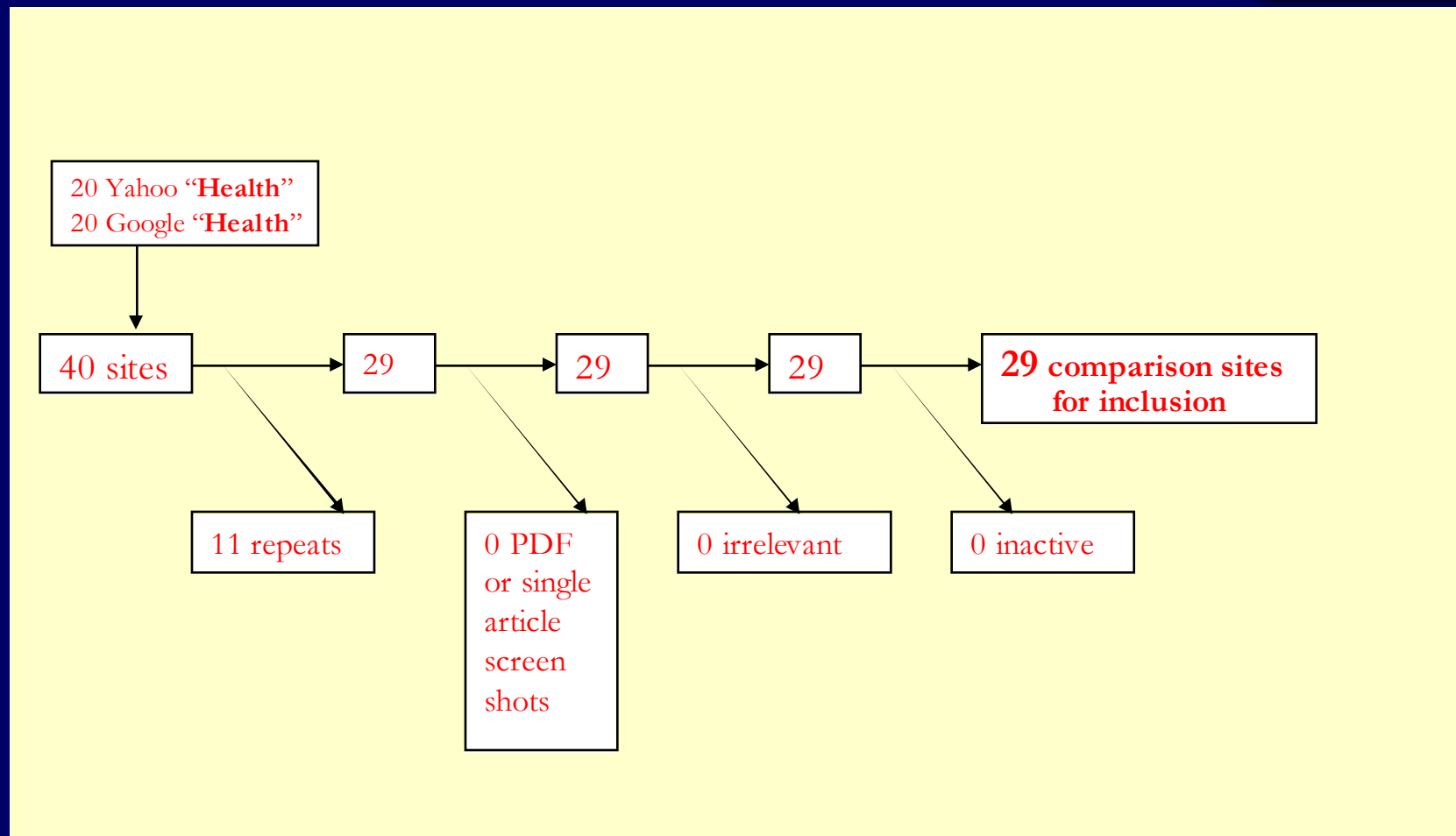
- Search terms
 - “Black Health”
 - “African American Health”
 - “Health”
- Search engines
 - <http://www.google.com>
 - <http://www.yahoo.com>
- Captured top 20 from each search.
- Of 120 sites captured on initial search (in Oct 2006), 63 were relevant for analysis. See flow charts (next).



Inclusion/Exclusion in study



Inclusion/Exclusion in study



Methods (continued)



Quality and usability criteria

- Identified from previously published criteria, including:
 - authority, complementarity, confidentiality, attribution, references, currency, justifiability, transparency, advertising/sponsorship, evidence level, literacy level, and other technical features.
- Each criterion was defined and operationalized for data abstraction

Methods (continued)



- Web sites were independently assessed by 2 researchers
- Data abstraction piloted for first 10% of sites. Criteria were then further refined to minimize discrepancies.
- Differences between researchers were easily resolvable by jointly re-reviewing sites. Clarification was necessary on <4% of data points. Complete agreement was attained.
- For each criteria, comparisons made between AA sites and general sites using Fisher's Exact Test.

