

Mobile Publishing at NEJM

Kent Anderson

Executive Director, Product Development

The New England Journal of Medicine



The NEW ENGLAND
JOURNAL of MEDICINE

NEJM.ORG

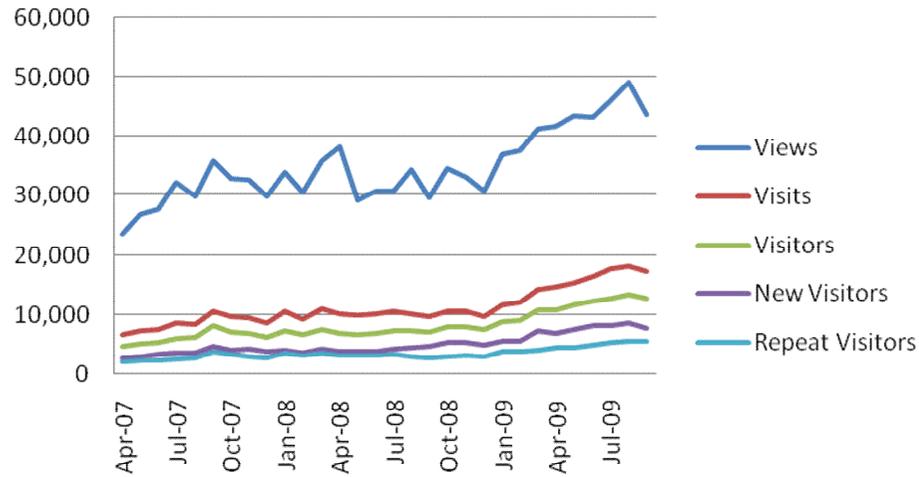
Customer Trends

- They own the infrastructure we use to reach them
- This infrastructure is moving to the body
 - Soon, greater than 100% penetration for cell phones in key regions
- Bandwidth is portable
- Mobile, social, and immediate

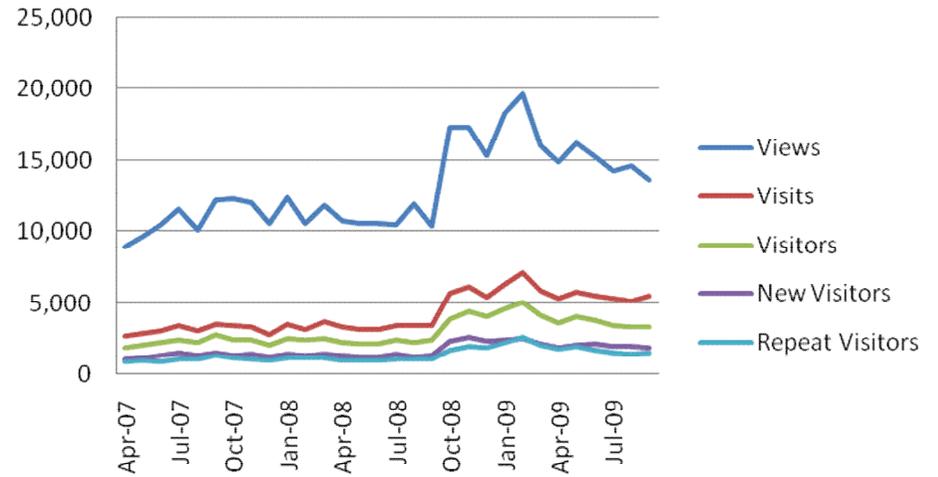
Years of Work on Mobile

- 2002 – Launched handheld-compatible pdb files, allowing article download and consumption on mobile devices
- 2004 – Created handheld redirect version, allowing online access to specially designed version of NEJM.org
- 2005 – Created CSS-redirect version of *Journal Watch* site for handhelds

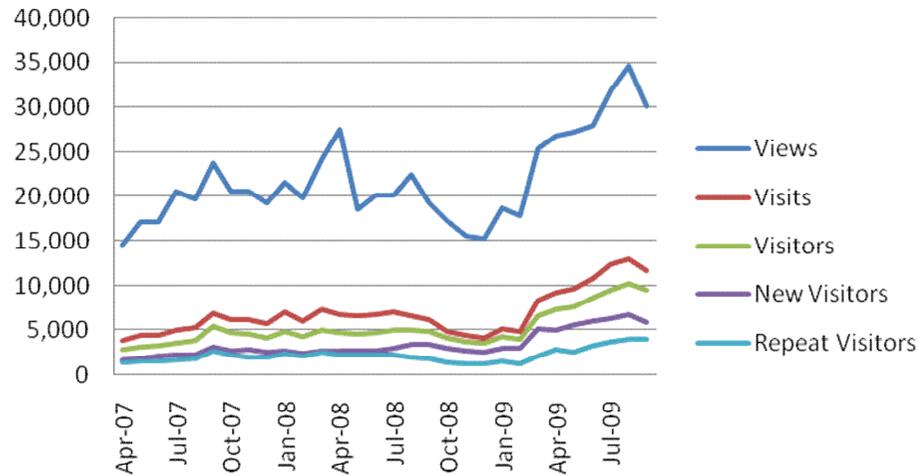
Handheld.nejm.org: Traffic by Month-WW



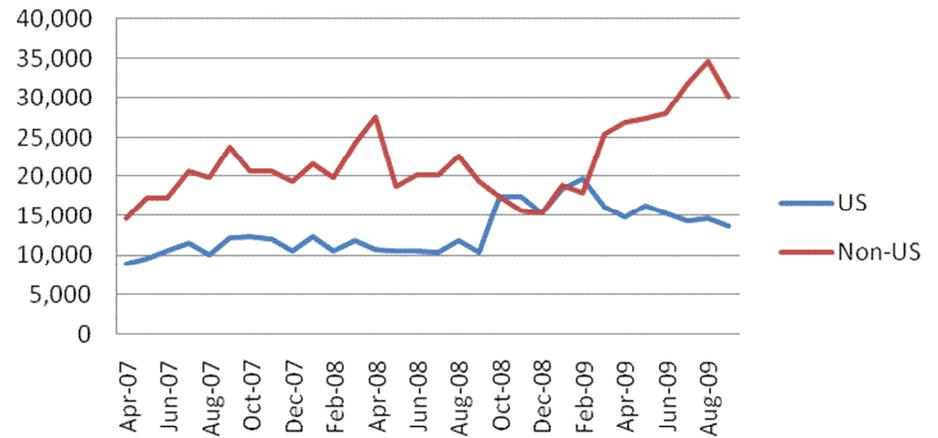
Handheld.nejm.org: Traffic by Month-US



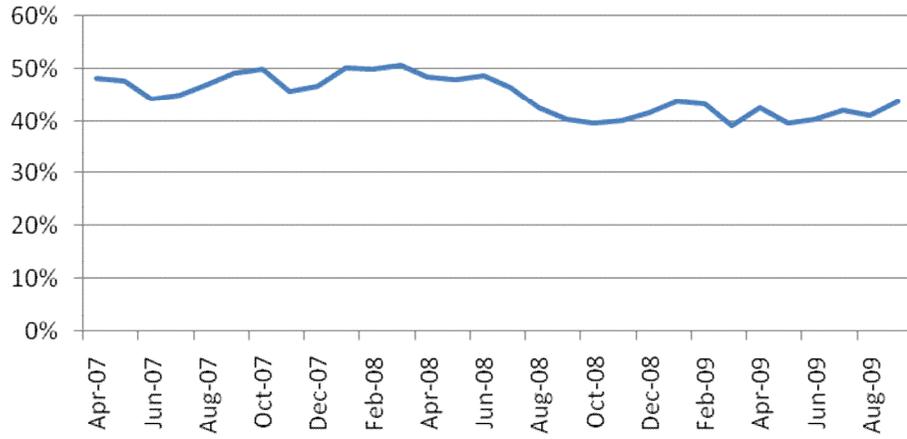
Handheld.nejm.org: Traffic by Month-Non-US



