

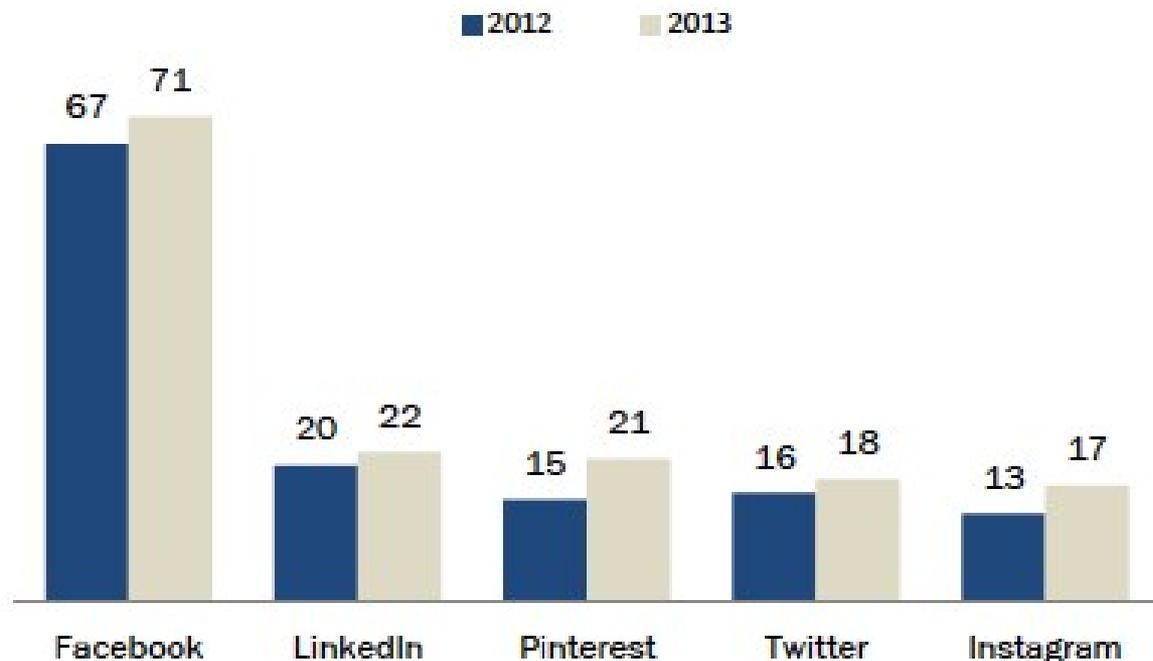
# Cybersecurity: Personal and Professional Perspectives

Frank Pasquale

University of Maryland

# A Rising Tide of Social Media Use

Many more individuals are connecting online.



Pew Research Center's Internet Project Tracking Surveys, 2012 -2013. 2013 data collected August 07 -September 16, 2013. N=1,445 internet users ages 18+. Interviews were conducted in English and Spanish and on landline and cell phones. The margin of error for results based on all internet users is +/- 2.9 percentage points.

**PEW RESEARCH CENTER**

# Advertising and the Data Vortex

- On platforms, you are not the customer; you are the product
- Endless data collection & transfers, indefinitely kept:

# DISPLAY LUMAscape







# Major Social Media Sites #s



- Facebook: 1.32B+ monthly users (Jun 2014)



- YouTube: 1B+ monthly users (YouTube, April 2013)



- Twitter: 645M+ active users (Jan 2014)



- LinkedIn: 313M+ users (LinkedIn, Oct 2014)

