Information Inequalities in an Era of Digital Citizenship

KAREN MOSSBERGER
ARIZONA STATE UNIVERSITY

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School of Public Affairs
ARIZONA STATE UNIVERSITY

DIGITAL CITIZENSHIP

Ability to participate in society online – Mossberger, Tolbert & McNeal 2008

- Why citizenship?

- T.H. Marshall (1949) – right to "live the life of a civilized being according to the standards prevailing in society" – social as well as civil and political rights

- Empowerment, active participation

- Rights and obligations

- Like public education fosters equality of opportunity & positive externalities/collective benefits

  - Information access & ability to exercise democratic rights for individuals

  - Public goods for communities – for economic development, health, education, emergency management as well as informed & engaged citizenry

INTERNET ACCESS A HUMAN RIGHT – UNITED NATIONS 2012

Access to information (and the ability to communicate information)

Necessary for democratic participation, across societies

DIGITAL CITIZENSHIP AS ACCESS AND SKILLS

Requires regular access and effective use
- Regular access – home access rather than public access only
- Quality of access - broadband speeds that enable a range of uses, activities online, multiple devices to be "fully connected"
- Skills for effective use
  - Technical competence
  - Information literacy in online environment
    - Ability to search for, evaluate, apply information
    - Basic literacy, critical thinking, educational competencies
    - Data literacy with evolution of open data
  - Knowledge about safe, secure, responsible use – social media and the Internet of Things
  - Content creation and communication skills

  Can be measured by activities online – especially political, economic, human capital-enhancing

REGULAR ACCESS

% of U.S. adults who are home broadband users

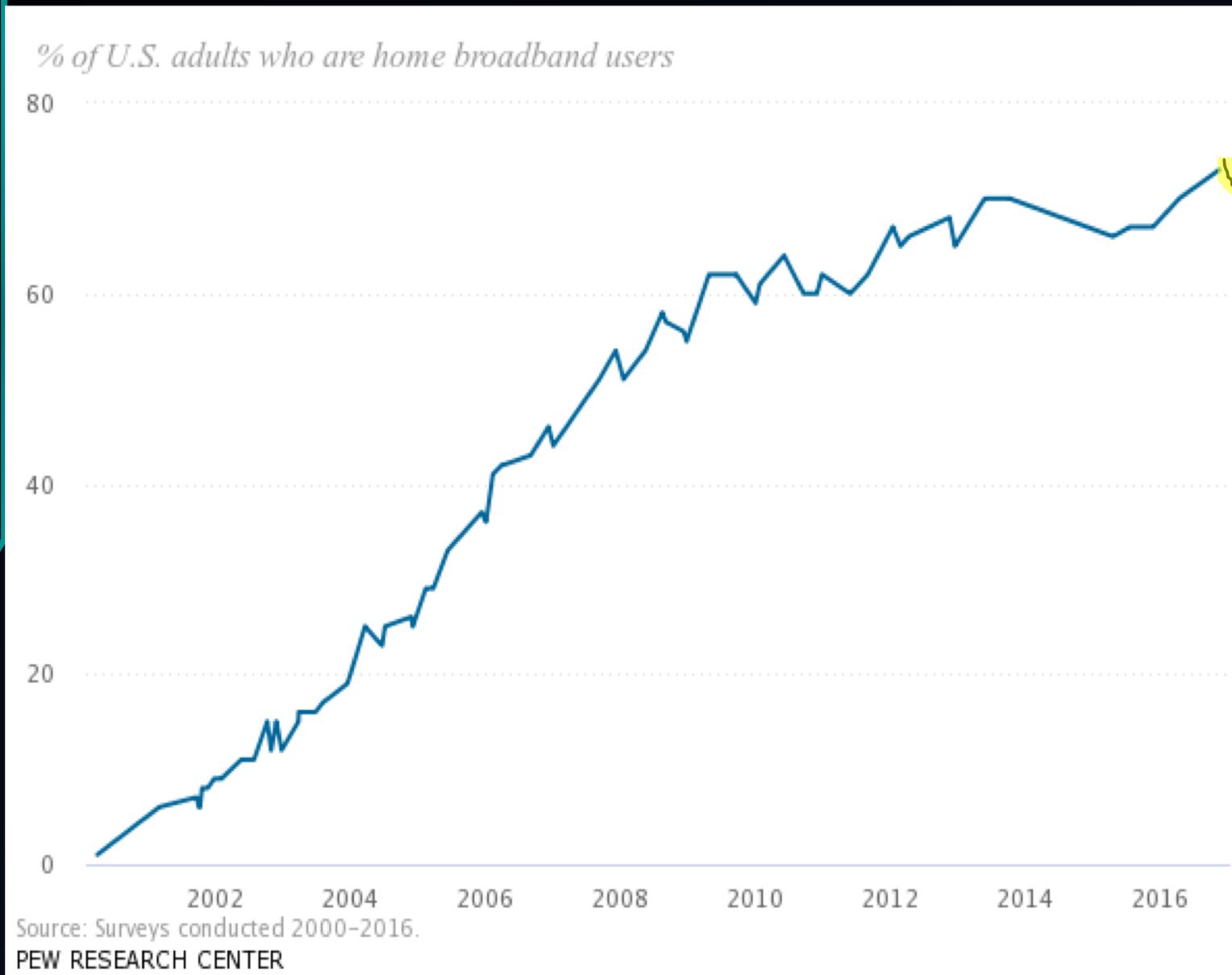Source: Surveys conducted 2000-2016.
PEW RESEARCH CENTER