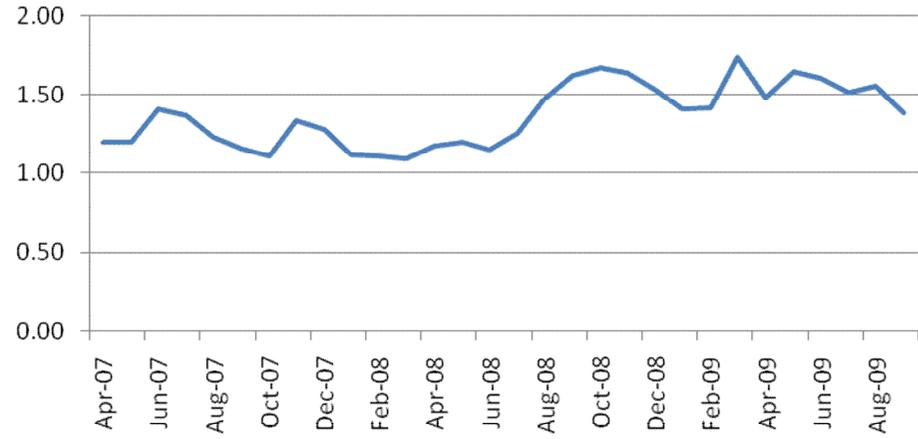
Handheld.nejm.org: Pageviews by Month-US vs. Non-US



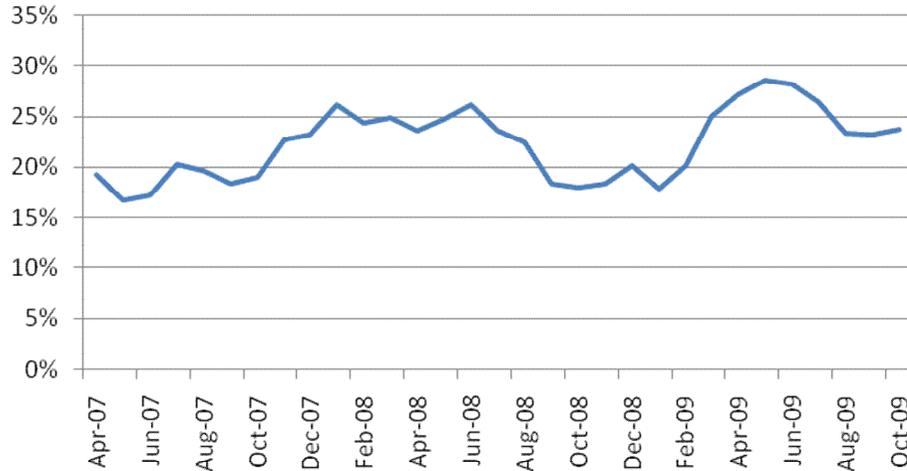
Handheld.nejm.org: Repeat Visitor Rates by Month-WW



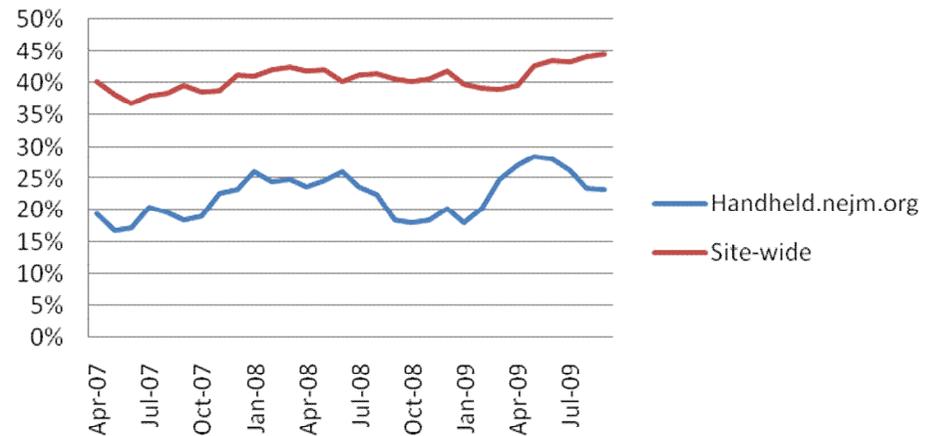
Handheld.nejm.org: Ratio New/Repeat Visitors by Month-WW



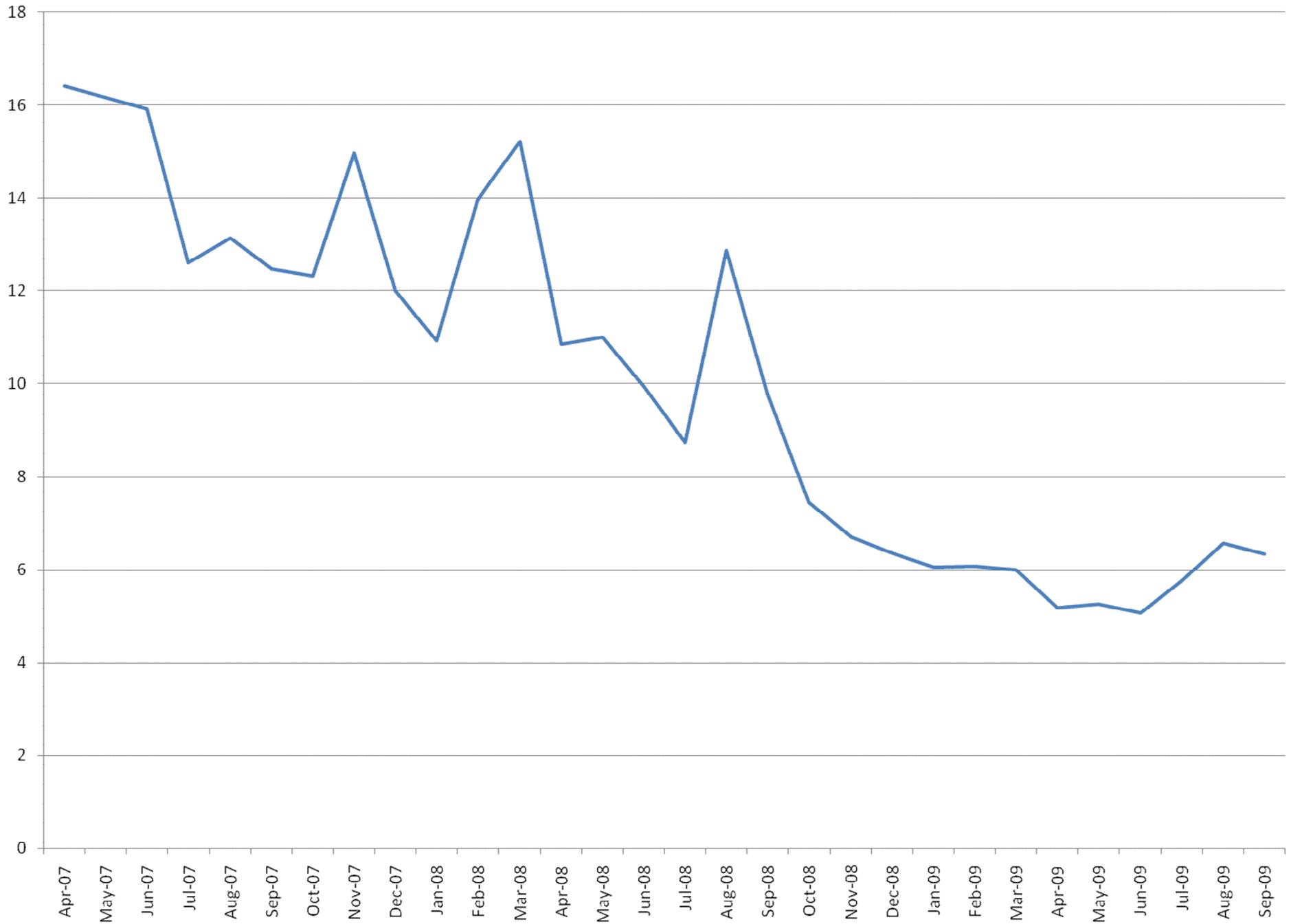
Handheld.nejm.org: Bounce Rates by Month-WW