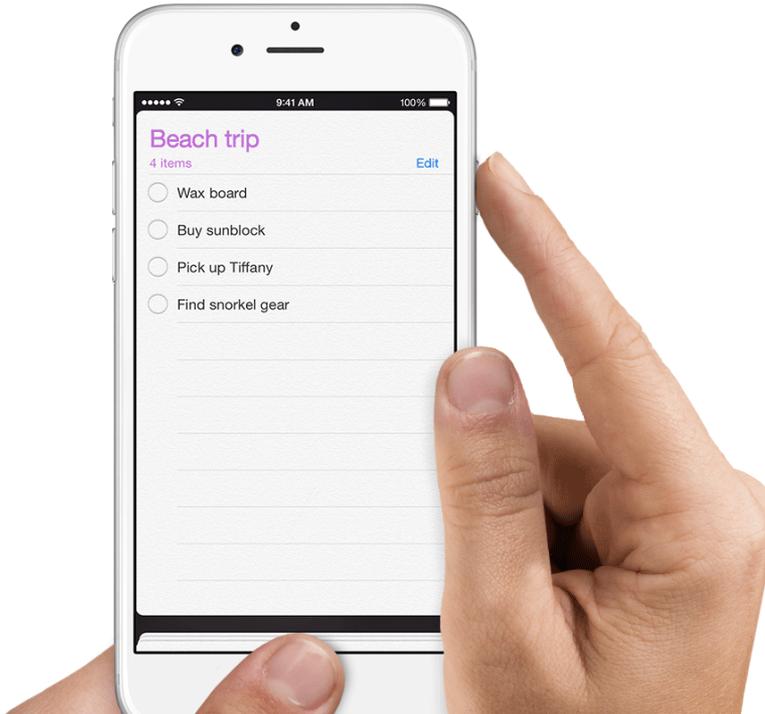


- Google+: 540M+ monthly users

- Pinterest: 70M active users

# Is Snapchat or “Ephemeral” Social Media Safer?

- Perhaps, but....
  - There is always screenshot risk
  - FTC enforcement action



# SwipeBuster & the Popularization of Surveillance



---

Find out who is using tinder for only \$4.99

---

IT'S SIMPLE, THIS IS HOW IT WORKS:

- 1 Tell us **WHO** you want to bust.
  - 2 Tell us **WHERE** he or she was using tinder.
  - 3 We tell you **WHEN** this person last used tinder.
- 

- 1 TELL US **WHO** YOU WANT TO BUST.

\*ONLY first name as it appears on facebook

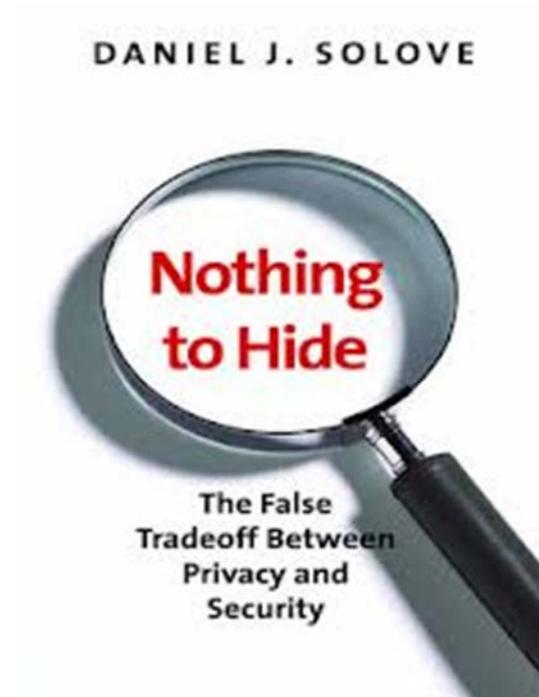
Gender:

Male  Female

# Governor “Burner Phone” in Alabama May Be Impeached Soon



# Privacy Paradoxes



# Questioning Strategic Self-Disclosure Model of Privacy

BIG DATA:  
SEIZING OPPORTUNITIES,  
PRESERVING VALUES



DATA  
BROKERS

A Call for Transparency and Accountability

## ☰ Rape Sufferers List

Mailing List / Email List File owned by: MEDbase200	Medical List Database ID:677
Rape Sufferers List	98/100 on Nextmark.com
Base Price Per Thousand: \$79.00	Total Universe: Inquire for a Current Total Universe Count