Adoption curve flattening out/fluctuating nationally

Graph shows 73% with broadband in 2016

Pew January 2018 data
65% with broadband at home

20% are smartphone-only internet users (12% in 2017)

Disparities in access and use persist – education, age, income, race, ethnicity

MOBILE AND THE LESS-CONNECTED

- Mobile-only internet users young, African-American, Latino, low-income, less-educated (Pew Research Center 2018; Mossberger, Tolbert and Anderson 2017)

- Personal and continuous access, but smaller screens and keyboard limit uses for filling out forms, reading text not formatted for mobile, data caps

- Mobile-only users overall do fewer economic and civic activities online than those with home broadband, *but . . .*

- African American and Latino mobile-only users in low-income neighborhoods do more of these activities online than non-Hispanic white mobile-only users (Mossberger, Tolbert and Anderson 2017)

- Effects of mobile similar internationally – "emerging mobile underclass" (Napoli and Obar 2014)

- Mobile is an important bridge, but need to recognize limits

- Broadband at home matters for digital citizenship

Broadband 2000-2014,
Principal Cities, CPS/ACS
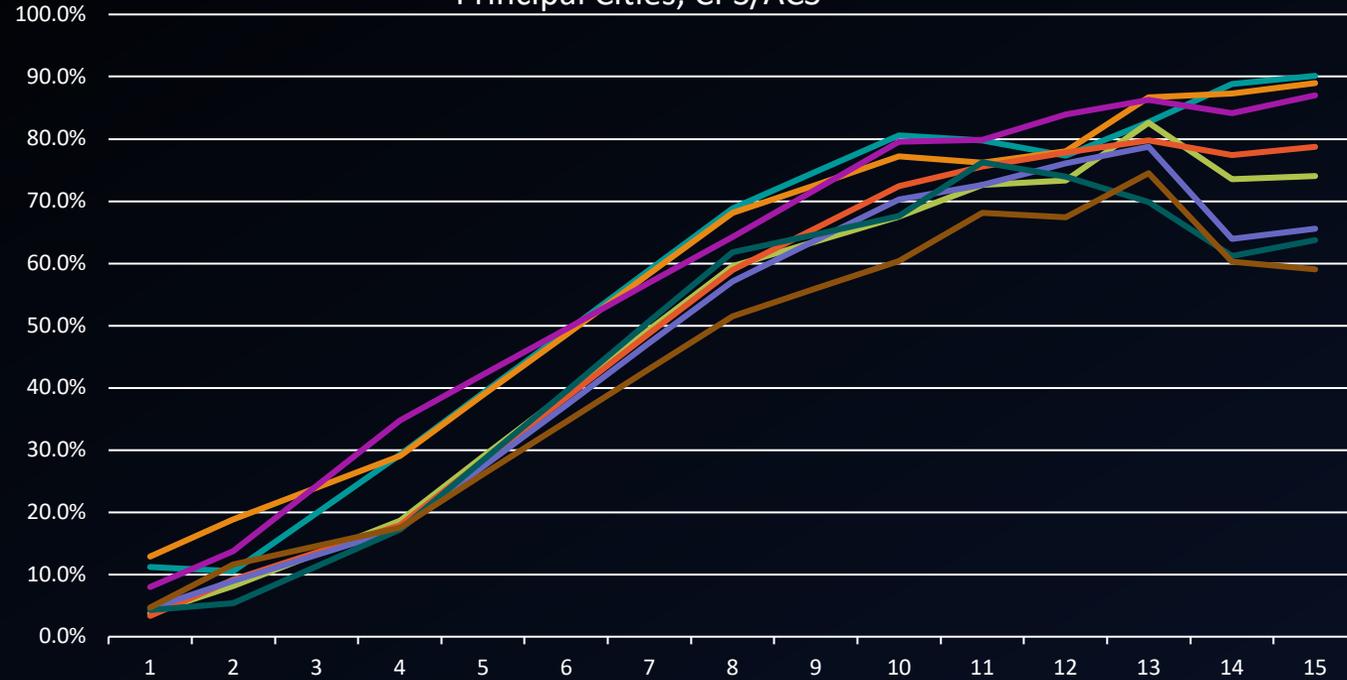
Legend:
- San Jose-Sunnyvale-Santa Clara, CA
- San Diego-Carlsbad, CA
- Seattle-Tacoma-Bellevue, WA
- Chicago-Naperville-Elgin, IL-IN-WI
- New York-Newark-Jersey City, NY-NJ-PA
- Detroit-Warren-Dearborn, MI
- Cleveland-Elyria, OH
- Memphis, TN-MS-AR

Source: Broadband Data Portal, City Time Series, https://policyinformatics.asu.edu/broadband-data-portal/dataaccess/citydata

