Digital Technology & Media in Healthcare

“Reaching Patients Anytime, Anywhere, Any Platform”

Patrick Duparcq
Kellogg School of Management
Northwestern University
April 14, 2014
Before we take a deep dive …

Digital Communications – as any marketing approach – should start with thinking about **what you want to accomplish** with:
- a person’s interaction online?
- a person’s use of a mobile app
- a presence on social media sites

**What values does your audience expect:**
- on a health-related website
- on a mobile health application
- on your social media page

Digital Marketing fails or succeeds with an organization’s ability to increase “**interaction touch points**”.
performance level

heart rate  calorie burn rate

beginning of run
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The State of Interactive Marketing

Mapping Value-Propositions

Technology & Marketing: Not An Entirely New Story

Social Media: Old World Engagement on Steroids

Mobile Media: Digital Engagement Beyond The PC
The State of Digital Marketing

To what extent are customers & companies embracing digital technology?

**Revenues**
- **Global**: 6%-14% of total retail
- **Behavior**: Multiplatform shoppers

**Advertising**
- **Global**: 24%; **US**: 28%; **UK**: 45%
- **Mobile**: 50% of all digital spending by 2016

**Platforms**
- **IoT**: 15bn connected devices; 50bn by 2020
- **Better I/O devices**: voice, visual, sensors

**Infrastructure**
- **US Smartphone** penetration: 70%
- **Broadband**: Homes, trains, boats & planes

**Digital Apps**
- **Augmented Reality**: Google glass, Ikea catal.
- **Social Media**: 75% of your audience
- **Digital Media**: YouTube (over 1 bn/month)
Communications: The Mix is Changing

By 2015 globally, 26% of all Ad Spending = digital

By 2018 in the US, digital will surpass TV as the #1 medium (38% share)

By 2016 in the US, 50% of all digital spending in the US will be mobile

Today in the US, mobile devices claim around 44% of daily screen time (smartphones alone more screen time than TV)
Digital Product Management

- Interpret config data
- Track use
- C2C social media

- Platform “Stickiness”
- Updates
- Cloud services

- Increase value-in-use
- Online support
- Connect customers

- Listen to customers
- Track buys
- B2C forums

- Value Analysis

- Create pre-release content
- Manage buzz

- Create trade training
- Educate consumers
- Social Media

- Increase interaction
- Manage Value
- Attract & Convert
- Launch
- R&D
The New Benefits of Web-Search Queries: Companies Use Research To Develop Products, Trail Consumer Interests

By KEVIN J. DELANEY
February 6, 2007; Page B3

Some businesses are discovering that Web search isn't just for marketing their offerings -- but also for deciding what to sell in the first place. National Instruments Corp., an Austin, Texas, maker of software and hardware for engineers and scientists, had for years sold products that required buyers to install circuit boards in their desktop computers. Then research revealed that engineers, when searching the Web for such products, were increasingly attaching the letters "USB" -- the initials of Universal Serial Bus, a type of interface commonly found on computers -- to their queries. That observation reinforced National Instruments' decision to sell new versions of its products with USB interfaces and helped it pick which products to start with.

The result was "one of the fastest-growing and most-successful product launches from a volume and revenue perspective, ever" for the company, says Christer Ljungdahl, National Instruments' director of Web and direct marketing.
Wellness > Prevention > Diagnosis > Treatment > Monitoring

Chronic Disease Management/Remote Monitoring
- Payments Integration
- Cloud Based Health Records/Imaging/Applications
  - Tele-health
  - Tele-care
  - Managed Services
  - Enterprise Collaboration
  - Enterprise Hosting & Storage

Global Business Integration

Enterprise ICT

Patient Digital Engagement Tools

Social Media Integration: CancerNet, PreventObesity, DiabetesNet

Shopping & Healthy Living Assistance

Medical records and Remote monitoring

Consumer Voice & Data

Predictive Analytics

Predictive Analytics

Consumer Health Hotline
- Personalised Health Tips
- Health Messaging
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How do we learn what people do, what processes they want improved, what “pains” need to be resolved? Engage+Listen
What are Patients Pains & Gains?
Communications is a 2-way street!
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It’s a crowded complicated world!
### COMPANY FACTORS

#### VALUE DESIGN: PRODUCT & PRICE
- Sufficient profitable sales volume?
- Decrease product or service cost?
- Facilitate customer activities?
- Increase customer/product intelligence?