# Emerging “Threats”

- Strategic self-disclosure can backfire
  - I may keep certain facts to myself to avoid being charged more (tracking as burden)
  - But maybe I miss out on better matches for my own preferences/personality (tracking as opportunity)

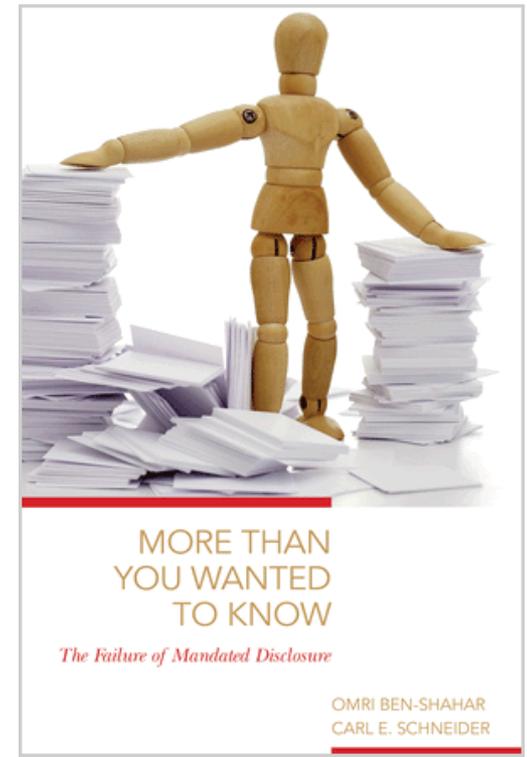
## Room Rates

Orbitz is starting to show different results to users of Macs and PCs after finding Mac users spend more freely. In a recent search for hotels in Miami, Mac users saw more options over \$200. For El Paso, Texas, they saw more expensive options in the place of two cheaper ones.

 Mac	Miami	 PC	 Mac	El Paso	 PC
1. Hyatt House \$118	1. Hyatt House \$118	1. Hyatt House \$118	1-5. Same for both	1-5. Same for both	1-5. Same for both
2. Design Suites \$124	<b>2. Catalina Hotel \$209</b>	2. Design Suites \$124	6. Wyndham El Paso \$76	<b>6. Travelodge \$40</b>	6. Wyndham El Paso \$76
<b>3. Catalina Hotel \$209</b>	3. Design Suites \$124	4. The Richmond Hotel \$156	7. Studio Plus Deluxe \$54	7. Wyndham El Paso \$76	7. Studio Plus Deluxe \$54
4. Churchill Suites \$189	4. The Richmond Hotel \$156	5. Churchill Suites \$189	8. Hyatt Place El Paso \$76	8. Studio Plus Deluxe \$54	8. Studio Plus Deluxe \$54
5. The Richmond Hotel \$156	5. Churchill Suites \$189	<b>6. Ocean Spray \$95</b>	<b>9. El Paso Marriott \$89</b>	<b>9. Days Inn \$55</b>	<b>9. Days Inn \$55</b>
<b>6. Eden Roc Renaissance \$212</b>	<b>6. Ocean Spray \$95</b>	7. South Seas Hotel \$175	<b>10. Radisson Hotel \$98</b>	10. Hyatt Place El Paso \$76	10. Hyatt Place El Paso \$76
<b>7. The Palms Hotel &amp; Spa \$224</b>	7. South Seas Hotel \$175				

# Problems of Notice & Consent

- Is there real opportunity to negotiate terms of contracts?
- Is there real competition among providers regarding terms?
  - Do we want that?  
(remember anonymous remailers?)
- Can consumers really
  - anticipate secondary uses?
  - assess likelihood of breaches?



# From Collection to Use & Availability Controls



# First Amendment, but...



# A FCRA-like Future for a Full-Disclosure Society

- “Cyberhygiene” appears increasingly futile for individuals.
- The new privacy demands will focus on *responsible use* of materials from an increasingly “full-disclosure” future.
- There will, of course, be hard cases...

# How a Heart Monitor Works

Modern implants collect reams of data, but patients don't have direct access to that information.