CHICAGO NEIGHBORHOODS, 2013

VARIATION WITHIN CITIES

Broadband Use by Community Area
2013 Chicago Survey
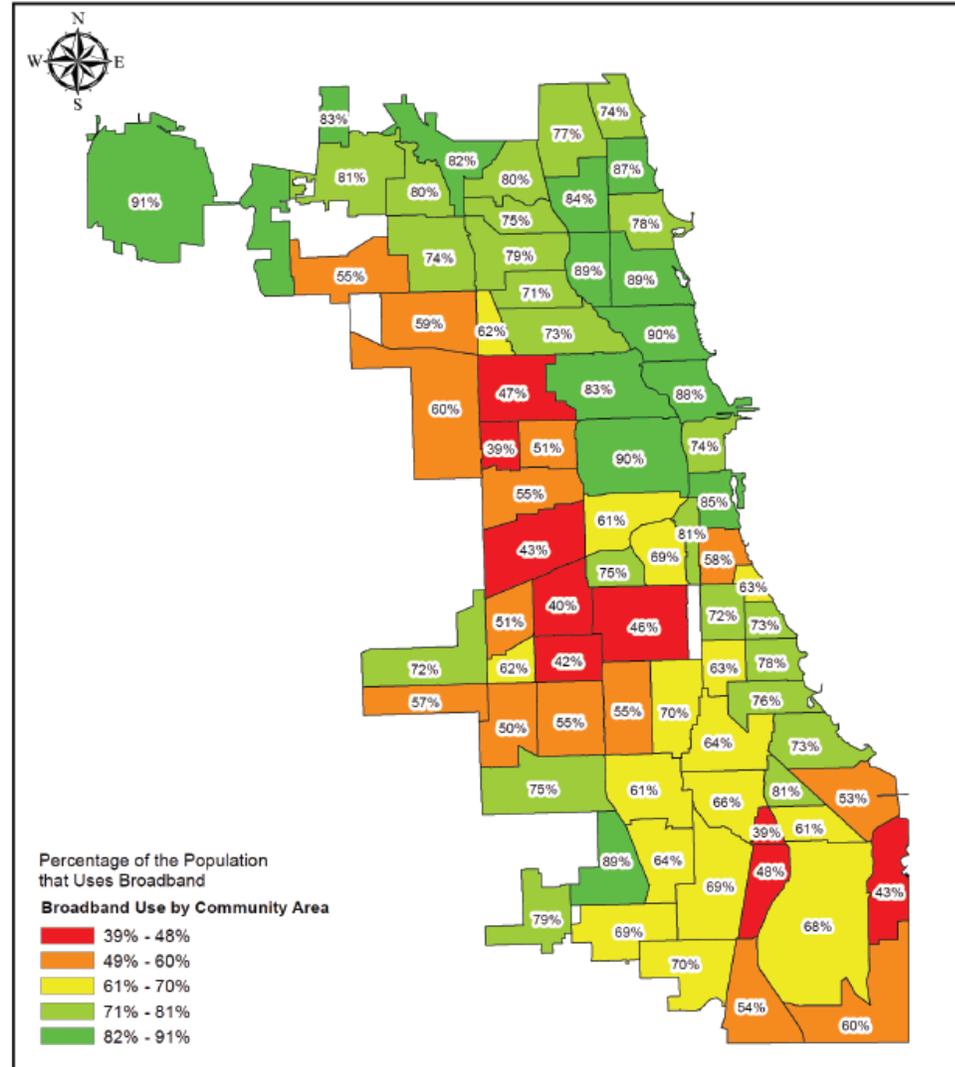
Table 8. Internet Use and Online Activities for Lowest-Ranked Chicago Community Areas, 2013

Broadband Adoption Lowest-Ranked Area (%)	Internet Use Percentage	Health Info Percentage	Job Search Percentage	Online Class Percentage
WEST GARFIELD PARK (39%)	63	49	30	17
BURNSIDE (39%)	57	50	24	17
BRIGHTON PARK (40%)	61	49	25	17
GAGE PARK (42%)	64	51	28	16
SOUTH LAWNDALE(43%)	62	53	33	17
EAST SIDE (43%)	61	52	24	15
CITY AVERAGE (70%)	84	74	58	45

Broadband Adoption Lowest-Ranked Area (%)	Transportation Info Percentage	E-government Info Percentage	Chicago Govt. Website Percentage	Politics Info Percentage
WEST GARFIELD PARK (39%)	45	36	41	35
BURNSIDE (39%)	36	40	40	38
BRIGHTON PARK (40%)	36	32	37	26
GAGE PARK (42%)	34	31	36	25
SOUTH LAWNDALE (43%)	34	33	36	27
EAST SIDE (43%)	35	35	36	30
CITY AVERAGE (70%)	66	61	58	60

broadbandillinois.org   MacArthur Foundation

INFORMATION INEQUALITY AND COMMUNITIES

- Information use also represents community resources and capacities

- Use of online news as a proxy measure for inequalities in information – federal data from Current Population Survey conducted in 2013 included a question about online news

- The internet is the medium of choice for news for all age groups below 50 (and 2nd choice over 50) (Pew Research Center 2015)

- How does online news affect digital citizenship and communities?

