



Patients v2.0
Challenges & Opportunities

Thanos Kosmidis

In an era when
everything changes...

*...why would patients
stay the same?*

Patient behaviors: The “helicopter view”

- Healthcare costs keep increasing
- Healthcare systems cannot keep up
- 7% of Google searches are healthcare-related¹
- Americans would share their health data with:²
 - Google: 60%
 - Amazon: 53%
 - Apple: 49%
 - Facebook: 40%

Sources: 1: Google Health Vice President David Feinberg, MD, Mar 2019
2: Bond Capital, Mary Meeker, 2019 Internet Trends Report, Jun 2019



Patient challenges



Challenges:

**Expectations from the
digital, mobile, social
norm**

Expectations: Instant Gratification

Find out if new Walmart To GoSM is now available in your area:

Street Address Apt#
City State Zip [Check address](#)

Sign in to your account

Email Address [Sign in](#)
Password [Forgot password](#)



[Start here](#)

Introducing Same-Day Delivery Beta

now available in your area

Popular products delivered right to your door.

Order must be placed by 12 p.m. local time. Flat delivery rate of just \$10 per order.



1. Check Address
[Check here](#) to see if we deliver to your address



2. Start Shopping
Pick from our select assortment of products.

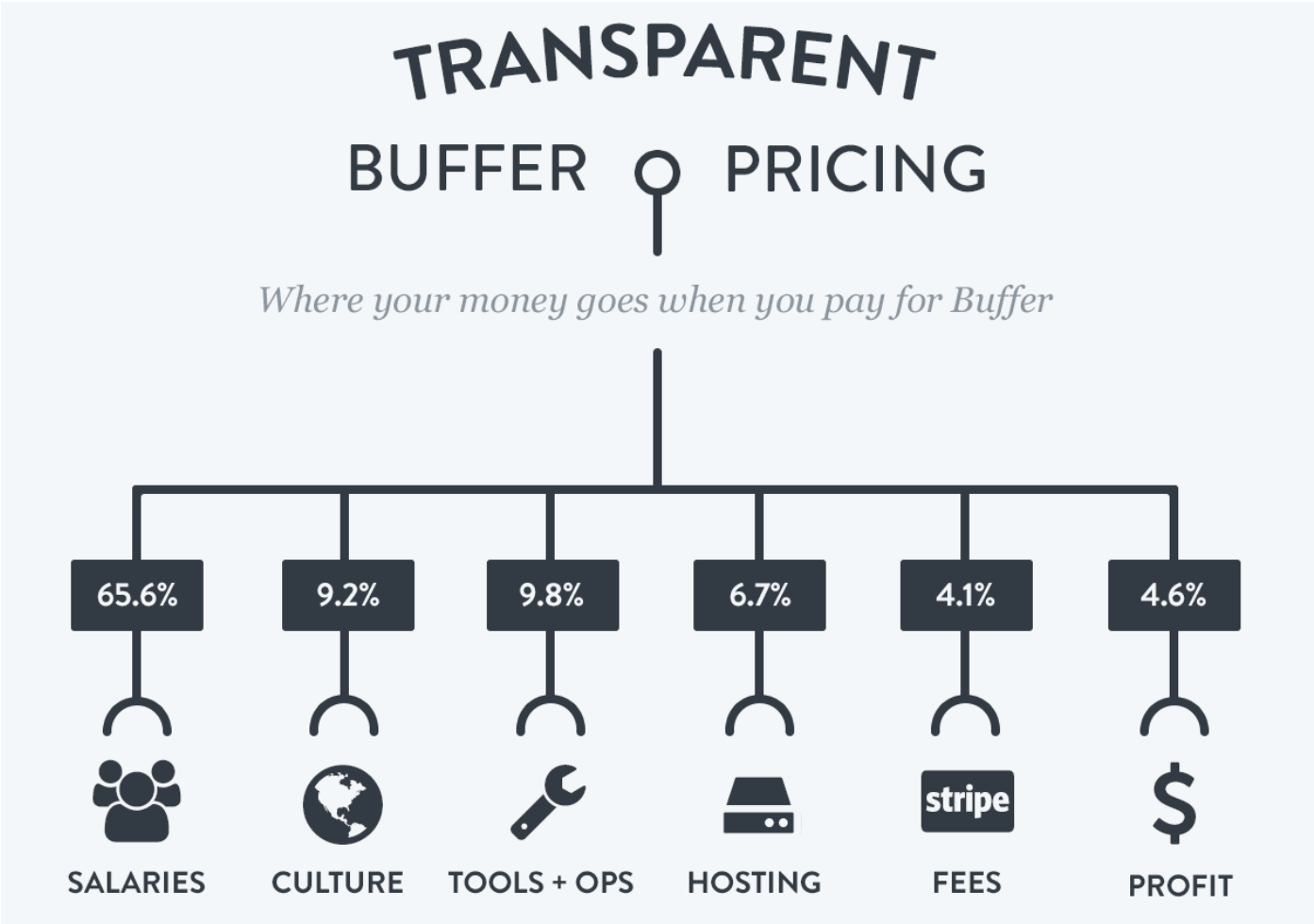


3. Reserve your time
Pick a time slot that's convenient for you.

Expectations: Lower Cost



Expectations: Higher Transparency



Expectations: More Options



Challenges: Information

- Reliability
- Applicability
- Fake News

The U.S. Online News Coverage of Mammography Based on a Google News Search


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 PlumX Metrics

DOI: <https://doi.org/10.1016/j.acra.2017.05.011> |  CrossMark



 Article Info

Abstract

Full Text

Images

References

Rationale and Objectives

To characterize online news coverage relating to mammography, including articles' stance toward screening mammography.