#### VALUE COMMUNICATION: ADVERTISING/PROMOTIONS/PR
- Increased reach: geographically & time?
- Increased communications frequency?
- Increased communications impact?

#### VALUE DELIVERY: CHANNELS & RETAILING
- Increase product/service availability
- Increase channel utilities: form, size, time, place, variety, service?

### CUSTOMER FACTORS

#### VALUE ACCEPTANCE & RELEVANCE
- Increased or improved Service and Support?
- Value Design / Relevancy
- Value Design / Cost-Benefit

#### ADVERTISING (PUSH) & INFORMATION SEARCH (PULL)
- Customer Technology Penetration
- Acceptable Advertising?
- More Convenient Search?

#### CHANNEL CONVENIENCE: AVAILABILITY & ACQUISITION
- Value Availability: Larger assortments?
- Value Acquisition: Easier to find and Inspect/Try/Explore the product?
- More convenient way to deliver products?
Technology Deployment Decision Matrix

Costs & Customer Maturation

- Holographic & Haptic Marketing
- Too early or irrelevant
- Smartphones Mobile Marketing
- Social Network Marketing

Cost Curve Effects

- Sweetspot
- Traditional Digital Marketing

Currently Demonstrable Organizational Value

Hi
Me
Lo

Current & Near Future Customer Value

Lo
Me
Hi
A connected medicine cabinet
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“If you make customers unhappy in the physical world, they might each tell 6 friends. If you make customers unhappy on the Internet, they can each tell 6,000 friends.”

Jeff Bezos
CEO, Amazon.com
Trusted Sources – Celebrity Endorsements at the Bottom

1. Family & friends in person
2. Family & friends online (social)
3. Expert Opinions
4. Product Reviews
5. Search Engines
6. Company sponsored social media
7. Digital Advertising
8. Traditional Advertising
9. Celebrity Endorsements

- Highly Developed Markets:
  - Americans are most trusting of celebrity endorsements (15%)
  - Germans are least trusting (6%)
- Emerging Markets:
  - Brazil (17%)
  - China (21%)

10,000 respondents worldwide, BCG, November 2013
SOCIAL MEDIA: Largest Networks

Preferred by teens over any other social network.
SOCIAL MEDIA:

- **BE there**
  - FB, Twitter, YouTube, Pinterest
  - Laptop/PC, Mobile, Tablet, SmartTV

- **GET people there**
  - Content: *know your value proposition!*
  - Links from website & other properties
  - Links on related sites & properties

- **KEEP people returning**
  - Understand what people look for
  - Updates, support, entertainment
  - Facilitate sharing of fun/useful content

- **Know your OBJECTIVES**
  - Awareness / Sell/Support
  - Convert to use of a service or product (app)
  - Bonding / Loyalty to a product or service

- **MEASURE effects**
  - Reach, Frequency, Engagement
  - Inside Network Effect: Virality
  - Outside Network Effect: Sales
Social Media Use Varies by Age & Medical Condition

- Skin disorder
- Congestive heart failure
- Migraine headaches
- Depression/anxiety
- Allergies
- Weight problem/obesity
- COPD
- All US online consumers with a medical condition
- High cholesterol
- Arthritis
- High blood pressure
- Cancer
- Other heart
- Erectile dysfunction
- Diabetes

Patients with congestive heart failure are more likely to use Social Computing for health than arthritics, even though they're close in age.

Cancer patients are more likely than diabetics to use Social Computing for health, even though they're older.