WHY NEWS MATTERS

- Individuals who pay attention to news in traditional media – newspapers and television - are more likely to be knowledgeable about and to participate in politics (Delli Carpini and Keeter 1996; Tan 1980; Brians and Wattenberg 1996)

- Online news may be even more important –
  - Lowers information costs – constant access, multiple devices and platforms, searchable, accidental mobilization without search
  - Increases political interest – diversity of sources and topics (though see Sunstein 2001 on echo chambers)
  - Increases interest with multimedia capacity - depth of newspapers & visual aspects of TV, emotive appeal
  - Increases interest through interactivity - ability to share and comment on/discuss

RESEARCH ON POLITICS AND ONLINE INFORMATION: USE OF ONLINE NEWS PREDICTS . . .

- Online and offline participation, including voting (see Boulianne 2009 for a meta-analysis of mostly cross-sectional studies), two-stage models (Mossberger, Tolbert & McNeal, 2008), some later panel studies with mixed results for voting (Dimitrova et al. 2014; Kruikemeier et al. 2014), but other positive effects

- Political knowledge (Dalrymple and Scheufele 2007; Drew and Weaver 2006; Xenos and Moy 2007; Groshek and Dimitrova 2011), including in a panel study (Dimitrova et al. 2014), especially for young (Mossberger, Tolbert & McNeal 2008)

- Political efficacy (Bakker and de Vreese 2011; Lee, Shah and McLeod 2013; Tedesco 2007)

- Political interest (Wang 2007; Boulianne 2011; Stromback and Shehata 2010; panel study Kruikemeier et al. 2014)

BROADENING PARTICIPATION

Online news/information may benefit most those who are traditionally less-engaged

- Increased political discussion among less-interested in 3 UK elections (Bimber et al. 2015)

- Panel study during 2008 US elections showed gains for less-interested (Tolbert & Hamilton 2012)

- "Accidental exposure" to news & political info led to increased online engagement, with greatest effects for less-interested in Germany, UK & Italy (Valeriani & Vaccari 2016)

- Individuals with lower education and income who were more connected (on multiple devices and platforms) were more politically knowledgeable and more likely to vote, controlling for other factors (Morris & Morris 2013)

- Youth, traditionally less likely to participate politically (Mossberger, Tolbert & McNeal 2008; Krueger 2002; Bakker & DeVreese 2011)

- How does use of online news vary across cities?

DATA AND METHODS

- 2013 Current Population Survey Internet Supplement –analysis with Caroline Tolbert and Yang Zhang

- 47% reported obtaining news through the internet

- Residents of principal cities in 50 largest metros, n =18,000

- Multilevel modeling with post-stratification weighting for creating city estimates

- Multilevel random intercept regression model, using individual-level demographic and economic factors, city-level controls for % black and % poverty (best fit for city-level estimates in data portal, comparing multilevel estimates for 2012 to 2013 ACS for robustness check)

WHAT PREDICTS USE OF ONLINE NEWS?

- Individual-level factors related to use of online news mirror traditional gaps in civic engagement and political participation
  - Black, Hispanic, age (-)
  - Education, income, business owner, and occupations in business, professional, sales, office support, and installation and repair (with production as reference category) (+)
  - Asian, male, married, parent, and service, transportation, and construction occupations not significant
- Except for the young, who are more likely to use online news

INFORMATION & INEQUALITY IN CITIES

- While place variables don't predict use of online news, models show substantial variation across cities – from 33.5% to 65%

- Reflects more general patterns of regional inequality in US – innovation hubs/superstars vs. laggards:
  - Lower-ranked cities include those with high proportions of minorities, areas with economic disinvestment
  - Higher-ranked cities include areas with technology industry, more educated populations

- What is the impact for representation for communities? Residents less informed, less able to articulate needs, participate?