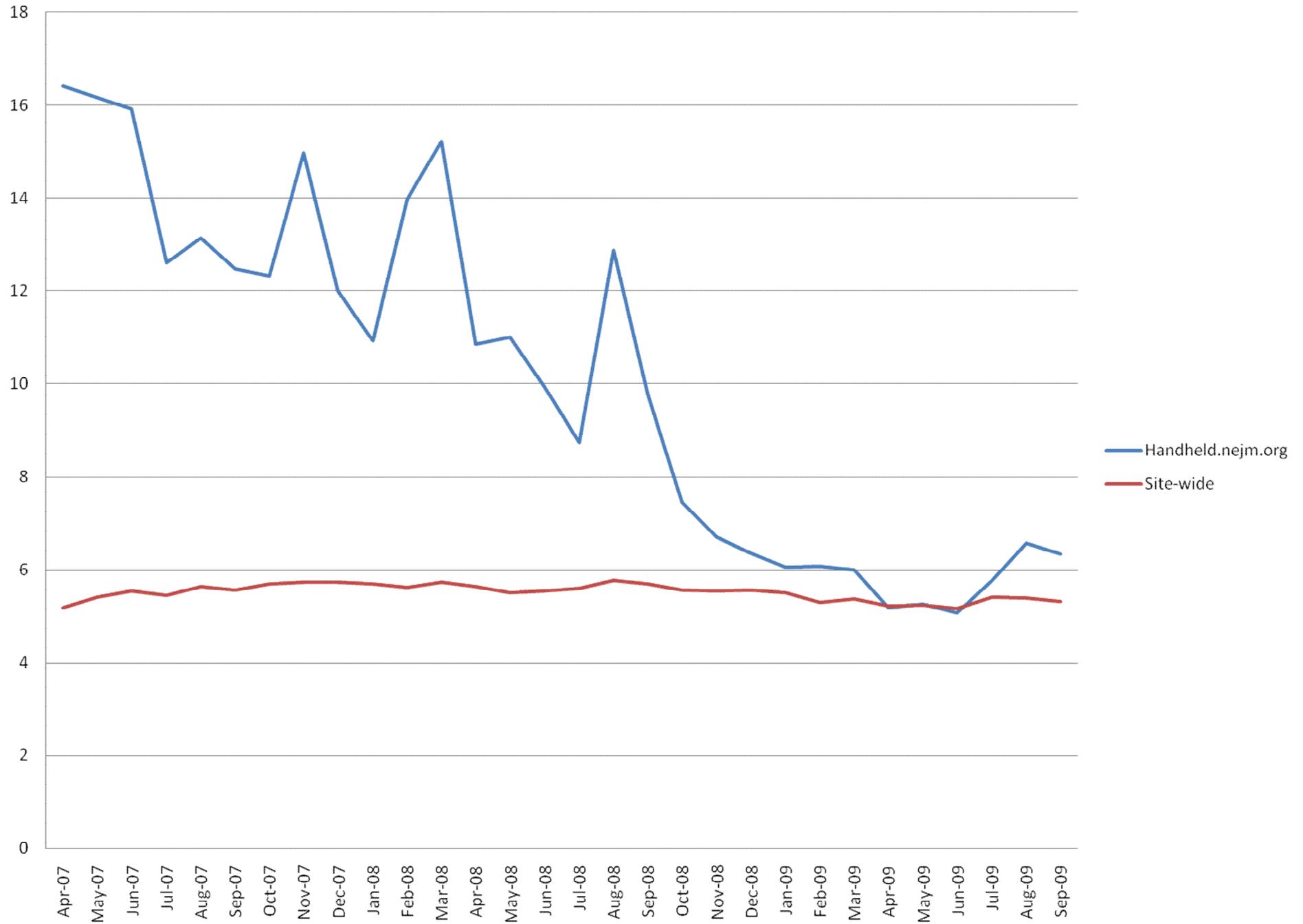
Handheld.nejm.org: Bounce Rates vs. Site-wide by Month-WW



Handheld.nejm.org: Avg Visit Duration (in Minutes) by Month-WW



Handheld.nejm.org: Avg Visit Duration (in Minutes) vs. Site-wide by Month-WW



Years of Success with Mobile

- PDB files still used moderately
- Handheld version still generating traffic
- However . . .



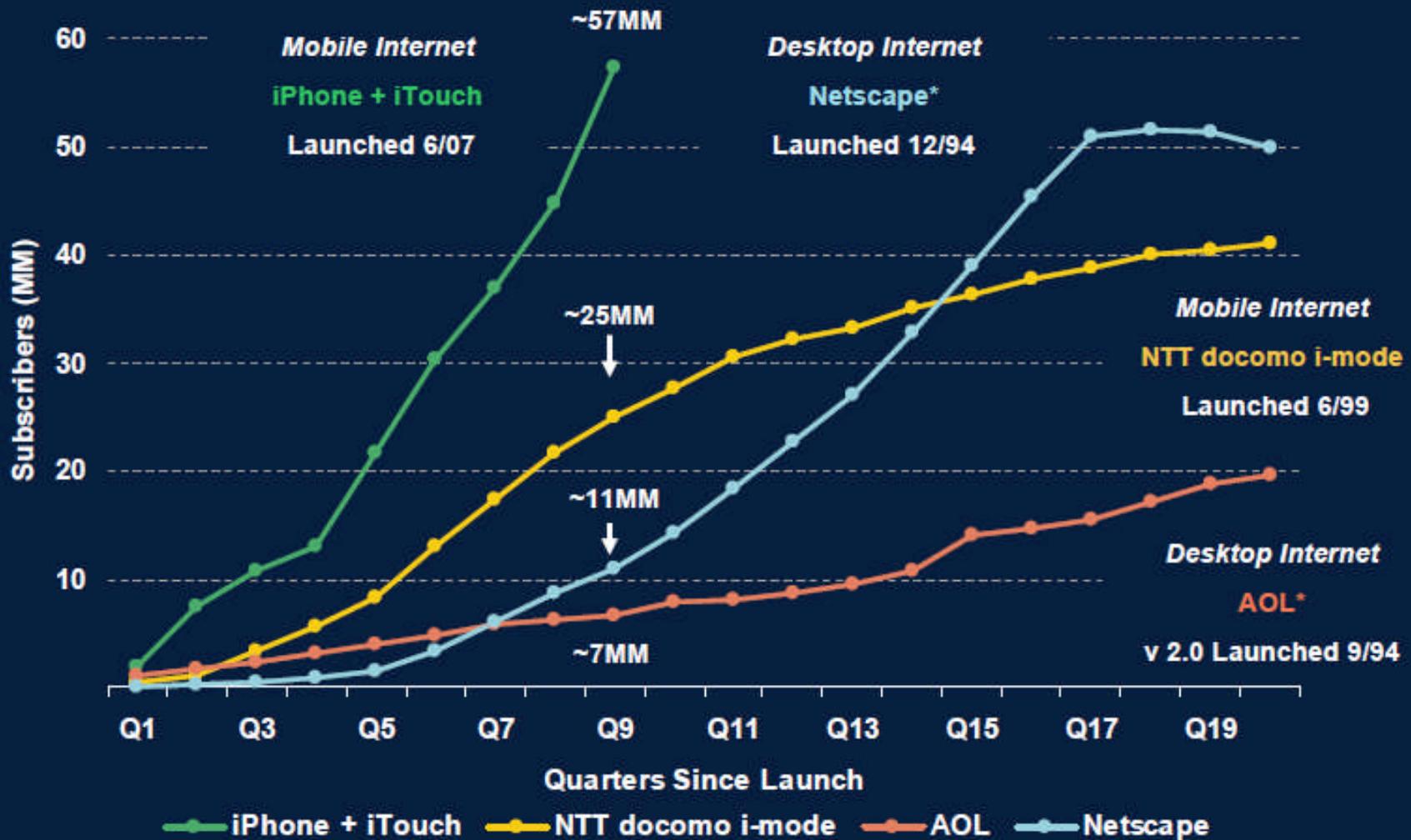
The iPhone

- Rapid adoption by physicians
 - Up to 25% of our readers have one
- Especially prevalent among younger physicians
 - Greater penetration, heavier use
- Suitable commercial models
- Great SDK