Materials and Methods

Google News was used to search U.S. news sites over a 9-year period (2006–2015) based on the search terms “mammography” and “mammogram.” The top 100 search results were recorded. Identified articles were manually reviewed.

Results

The top 100 news articles were from the following sources: local news outlet (50%), national news outlet (24%), nonimaging medical source (13%), entertainment or culture news outlet (6%), business news outlet (4%), peer-reviewed journal (1%), and radiology news outlet (1%). Most common major themes were the screening mammography controversy (29%), description of a new breast imaging technology (23%), dense breasts (11%), and promotion of a public screening initiative (11%). For the most recent year, article stance toward screening mammography was 59% favorable; 16%, unfavorable; and 25%, neutral. After 2010, there was an abrupt shift in articles' stances from neutral to both favorable and unfavorable.

Conclusions

A wide range of online news sources addressed a range of issues related to mammography. National, rather than local, news sites were more likely to focus on the screening controversy and more likely to take an unfavorable view. The controversial United States Preventive Services Task Force guidelines may have influenced articles to take a stance on screening mammography. As such online news may impact public perception of the topic and thus potentially impact guideline adherence, radiologists are encouraged to maintain awareness of this online coverage and to support the online dissemination of reliable and accurate information.



Short Communication



Readability of information on colonoscopy preparation on the internet

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Abstract

Background: The incidence of colorectal cancer (CRC) has decreased in recent years, due in large part to increased screening, particularly through colonoscopy. This study aimed to examine the level of readability of information on colonoscopy preparation written on 100 websites that were found via an internet search.

Methods: In this cross-sectional study, the content of the first 100 websites in English found via an internet search were analyzed using established readability scales. Websites were compared based on whether they had a commercial or non-commercial URL extension.

Results: The majority of websites were found to have information of a difficult reading level. Less than 10% of websites had an easy reading level. Readability did not differ significantly based on URL extension.

Conclusion: The information currently posted on the internet regarding preparation for colonoscopy is written at a difficult reading level. If information presented was both accurate and easier to read, it could benefit a greater proportion of the general public and help inform decisions about preparing for a colonoscopy.



asparagus breast cancer



Google Search

I'm Feeling Lucky

Interest over time ?



Interest by region ?



1	United Kingdom	100	<div style="width: 100%;"></div>
2	Canada	74	<div style="width: 74%;"></div>
3	United States	57	<div style="width: 57%;"></div>



Cancer research

Spread of breast cancer linked to compound in asparagus and other foods

Using drugs or diet to reduce levels of asparagine may benefit patients, say researchers

Ian Sample Science editor

@iansample

Wed 7 Feb 2018 18.00 GMT



19,109

This article is over 3 months old



▲ Asparagine is an amino acid that is made naturally in the body as a building block for proteins. But it is also found in the diet, and in high levels in certain meats, vegetables and dairy products. Photograph: Alamy

Breast cancer patients could be encouraged to cut asparagus and other foods from their diets in the future to reduce the risk of the disease spreading, scientists say.

Researchers are investigating whether a change in diet could help patients with breast tumours after studies in mice showed that asparagine, a compound first identified in asparagus but present in many other foods,

Fake news

**Bananas as good as
drugs for treating
HIV, say scientists**

Source: BlueLatitude, PMLive, 2nd May 2019

Challenges:

Data!

Privacy (yes, even before GDPR)

YOUR HEALTH, YOUR PRIVACY
Microsoft's Approach to Protecting Your Health Information

Health organizations are more reliant on data storage technology than ever. That's why patient data security is a top priority for doctors and their patients. Microsoft offers cloud solutions with industry-leading data privacy and security measures, including a HIPAA Business Associate Agreement (BAA) designed in collaboration with the healthcare industry and leading academic universities, to help give doctors and their patients confidence that Microsoft is protecting their data 24/7.

This is how your electronic patient information can be shared or accessed by healthcare providers.

- 

Your doctor keeps track of some pretty personal information about you
- 

And your doctor must store it in a safe place
- 

EHR
Electronic health record

Big Data



Source: The Century Foundation, 10 Jan 2017



Patient Generated Health Data (PGHD)

For too long, patients and healthcare ecosystems have been largely disconnected.



REAL-TIME PATIENT HEALTH DATA
Isn't transmitted to care team



EHR DATA
sitting in health systems doesn't reach the patient

Source: Publicis Health



Opportunities

Opportunities: Personalization

Shift from...

*“breast
cancer
patient”*

to...

- ER+ HER2- breast cancer, diagnosed 17-01-2018
- Metastasized to the bones, diagnosed 14-09-2018
- Irritable Bowel Syndrome
- BMI=29 (Overweight)
- Vegetarian
- Sedentary lifestyle
- Mild depression
- Changed to part-time employment since metastasis
- Lives >100km from cancer clinic

Opportunities: Personalized Behavior Change

Characteristics

- Personalized
- Evidence-based
- Data-driven
- Quantified
- Long-term engagement

Example goals

- Improve quality of life
- Affect health determinants (e.g. weight, physical activity etc)
- Enhance adherence

**Holy Grail:
Personalized Digital Therapeutics**



Σας ευχαριστώ

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The CareAcross case with cancer patients

Personalized Behavior Change for Quality of Life

- 11% reduction in average number of side-effects experienced

Personalized Behavior Change for Weight Control, including detection of (pre)cachexia

- Lung cancer patients:
average weight increase of +0.3% (metastatic
disease: +1.3%)