BEYOND ACCESS: INFORMATION LITERACY AND ONLINE NEWS

- Information disparities vary by demographics and across geographies

- But, more needs to be known about the role of information literacy, and how that affects political/civic knowledge and participation

- Such questions are critical in an era when sources of information have proliferated beyond traditional news organizations or parties

- And the properties of online news that promote engagement more than traditional media may also help to spread misinformation

  - Diversity of content, targeting to interests, sharing, accidental exposure

EVIDENCE ON INFORMATION LITERACY ONLINE

- There is evidence that information literacy is generally low in the online environment in several studies

- Information literacy increases with education and decreases with age across countries

- Dutch informational skills weak in students and adults - (highly connected population) (Van Deursen & Van Diepen 2013; Van Deursen, Van Dijk & Peters 2011)

- UK critical use (fact-checking, info search) – education (+) and age (-) (Helsper & Eynon 2013)

- US skill measures – education, income, #of access points; race, ethnicity, experience online matter for students (Hargittai 2010; Hargittai et al. 2018)

- US technical competence and info literacy – largest gaps for age and education, though income, race, ethnicity also significant (Mossberger, Tolbert & Stansbury 2003)

EVALUATING OPINION & MISINFORMATION

- Facts vs. opinion – ¼ of Americans identified most or all statements incorrectly as fact or opinion (Pew, June 2018)

- Political awareness, frequency of Internet use, confidence in digital skills, and high levels of trust in media related to those who were better able to distinguish fact vs. opinion

- 1/4 in US admit to sharing misinformation, although not always intentional (Pew, June 2018)

SPREADING FALSE NEWS

- Twitter study, Vosoughi et al. 2018 - 2006-2017, 126k cascades, true and false news (included only those with 95-98% agreement by 6 fact-checking organizations)

- Falsehoods – went farther, faster, deeper, reached more people

- False political news – diffused deeper and more broadly, reached more people and was more viral than any other type of false info

- Users spreading - fewer followers, on twitter less time, less active – can't account for spread through user characteristics, yet falsehoods 70% more likely retweeted, controlling for this; removed bots, didn't change results

- Novelty – greater surprise – sentiment analysis of comments

EVALUATING SOURCES ONLINE

- More volume - proliferation of information, sources

- Less filtering - lower barriers for producing information, fewer professional gatekeepers, intermediaries (experts, opinion leaders)

- Possible anonymity – may lack author identity or reputation, credentials could be misrepresented

- Use of cognitive heuristics/bounded rationality – limited time & cognitive capacity (Metzger & Flanagin 2013; Metzger 2007)

- Heuristics used – reputation/recognition, endorsement, consistency (checking other sources), confirmation (bias), expectancy violation, persuasive intent (Metzger & Flanagin 2013)

POLICY ISSUES

- Motivation for individuals to check information may vary according to need/consequences

- Collective costs (externalities) for political misinformation – individual may not be sufficiently motivated to expend effort because individual costs not great

- Education for critical thinking - cues on sources, expertise, authority, credibility

- Fact-checking – independent fact-checking nonprofits in US as a resource

SOCIAL MEDIA EFFORTS TO PROMOTE INFO LITERACY

- Facebook under pressure:
  - Surveyed US users for trusted sources, prioritizing them in newsfeeds, extending to India, UK, Germany, France, Italy & Spain
  - US ads with political content clearly labeled "paid for by" with further info on sponsor when you click label, and verified ID and location
  - Demoting clickbait
  - Testing button for related articles with additional context
  - Research could assess the effectiveness of such steps
  - Continued efforts? Lit on voluntary regulation shows visibility and threat of government regulation determine efforts (Hsueh 2017)

INFORMED DIGITAL CITIZENS AND COMMUNITIES: POLICY AND RESEARCH

Regular Access – Technology & Information

- Promoting access to online information means closing gaps for adoption and skill

- Mobile use can be a first step, but broadband at home remains important for digital citizenship

- More needs to be known about impacts of information disparities for community civic engagement and participation

- What does this mean for communities in different contexts – urban and rural, and across countties?

Information Literacy Online

- Judging information and its credibility ever more important

- More research needed on cues, cognition, evaluation, how information spreads, effective practices

- Politics vulnerable to misinformation because of ideology and emotion (Pew 2018), but health information and other areas require information literacy, too

- Educational institutions, media, community organizations and libraries, technology industry and governments all have a stake in addressing digital citizenship and information literacy

- Attention to technology not enough - educational disparities need to be addressed for the information age