Mobile Internet Outpaces Desktop Internet Adoption

iPhone + iTouch Users = 8x AOL Users 8 Quarters After Launch

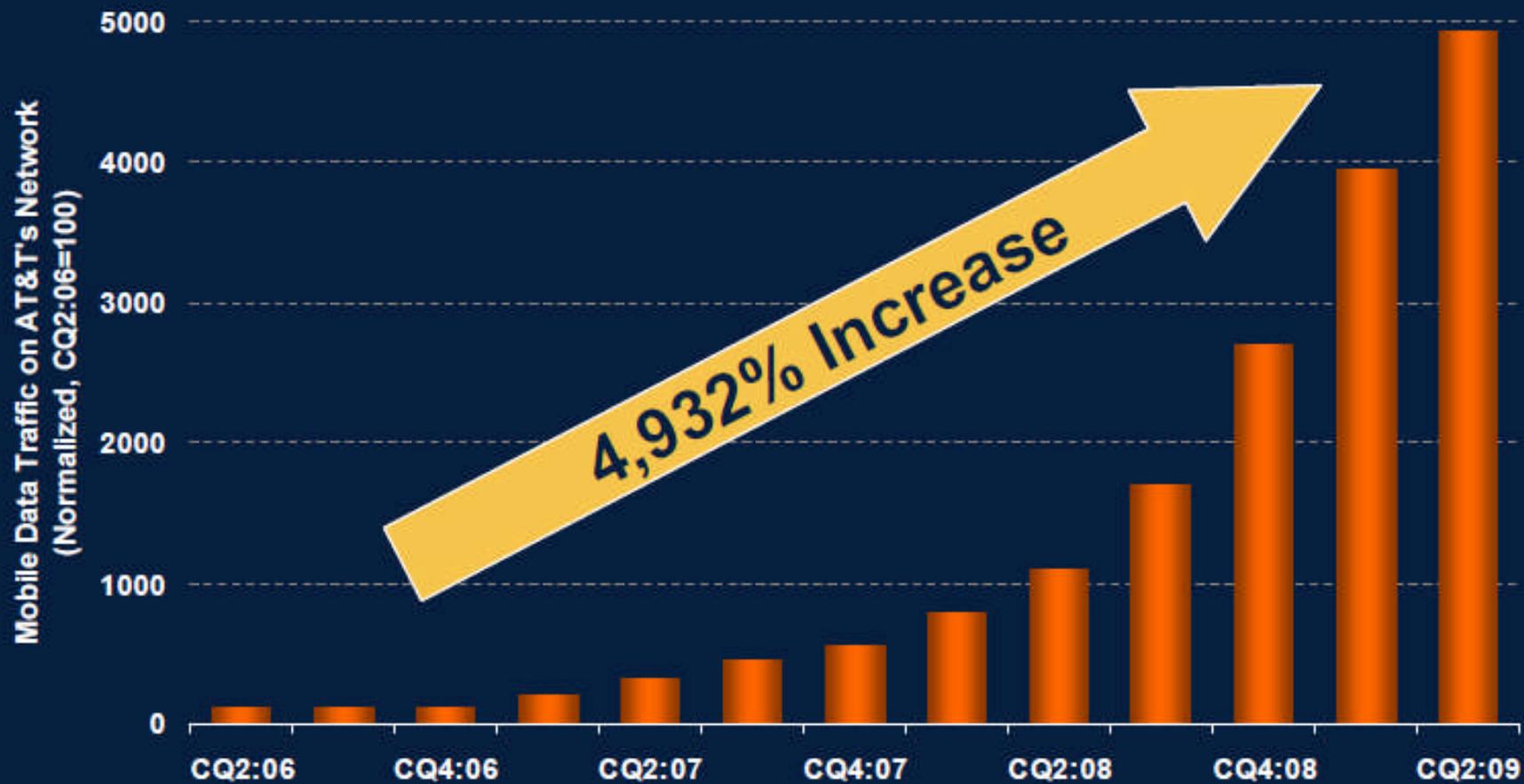
iPhone + iTouch vs. NTT docomo i-mode vs. Netscape vs. AOL Users
First 20 Quarters Since Launch