Here's how some Medtronic defibrillators gather data:

## 5 DENIED

### But patients can't

There is no way for patients to directly access the data. The Food and Drug Administration says Medtronic and other companies would first need to obtain regulatory approval.

## 4 Doctors can obtain a summary

Doctors can log on to a Medtronic website to get a summary report from a patient's device. The report includes some, but not all, the data from the defibrillator.

## 3 Files are transmitted to Medtronic

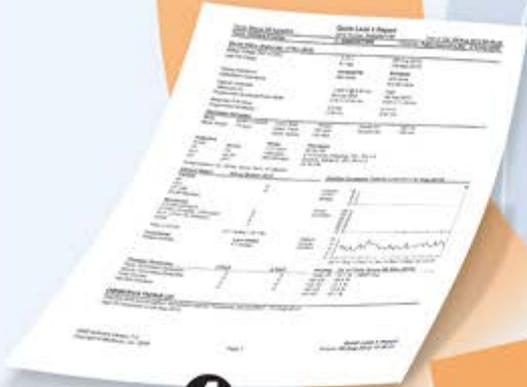
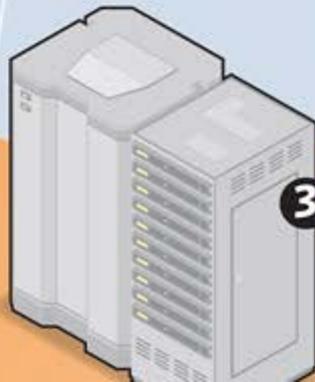
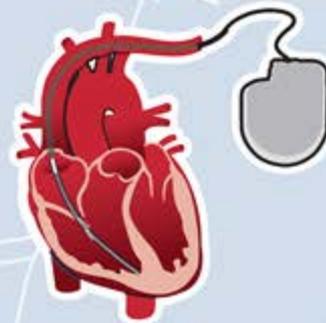
Medtronic collects data covering patients' heart rhythms and rates, as well as myriad details related to the device's function, such as battery life or proper electrical functioning.

## 1 The device is implanted

Doctors connect the defibrillator and its sensors to the heart. Its main job is to zap a stalled heart back into action. But it also records heartbeat and other data points.

## 2 Patient's home monitor collects data

In a patient's home, a separate monitoring device can wirelessly grab the data stored on the defibrillator when a patient passes nearby.



# The Anatomy of a Tweet

Note the public nature of Twitter defaults



**Steve Chandler** @sschandler

3h

Whoa. RT @shanaspeaks Patients choose hospitals based on #socialmedia. [bit.ly/IVwbai](http://bit.ly/IVwbai) #hcs

Expand



**Mayo Clinic** @MayoClinic

2h

Registration for #MayoRagan Social Media Summit is open - save \$500 this week only! [mayocl.in/J05HST](http://mayocl.in/J05HST) #MCCSM #HCSM

Expand



**Klick Health** @klickhealth

3h

RT @farristimimi: There are 185 mobile phones in US for every hospital bed #mhealth #hcs [pinterest.com/pin/3870287801...](http://pinterest.com/pin/3870287801...)

Expand

# Government Agencies on #HCSM

This screenshot shows the top portion of the CDC's Facebook page. The header includes the Facebook logo, the name 'CDC', a search bar, and navigation links for 'Terri', 'Home', and 'Find Friends'. The cover photo is a collage of images: a family playing soccer, a child in a red hat, a dog jumping in autumn leaves, and two women in white lab coats. The CDC logo and slogan 'SAFER • HEALTHIER • PEOPLE' are prominently displayed. Below the cover photo, the text reads 'Centers for Disease Control and Prevention' and 'CDC 24/7: Saving Lives. Protecting People.™'. Interaction buttons for 'Liked', 'Following', 'Share', and 'More' are visible. On the right side, there is a 'Create Page' button and a 'Recent' list of years from 2014 down to 1966.