RESULTS



- From initial 120 sites, we report on quality and usability features of 34 health info sites for African American audiences and 29 general health sites
- 22 of 34 AA health sites had disease-specific info
- 25 of 29 general health sites had disease-specific info
- Domain types (AA):
 - 3 EDU sites
 - 7 GOV sites
 - 8 ORG sites
 - 16 COM sites
- Domain types (general):
 - 0 EDU
 - 5 GOV; 1 INT
 - 8 ORG
 - 15 COM

RESULTS:

Comparing AA sites to general sites



Among those sites with disease-specific info (22 AA sites; 25 general sites):

- **AUTHORITY**
 - 73% of AA sites listed qualifications of authors (includes gov), compared with 96% of general sites (**p=0.040**)*
- **REFERENCES**
 - 91% of AA sites included references, compared with 80% of general sites
- **ATTRIBUTION**
 - 64% of the AA sites provided date last updated, compared with 100% of the general sites (**p=0.001**)*

**significance level using Fisher's Exact Test*

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RESULTS:

Comparing AA sites to general sites



Among those sites with disease-specific info (22 AA sites; 25 general sites):

- **EVIDENCE LEVEL :**
 - 59% of AA sites mentioned the evidence level of the study when applicable, compared with 80% of general sites
- **JUSTIFIABILITY and BALANCED CONTENT**
 - 91% of AA sites contained balanced information supported by evidence, compared with 96% of general sites

RESULTS:

Comparing AA sites to general sites



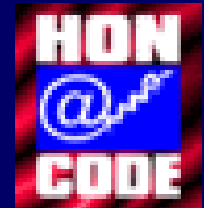
- **CONFIDENTIALITY:**
 - 65% of the AA sites had confidentiality or privacy statements, compared with 97% of the general sites (**p=0.002**)
- **TRANSPARENCY: (contact information)**
 - 85% of the AA sites had contact info for technical Q's, compared with 97% of general sites
 - Among sites with disease-specific info, 59% of AA sites had contact info for content Q's, compared with 60% of general sites
- **COMPLEMENTARITY:**
 - Among sites with disease-specific info, 64% of the 22 AA sites stated that info should support but not replace patient-physician relationship, compared with 72% of general sites

RESULTS:

Comparing AA sites to general sites



- **ADVERTISING, SPONSORSHIP, SALES**
 - 44% of AA sites had advertisements, compared with 62% of general sites
 - 82% of AA sites stated an advertising or sponsorship policy, compared with 90% of general sites
 - 47% of AA sites had links to make purchases, compared with 66% of general sites
- **Health On the Net logo present:**
 - 18% of AA sites subscribed to HON principles, compared with 28% of general sites



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RESULTS:

Comparing AA sites to general sites



- **CHILDREN and TEENS:**
 - 44% of AA sites had some content about children or teens, compared with 83% of general sites (**p=0.002**)
 - 6% of AA sites had some content for children or teens, compared with 31% of general sites (**p=0.017**)

RESULTS - Features

FEATURE:	Afr Amer sites	%	General sites	%	Fisher's Exact Test p value
Blog	3	8.8%	9	31%	0.050*
Discussion board/forum	11	32.4%	6	20.7%	0.396
Email list	11	32.4%	6	20.7%	0.396
Video	11	32.4%	19	65.5%	0.012*
Audio	13	38.2%	19	65.5%	0.077
Search the site	19	55.9%	28	96.6%	<0.001***
* $p \leq 0.05$ ** $p \leq 0.001$					

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symptom solver, billboard, events calendar, dictionary, doctor locator, drug finder, email page to friend, encyclopedia, guestbook, health poll, multiple languages, other minority populations, newsletter, quality criteria, request a (live) speaker, share your story, test your knowledge quiz, your online medical records...

RESULTS – literacy levels



- **LITERACY level assessments:**
 - Assessed text on asthma, sickle cell, nutrition, cancer, or SIDS
 - Flesch Reading Ease and Flesch-Kincaid Grade Level
 - Among AA sites, GOV & EDU sites had text at lower (easier) literacy levels
 - Average literacy level 10th grade for both AA and general sites

Sites Assessed	Reading Ease (mean)	Grade Level (mean)
All AA sites (n=22)	50.6	10.4
GOV and EDU AA sites	62.7	8
COM and ORG AA sites	45	11.6
All General sites (n=25)	49.2	10.52
GOV (no EDU) General sites	45.4	11.48
COM and ORG General sites	50.2	10.27

Summary / Discussion



Comparing African American health sites to general health sites:

- Higher % of general sites provided info on author's qualifications, date last updated, and confidentiality (statistically significant)
- Higher % of AA sites provide info on references (but not stat sig)
- General sites had more ads and sales (but not stat sig)
- Similar literacy levels, at about 10th grade
- Gov sites for AA populations were at a lower literacy level
- General sites had more content for and about children/teens, though study's inclusion criteria not focused on these populations

Summary / Discussion



- Overall, among sites with disease-specific content, most listed references and had justified and balanced content.
- About 2/3 of AA sites with disease-specific content had confidentiality and complementarity statements, date last updated, and author qualifications
- Areas of concern:
 - Reading level is high for most COM and ORG sites, some GOV sites
 - 40% of AA sites did not contain evidence level
 - Many sites had ads and links to make purchases
 - Only 1/3 of AA and 2/3 of general sites had video/audio

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Discussion/conclusions:



- These findings can guide health care providers and health educators in counseling patients regarding Internet-based health information.
 - When low literacy is a concern, recommend sites with video/audio. GOV sites focusing on AA population have lower literacy levels.
 - Caution users to look for qualifications of authors.
 - Caution users to look for date last updated.

Limitations/considerations:



- May not approximate how general public conducts searches for info that is specific to African American (or other minority) populations
- Cultural sensitivity/effectiveness not assessed
- What might be the “value added” for African Americans seeking health information on these web sites...

Selected References



- Birru MS, Steinman RA. Online health information and low-literacy African Americans. *JMIR*. 2004;6(3):e26
- Commission of the European Communities eEurope. Quality criteria for health related websites. *JMIR* 2002;4(3):e15
- Ellis-Danquah LV. Addressing health disparities: African American consumer information resources on the web. *Med Ref Serv Q*. 2004;23(4):61-73
- Eysenbach G. Powell J, Kuss O, Sa ER. Empirical studies assessing the quality of health information for consumers on the world wide web: a systematic review. *JAMA*. 2002;287(20):2691-700
- Gibbons MC. A Historical Overview of Health Disparities and the Potential of eHealth Solutions. *JMIR* 2005;7(5):e50
- Kim P, Eng TR, Deering MJ, Maxfield A. Published criteria for evaluating health related web sites: review. *BMJ*. 1999;318(7184):647-9
- **Kind T**, Huang ZJ, Farr D, Pomerantz KL. Internet and computer access and use for health information in an underserved community. *Ambul Pediatr*. 2005;5(2):117-21
- Madden M. America's online pursuits: the changing picture of who's online and what they do. In: Washington, DC: Pew Internet & American Life Project; Dec 22, 2003
- Spooner T, Rainie L. African-Americans and the Internet . Washington, DC: Pew Internet & American Life Project; Oct 22, 2000

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- **Collaborator: Jasmine Wallace, MPH candidate**

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Any questions?
Your suggestions?



THANK YOU !

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Sites included in study: African American / Black health



- Black Women's Health (com)
- Black Health Care
- Black Issue – Health
- Black Women's Health (org)
- Black Network – Health
- Black Health Now
- Black America Web
- Black News
- Black Health Online
- All About Black Health
- AOL Black Voices – lifestyle
- Black Doctor
- Black Health Agency
- California Black Health Network
- Black Refer – Health
- Tennessee Dept of Health - Minority Health
- Congressional Black Caucus Foundation, Inc
- National Library of Medicine - Medline Plus - African American Health
- National Institutes of Health – African American Health
- Net Wellness – African American Health Center
- About Black American Men's Health
- The Office of Minority Health
- Access Health – African American Health Internet Sites
- Mr Kenyada's African American Health Issues
- Minority Women's Health
- Bowman Sims African American Creations
- Inland Wellness Information Network - African American Health Initiative
- African American Health Network
- Centers for Disease Control Office of Minority Health
- African American Health Coalition, Inc
- African American Health Disparities Information
- African American Health Care Project
- Multicultural Health Clearinghouse – African American Health Issues
- National Network of Libraries of Medicine - African American Community Health

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Sites included in study: health



- CNN – Health
- Web MD Healthfinder
- Open Directory Project – Health
- NY Times – Health
- National Institutes of Health
- Health (com)
- Discovery Health
- Medline Plus
- Kid's Health
- MSNBC
- Centers for Disease Control
- World Health Organization
- Mayo Clinic
- All Refer – Health
- Health (org)
- Health Web
- IVillage Total Health
- Group Health
- Aetna InteliHealth
- Yahoo Directory – Health
- Kaiser Permanente
- American Association of Retired Persons – Health
- Health Yahoo
- WebMD – Mental Health
- Wikipedia Health
- Alternative Health News Online
- Yahoo News – Health
- Arizona Central Health
- Health (gov)