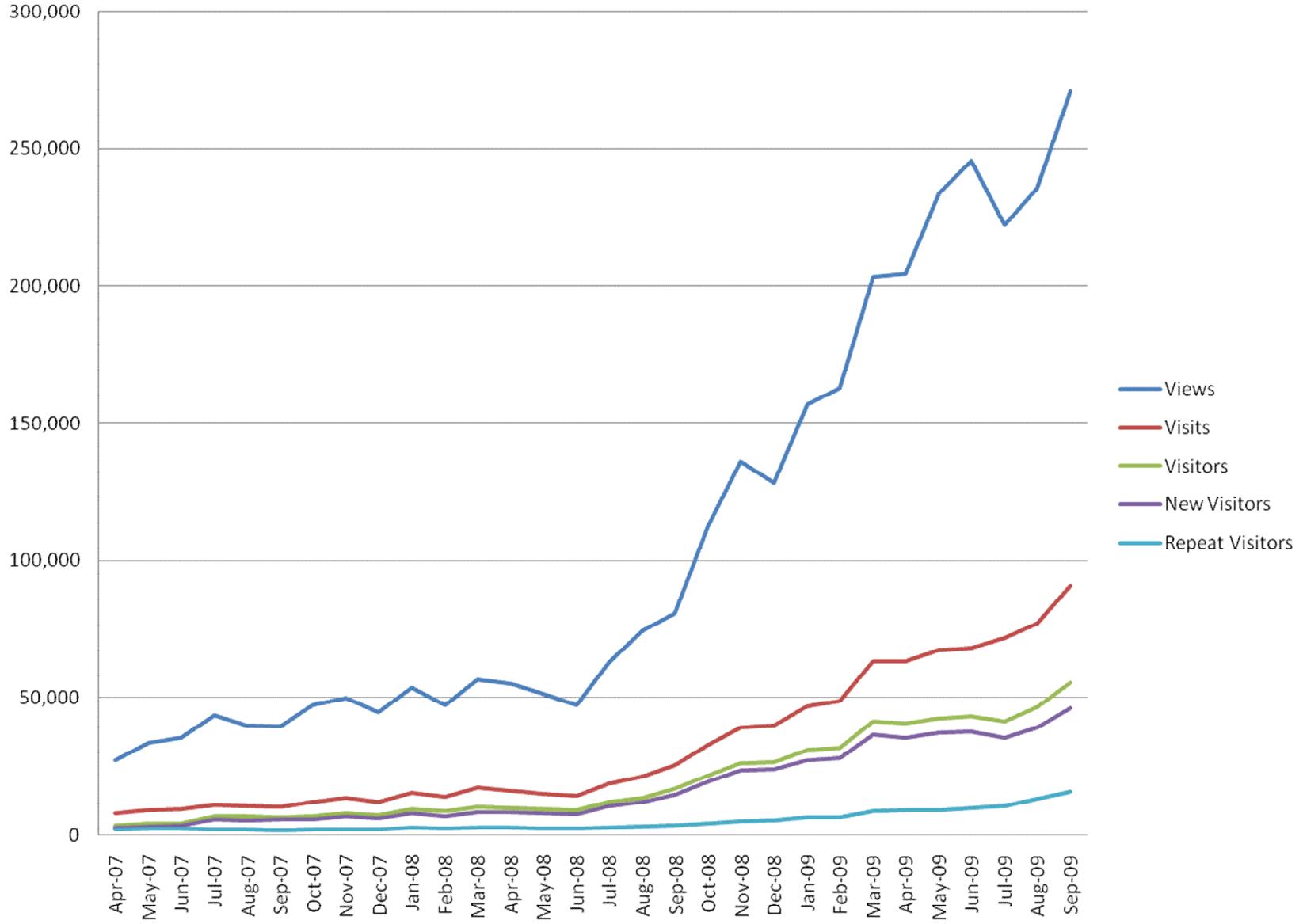
AT&T

50x Mobile Data Traffic Increase in Past 3 Years

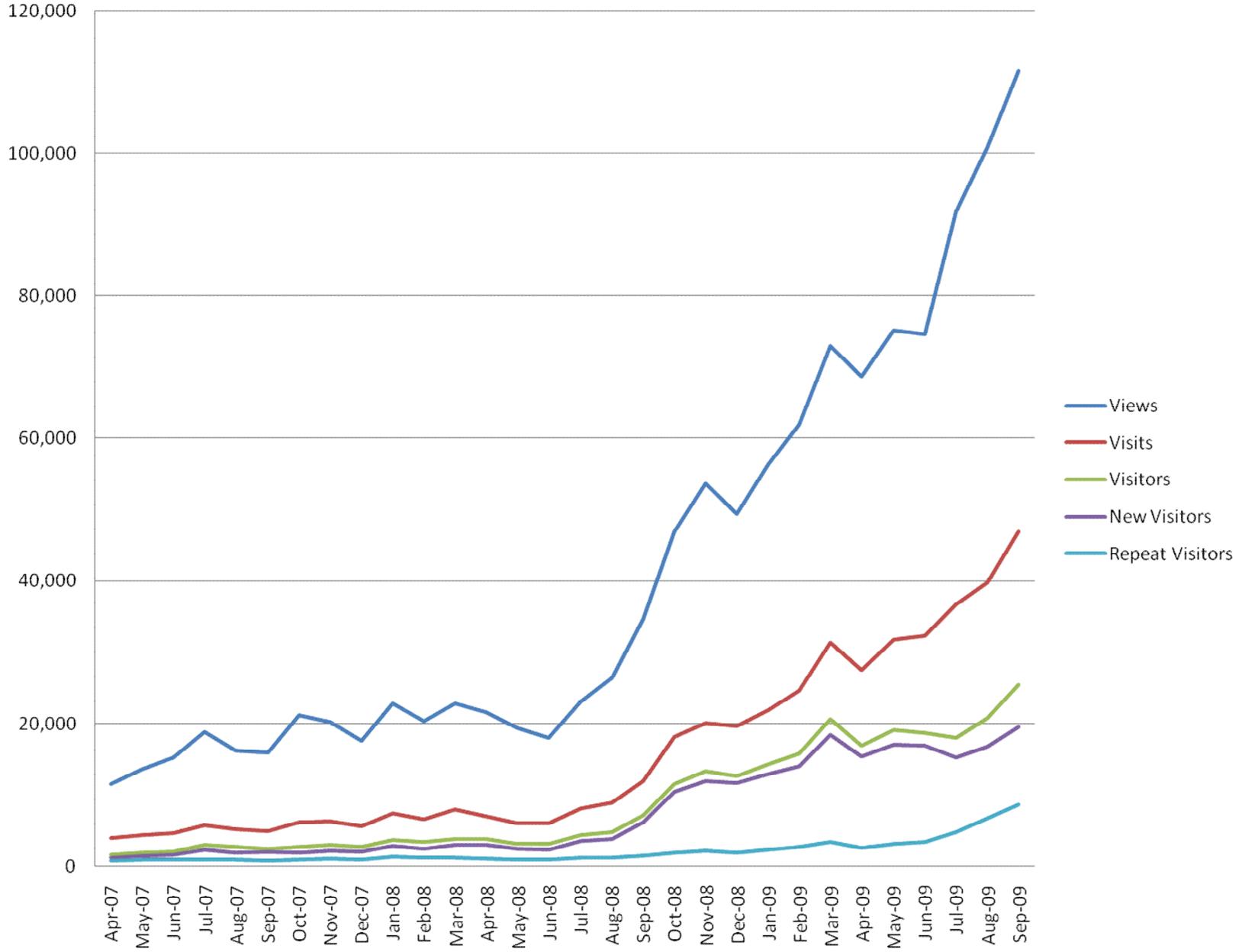
AT&T Mobile Data Traffic Growth, CQ2:06 – CQ2:09



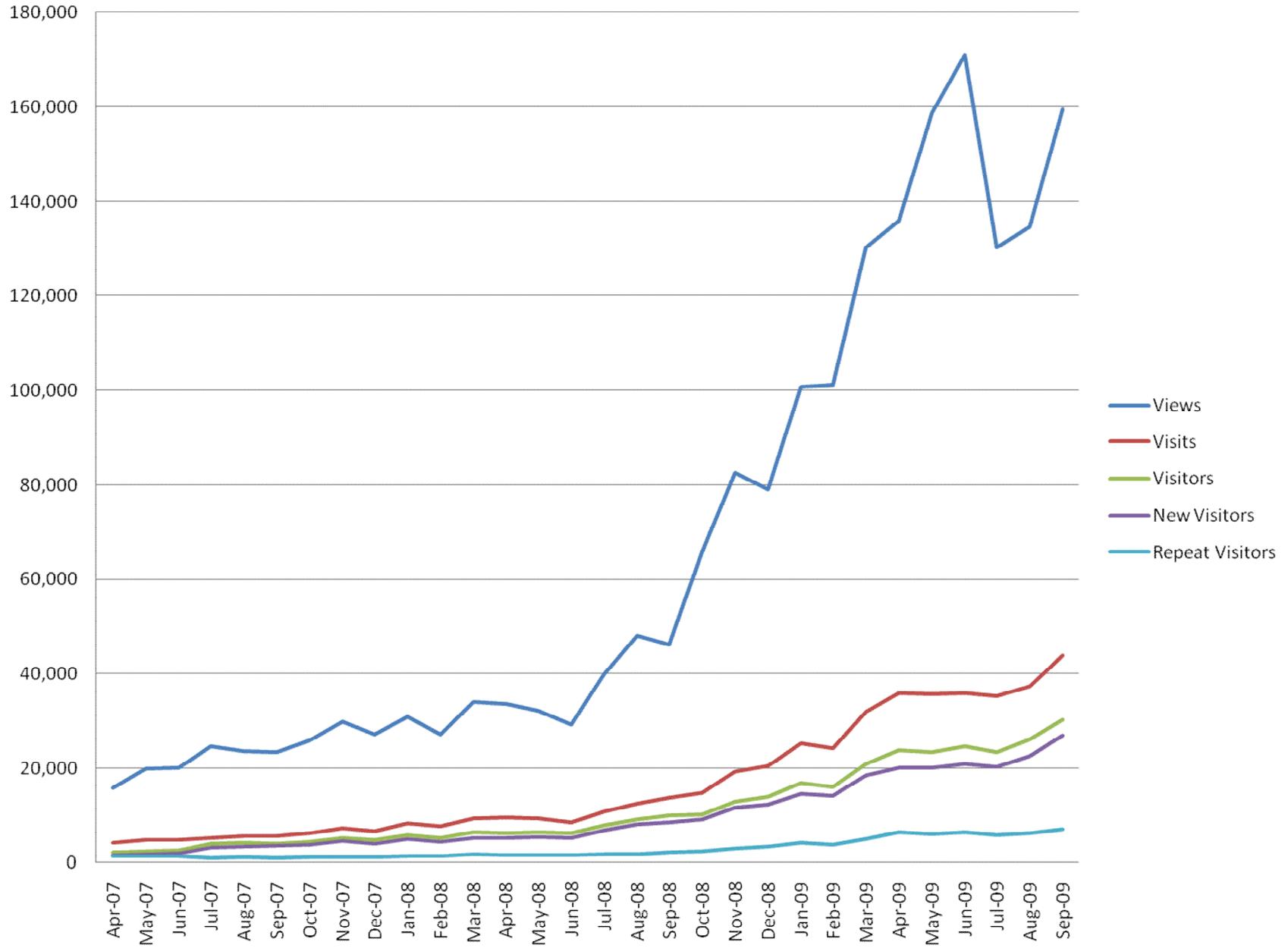
NEJM.org: Mobile Device Traffic by Month-WW



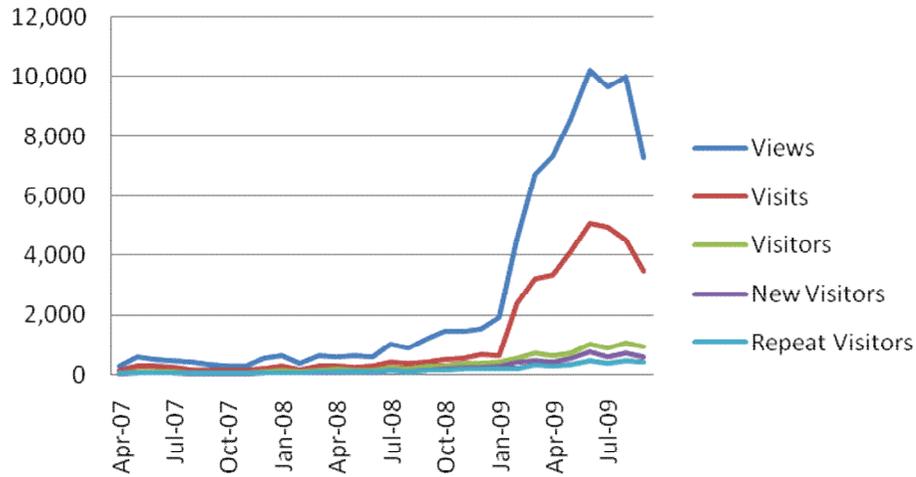
NEJM.org: Mobile Device Traffic by Month-US