This screenshot shows the CDC's official Twitter profile. The header features the CDC logo and the name 'CDC' with a verified checkmark. The handle '@CDCgov' is displayed below. The bio states: 'CDC's official Twitter source for daily credible health & safety updates f/ Centers for Disease Control & Prevention. Privacy policy go.usa.gov/8EA'. The location is listed as 'Atlanta, GA · cdc.gov'. The profile statistics show 10.8K tweets, 243 following, and 417K followers. A 'Follow' button is present. Below the bio, it says 'Followed by HealthSocMed | #hcs, FSU Medicine, Mark Hyman, M.D. and 6 others.' The bottom of the screenshot shows a tweet from 'CDC @CDCgov · 21m'.

This screenshot shows a Facebook post from the CDC. The post text reads 'Write something on t' and 'CDC shared a about an hour'. Below the text, there is a 'Read CDC Director' link.

This screenshot shows the CDC's YouTube channel page. The header features the CDC logo and the name 'Centers for Disease Control and Prevention' with the slogan 'SAFER • HEALTHIER • PEOPLE'. The channel name 'Centers for Disease Control and Prevention (CDC)' is displayed, along with a 'Subscribed' button. The page includes navigation links for 'Home', 'Videos', 'Playlists', 'Channels', and 'About'. The main content area is titled 'CDC Director Videos' and features a collection of video thumbnails with titles such as 'Opioid Painkiller', 'Recetas de analgésicos opioides', 'Preventing Pregnancies in Younger Teens', and 'Preventing Norovirus Outbreaks'. The right sidebar shows 'Related channels on YouTube' with links to 'Associated Press', 'The White House', 'Al Nahar TV', 'citizenTube', 'ibcgroup', and 'U.S. Department ...'.



# LinkedIn

LinkedIn Account Type: Basic | Upgrade

Nancy Clark Add Connections

Home Profile Contacts Groups Jobs Inbox 4 Companies News More

People Search... Advanced

Attn: Female Directors - Apply to the Worldwide Who's Who network for Successful Women.



Share an update

Attach a link



Share

### LinkedIn Today: See all Top Headlines for You

Expert: Millions of jobs will "reshore" back to U.S.



When Choosing a Job, Culture Matters

via blogs.hbr.org



Why Your Company Needs A Chief Collaboration Officer



### People You May Know



Curtis Stine, Professor and Associate Chair at Florida State

Connect



Val Glenda Marchesoni, --

Connect



Kenneth Higgins, Sr. Medical Informatics Trainer at Florida State

Connect



See more »

All Updates FSU... Coworkers Shares More

Recent Top



Lee McMillian is now connected to Philip Payne, Associate Professor and Chair, Department of Biomedical Informatics at The Ohio State University Medical Center

Send a message • 1 hour ago



Corey Fleming, RRT, MHA, FACHE is now connected to Cynthia S. Perez, Intern at Ernst & Young, Nini Perry, MBA, RN, Director of Quality & Risk Management at Behavioral Centers of America (CCH) and Andrea Gwyn, Assistant Administrator at HCA

IT'S TIME FOR  
**THE CISCO UNIFIED COMPUTING SYSTEM.**  
 POWERED BY THE INTEL® XEON® PROCESSOR.