Base: US online consumers diagnosed with a disease or medical condition

Source: Forrester’s NACTAS Q4 2006 Healthcare Online Survey

*Used online health forum/discussion board, peer-generated health reference, or blog on a health topic in the past 12 months
How patients with neurofibromatosis use social networks

WHICH OF THE FOLLOWING REASONS DESCRIBE WHY YOU USE ONLINE COMMUNITIES, SOCIAL NETWORKS, MESSAGE BOARDS, OR BLOGS RELATED TO NEUROFIBROMATOSIS?

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Reason</th>
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<tbody>
<tr>
<td>63%</td>
<td>I wanted to read how others have managed a condition or treatment regimen</td>
</tr>
<tr>
<td>52%</td>
<td>I think others can give me tips and ideas I cannot find elsewhere</td>
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<tr>
<td>47%</td>
<td>I wanted to find differing opinions about a health issue or treatment option</td>
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<tr>
<td>44%</td>
<td>I wanted to connect with others for emotional support</td>
</tr>
<tr>
<td>22%</td>
<td>I wanted to see how other people rate or review a prescription drug</td>
</tr>
<tr>
<td>17%</td>
<td>I came across these websites when I am using a search engine</td>
</tr>
<tr>
<td>7%</td>
<td>Other</td>
</tr>
</tbody>
</table>

BABY BOOMERS (AGE 45 AND OVER) strongly rely on online communities for condition management.

58% RELY ON ONLINE COMMUNITIES

GENERATION X-Y (AGE 44 AND UNDER)

71% RELY ON ONLINE COMMUNITIES

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Some Key Data on Mobility

• 91% of adult people in the US own a mobile phone. Between 65%-75% are smartphones.
• 40% of US households are mobile-only (no landlines)
• Daily time spent on mobile devices is now outpacing TV in the U.S. for the first time (16-44yro)

• **Mobile CTR** can be up to 10x higher than typical online CTR (Click-Through-Rate)
• **Location-based targeted CTRs are double** those of non location-targeted CTRs: 1.21% vs. 0.61%.

• **Smartphone users: 50% use Fitness & General Health related apps** (AYTM, 2013) and 50% look up health or medical information (PEW)
Wearable tech – The next frontier in mHealth?

52% increase each year

<table>
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<tr>
<th>Wearable Device Connections and Data Traffic Worldwide, 2013-2018</th>
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<tr>
<td><strong>2013</strong></td>
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<tr>
<td>----------</td>
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<tr>
<td>Wearable device connections (millions)</td>
</tr>
<tr>
<td>Data traffic (petabytes per month)</td>
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</table>

*Note: 1 petabyte = 1 million gigabytes; includes wearables that have a tethered connection via smartphone or other device, and wearables that have an embedded cellular connection.

What functions are most appropriate for a mobile app?

Are there any functions people would rather explore on another device (tablet, laptop)?
Apps – Useful information, easy to obtain

The Weight Watchers App makes it easy for users to track nutrition.
USEFUL SOURCES ON DIGITAL COMMUNICATIONS

Consulting & Technology Companies:
A.D. Little       DataMonitor       E&Y       Booz-Allen       Accenture       PWC
Deloitte         Wipro          KPMG       Motorola       Oracle       IBM       GE

Journal of Medical Internet Research
The leading peer-reviewed journal for health and healthcare in the Internet age.
Open Access       Top Cited (Impact Factor: 3.8)       Rapid Peer-Review       Medline indexed (+20 other indices)
Conclusion from a non-MD

• Patients & Physicians have solidly embraced digital technologies. This creates a opportunity for engagement, learning, monitoring and preventing.

• The “Internet of Things” (IoT) revolution has just started. Remote sensoring, tracking, and telemedicine will be huge in years to come.

• Digital penetration and IoT will generate HUGE amounts of health related data.

• Big data & Predictive Analytics hold huge promise in solving medical challenges and in epidemiological management (e.g., MIT study: detect flu symptoms before students realized they were getting sick, by analyzing mobile device data and changes in movement and communication patterns).