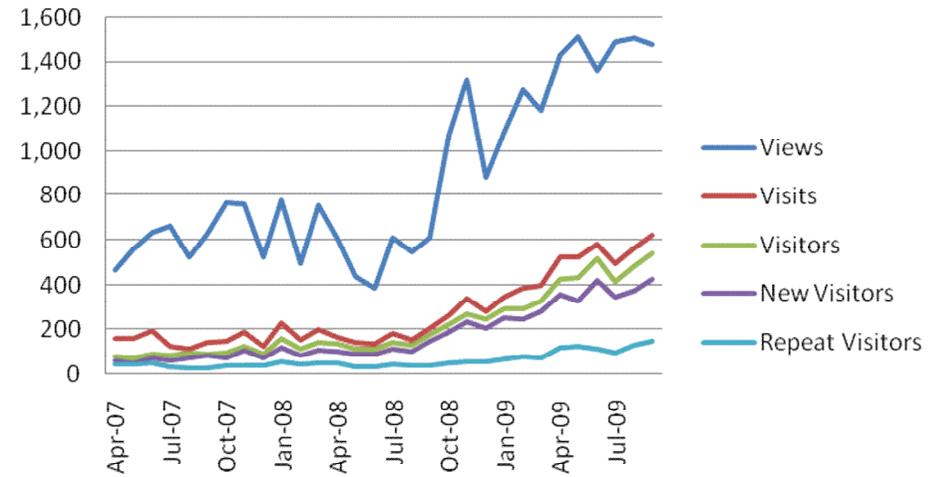
NEJM.org: Mobile Device Traffic by Month-Non-US



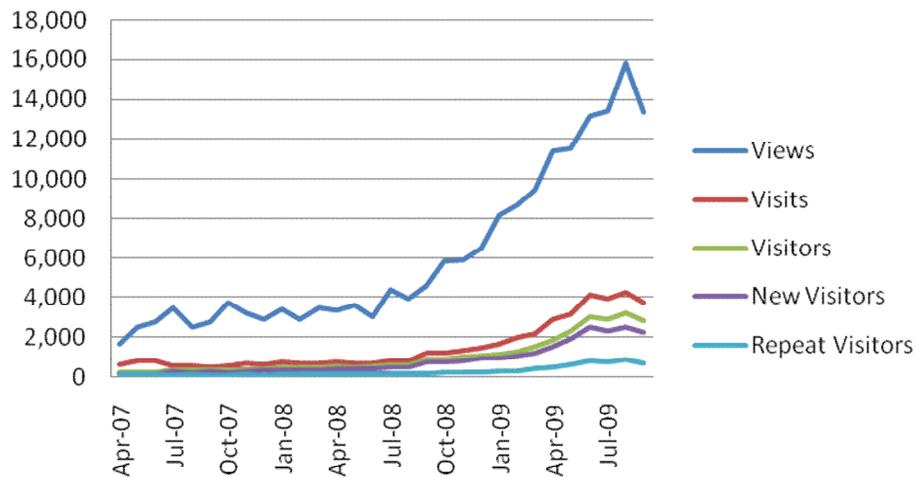
NEJM.org: Samsung Device Traffic by Month-WW



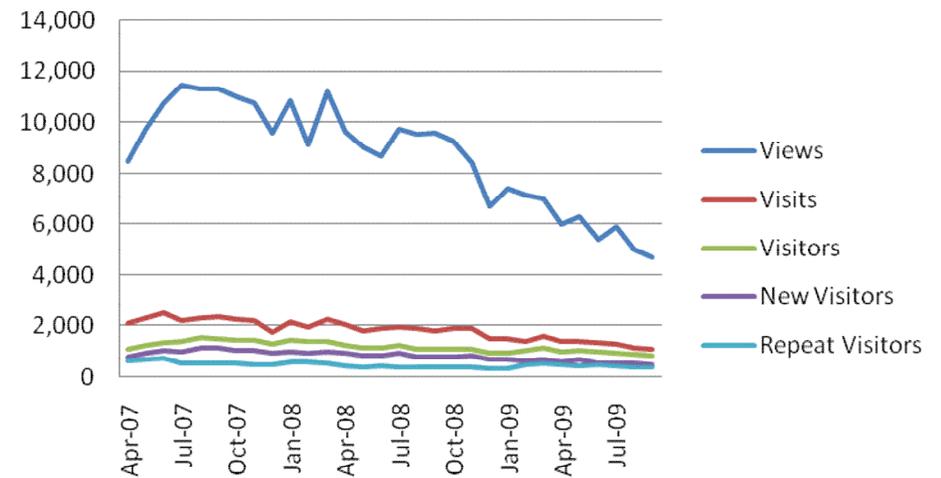
NEJM.org: SonyEricsson Device Traffic by Month-WW



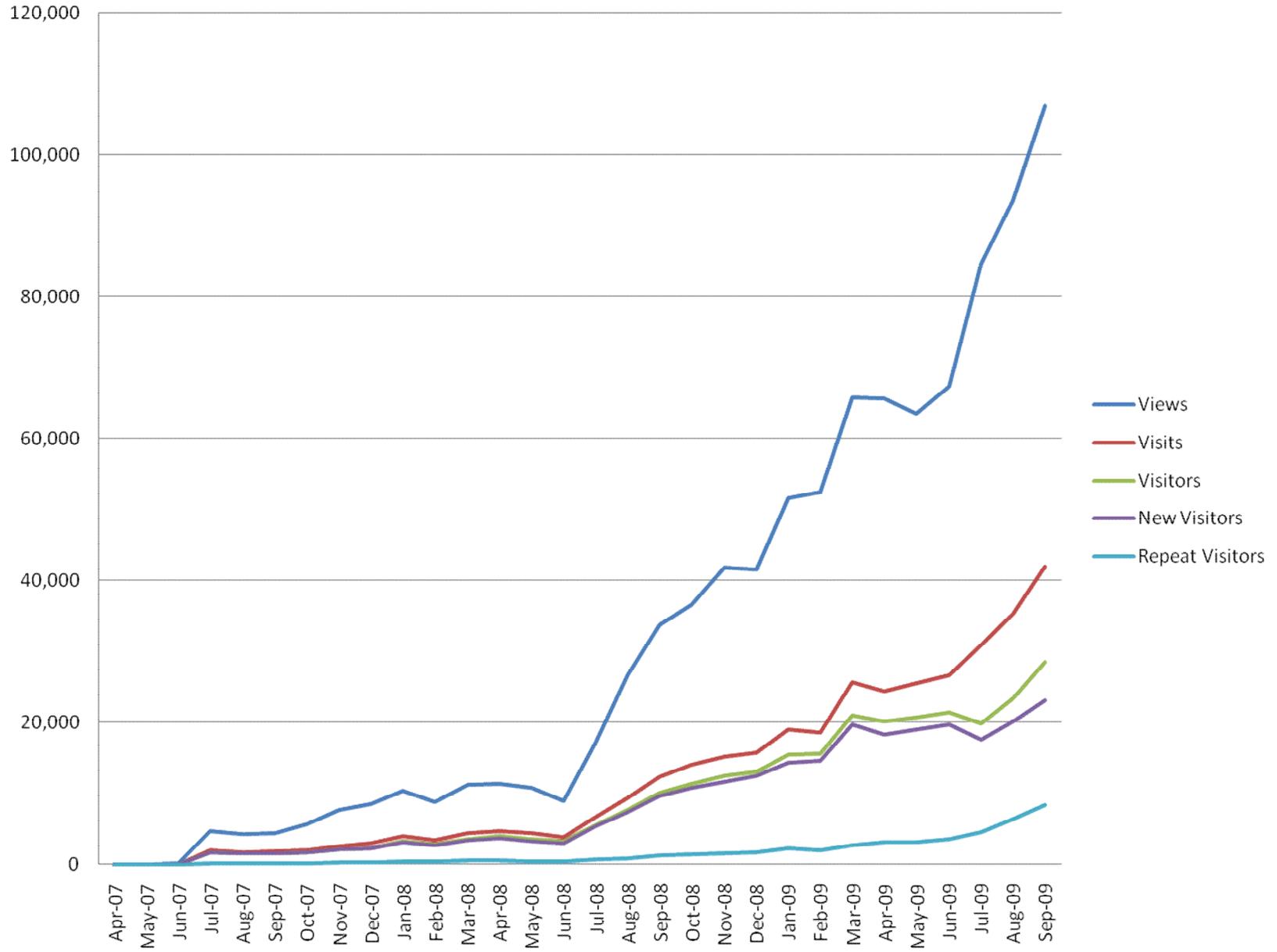
NEJM.org: Nokia Device Traffic by Month-WW