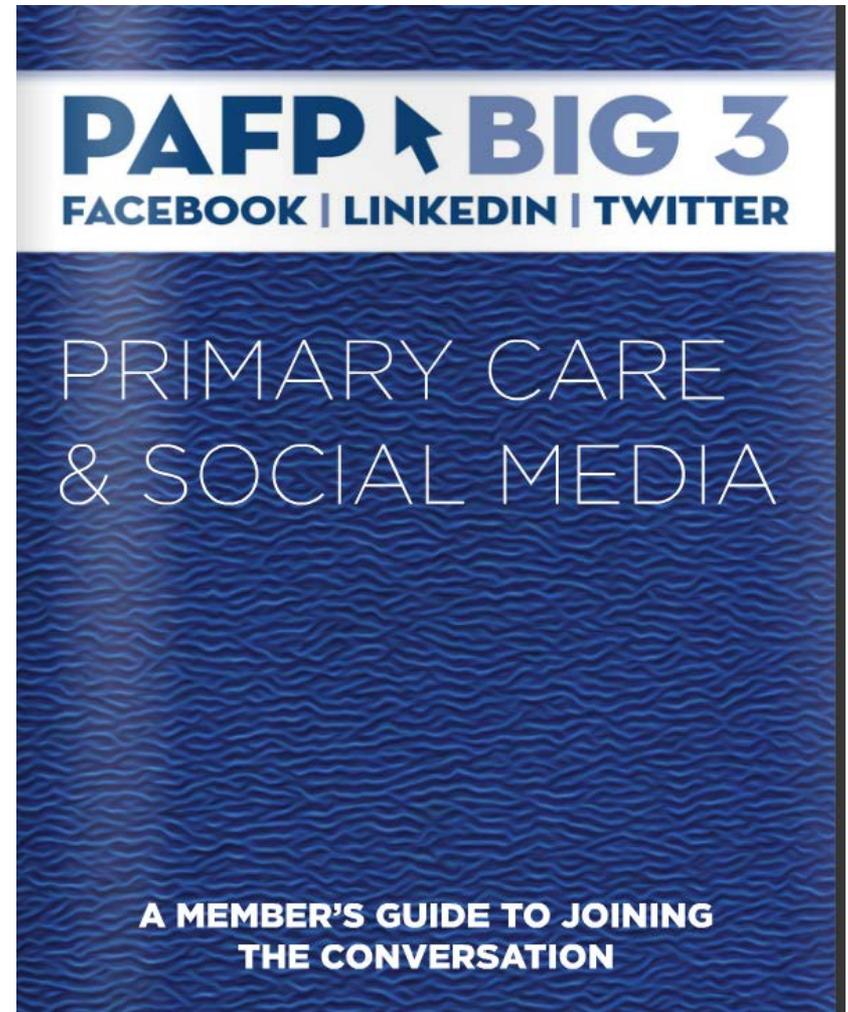
Learn More



BUILT FOR THE HUMAN NETWORK CISCO 21

# Physician's Guide to Using FB, Twitter, LI

- Pennsylvania Academy of Family Physicians
- Guide to Social Media
- Advanced Guide now available. Includes setting up a Blog at Wordpress.com  
<http://bit.ly/1yDwklv>



# AAMC Digital Literacy Initiative

<https://www.aamc.org/members/gir/resources/359492/digitalliteracytoolkit.html>

The screenshot shows the AAMC website's member resources page for the Digital Literacy Toolkit. The header includes navigation links for Government Affairs, Newsroom, Meetings, and Publications, along with a search bar and a 'SIGN IN' button. The AAMC logo and tagline 'Tomorrow's Doctors, Tomorrow's Cures' are visible. A secondary navigation bar highlights 'Member Center'. The main content area is titled 'Digital Literacy Toolkit Contents and Downloads' and provides an overview of the toolkit's six cases, which focus on digital professionalism and social media. It lists the components of each case: Case Commentary, Educator Notes, Bottom Line, Toolkit Considerations, and Bibliography and Summaries. A sidebar on the left offers navigation options like 'GIR Home', 'About GIR', and 'Resources'. A sidebar on the right lists 'Upcoming' events and 'GIR Content Groups'.

Government Affairs | Newsroom | Meetings | Publications

SIGN IN 

**AAMC** Association of American Medical Colleges

Tomorrow's Doctors, Tomorrow's Cures®

Initiatives | Data and Analysis | Services | **Member Center** | About Us

## Digital Literacy Toolkit Contents and Downloads

This toolkit contains six cases based on real-life examples chosen to illustrate key concepts involving digital professionalism and social media. Each case includes a set of guiding questions that should help foster discussion about specific points within the case. Source material that the cases are based upon is included for review.