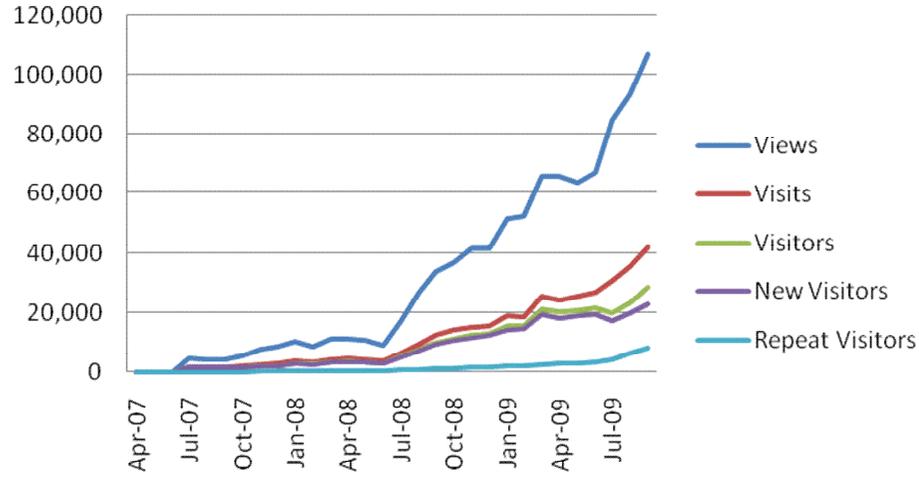
NEJM.org: Palm Device Traffic by Month-WW



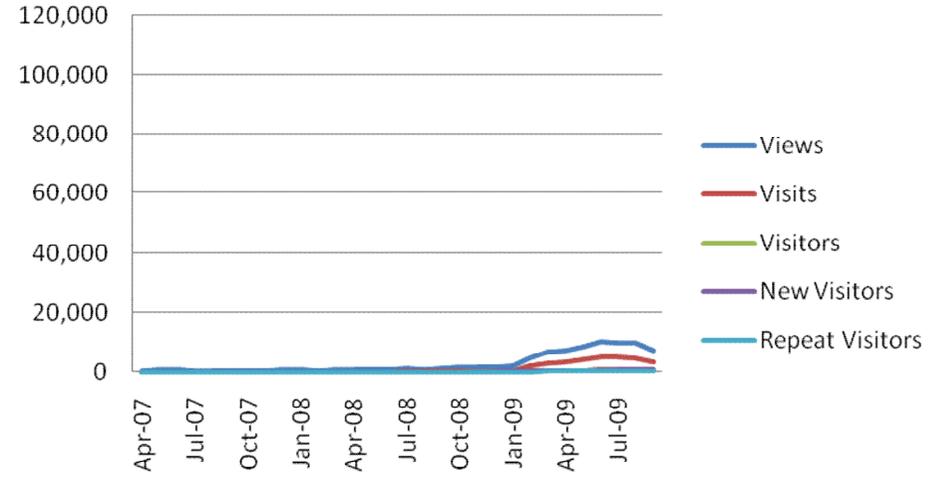
NEJM.org: iPhone Traffic by Month-WW



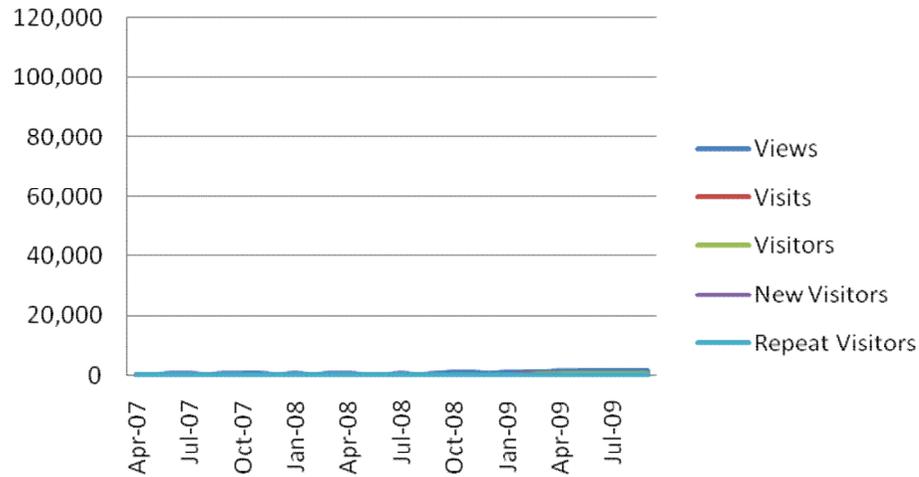
NEJM.org: iPhone Traffic by Month-WW



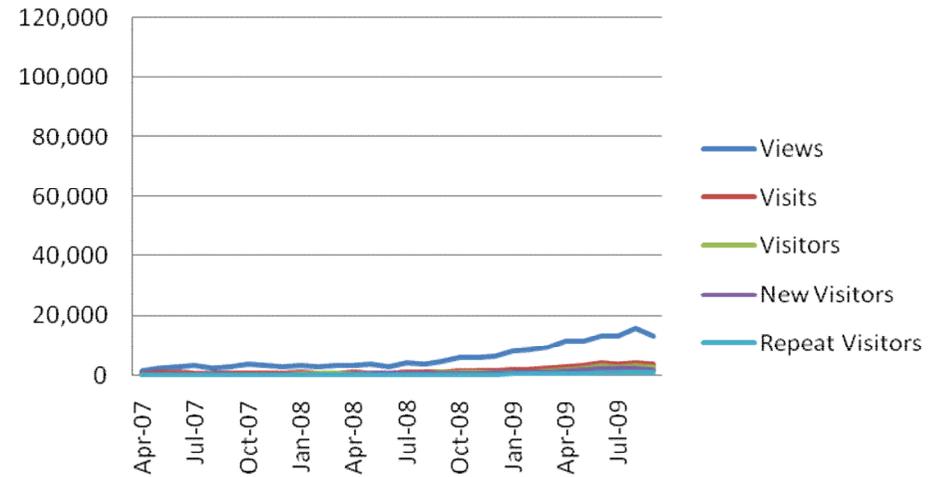
NEJM.org: Samsung Device Traffic by Month-WW