Review and download the cases

*Each of the six cases also include:*

- Case Commentary** – This section serves as a high-level assessment of the case that helps identify general discussion points that are pertinent to the case. These are presented so that faculty with limited social media experience can facilitate a directed group discussion.
- Educator Notes** – This section directly addresses the case-specific guiding questions. They serve as a starting point for discussion; more questions can always be added.
- Bottom Line** – This section includes the take-home points or learning objectives for the case.
- Toolkit Considerations** - These suggested guidelines will help both learners and facilitators get the most out of the toolkit.
- Bibliography and Summaries** – This section includes a curated and annotated reading list that provides further background, context, and commentary for each case.

**Upcoming**  
2015 Info in Academic Conference Westin San Diego June 3-5  
*Call for Papers 2014*

**GIR Content Groups**

- Steering
- Educational Workgroup
- New Member Special
- Professional Subcomm
- Security Subcomm
- Simulation Medical Group

GIR Home

About GIR

Communications

Leadership

Learning Opportunities

**Resources**

Contact GIR

Looking for Member-only Content?

 Sign in to [www.aamc.org](http://www.aamc.org)

Or sign in from anywhere on the site by going to the upper right corner of your screen.

# Patients Like Me

The screenshot shows the homepage of the Patients Like Me website. At the top left is the logo "patientslikeme®". To the right are login fields for "Username or Email" and "Password", with a "Sign in" button. Below these are checkboxes for "Remember me" and a link for "I forgot". A search bar contains the text "conditions, symptoms, treatments...". The main banner features a blurred image of a diverse group of people holding hands in a circle, with a large play button icon in the center. The text "Live better, together!™" is prominently displayed, followed by the tagline "Making healthcare better for everyone through sharing, support, and research". A green "Join now" button is centered below the banner, with "(it's free!)" underneath. The footer contains three columns of information: "Learn from others" with a speech bubble icon, "Connect with people like you" with an icon of two people, and "Track your health" with a line graph icon.

patientslikeme®

Username or Email Password Sign in

Remember me [I forgot](#)

conditions, symptoms, treatments... 🔍

Live better, together!™

Making healthcare better for everyone through sharing, support, and research

Join now

(it's free!)

 **Learn from others**  
Compare treatments, symptoms and experiences with people like you and take control of your health

 **Connect with people like you**  
Share your experience, give and get support to improve your life and the lives of others

 **Track your health**  
Chart your health over time and contribute to research that can advance medicine for all

# Grief and Community Support

The image shows a screenshot of the CaringBridge website. The top navigation bar includes 'Sites', 'SupportPlanner', 'Nancy (log out)', and 'Español'. The main header features the CaringBridge logo and a yellow banner with the text 'more heart than ever' and a link to 'Read more about our new look and exciting additions.' Below the banner, the user profile for 'Charlie Witmer' is displayed. The profile includes a photo of Charlie, a 'Donate now' button, and a list of site statistics: 17,323 visits, 37 tribute donations, and a 'Read My Story' link. A pop-up window titled 'Amplify the love' is overlaid on the profile, explaining how to amplify guestbook messages. The left sidebar contains a 'SITES' section with a 'Start a site' button and a 'connect and share' section with a list of features.

Sites SupportPlanner Nancy (log out) Español

CARING BRIDGE more heart than ever Read more about our new look and exciting additions.

about get involved partn

SITES

A personal, protected online space where you can post health updates, keep friends and family informed.

Start a site

connect and share

We offer a protected and respected space for you to share your story.

- Users set their personal preferences
- Multiple settings for privacy
- Personal data is protected and secure
- Protected from intrusive advertising

Sites SupportPlanner Nancy (log out) Español

CARING BRIDGE Donate now

Charlie Witmer

WELCOME | My Story | Journal | Guestbook | Photos | Tributes | Resources

Amplify the love

amplify the guestbook messages left by other members of this community with the click of a button.

17,323 visits

Invite more people

37 tribute donations

Charlie's site is made possible through donations.

Donate now to CaringBridge in tribute to Charlie.

Read the tributes in honor of Charlie.

help a friend

Do you know someone who needs CaringBridge?

Read My Story

See All Photos

# A question of access

- Data
- Algorithms
- Inferences
- Lists