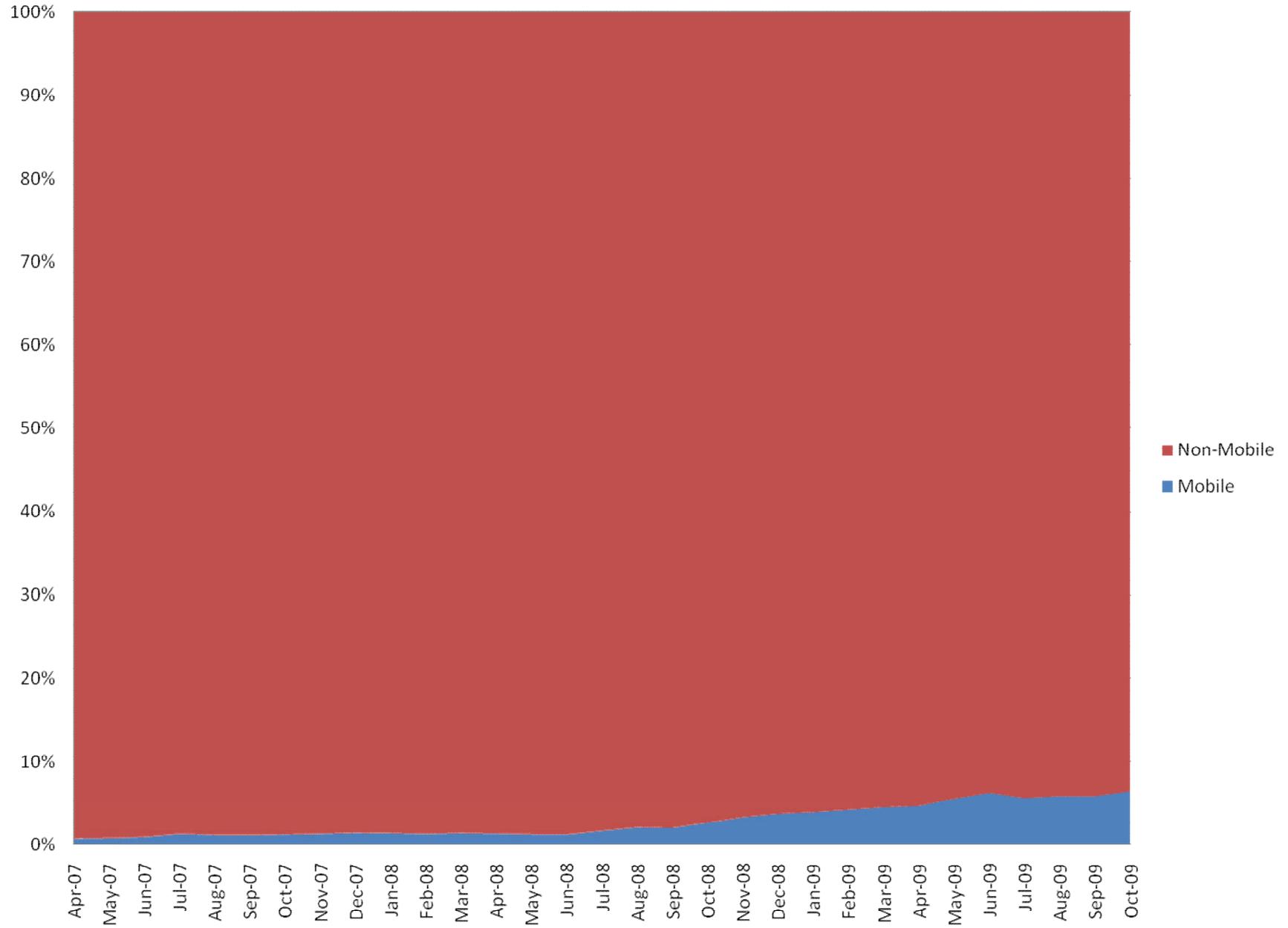
NEJM.org: SonyEricsson Device Traffic by Month-WW



NEJM.org: Nokia Device Traffic by Month-WW



NEJM.org: % Mobile vs. Non-Mobile Visits by Month-WW



Developing Two Applications

- **NEJM This Week**
 - Free, experimental
 - Want to test adoption, preferred functionality
 - Contains some interesting content options
- **NEJM Image Challenge**
 - Paid application
 - Putting a popular interactive feature into the iPhone environment

NEJM This Week



PERSPECTIVE



Health Care 2009: Great Expectations – The Obama Administration and Health Care Reform

ORIGINAL ARTICLES



Oral Prednisolone for Preschool Children with Acute Virus-Induced Wheezing

SPECIAL ARTICLES



Fine-Particulate Air Pollution and Life Expectancy in the United States

EDITORIALS





AT&T 12:15 PM

NEJM

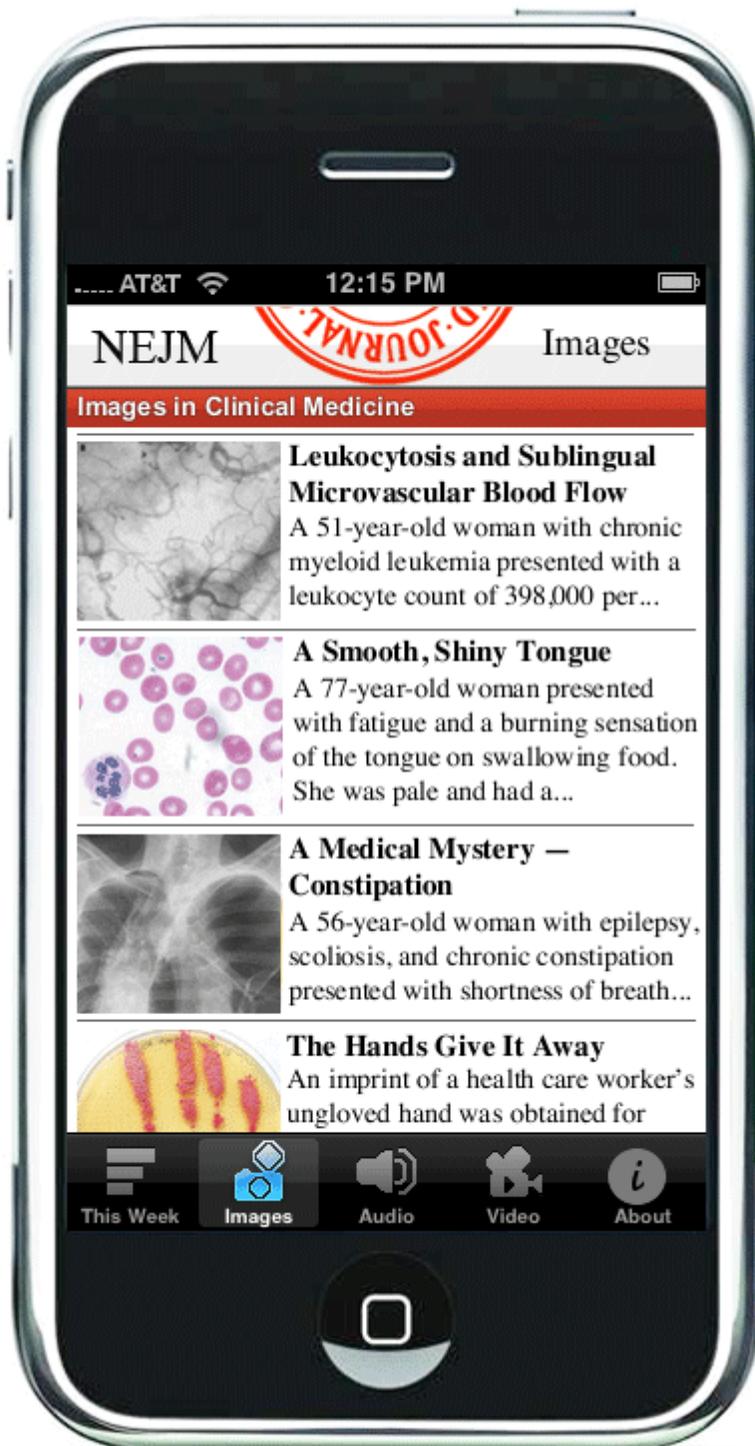


This Week

Fine-Particulate Air Pollution and Life Expectancy in the United States

*C. Arden Pope, III, Ph.D., Majid Ezzati, Ph.D.,
and Douglas W. Dockery, Sc.D.*

Since the 1970s, the United States has made substantial efforts and investments to improve air quality. As these efforts continue, a fundamental question remains: Do improvements in air quality result in measurable improvements in human health and longevity? Associations between long-term exposure to fine-particulate air pollution and mortality have human health and longevity? Associations between long-term exposure to fine-particulate air pollution and mortality have



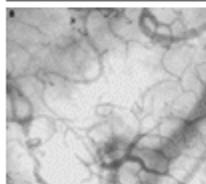
AT&T 12:15 PM

NEJM



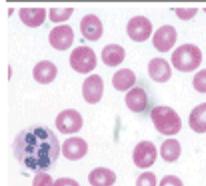
Images

Images in Clinical Medicine



Leukocytosis and Sublingual Microvascular Blood Flow

A 51-year-old woman with chronic myeloid leukemia presented with a leukocyte count of 398,000 per...



A Smooth, Shiny Tongue

A 77-year-old woman presented with fatigue and a burning sensation of the tongue on swallowing food. She was pale and had a...



A Medical Mystery — Constipation

A 56-year-old woman with epilepsy, scoliosis, and chronic constipation presented with shortness of breath...

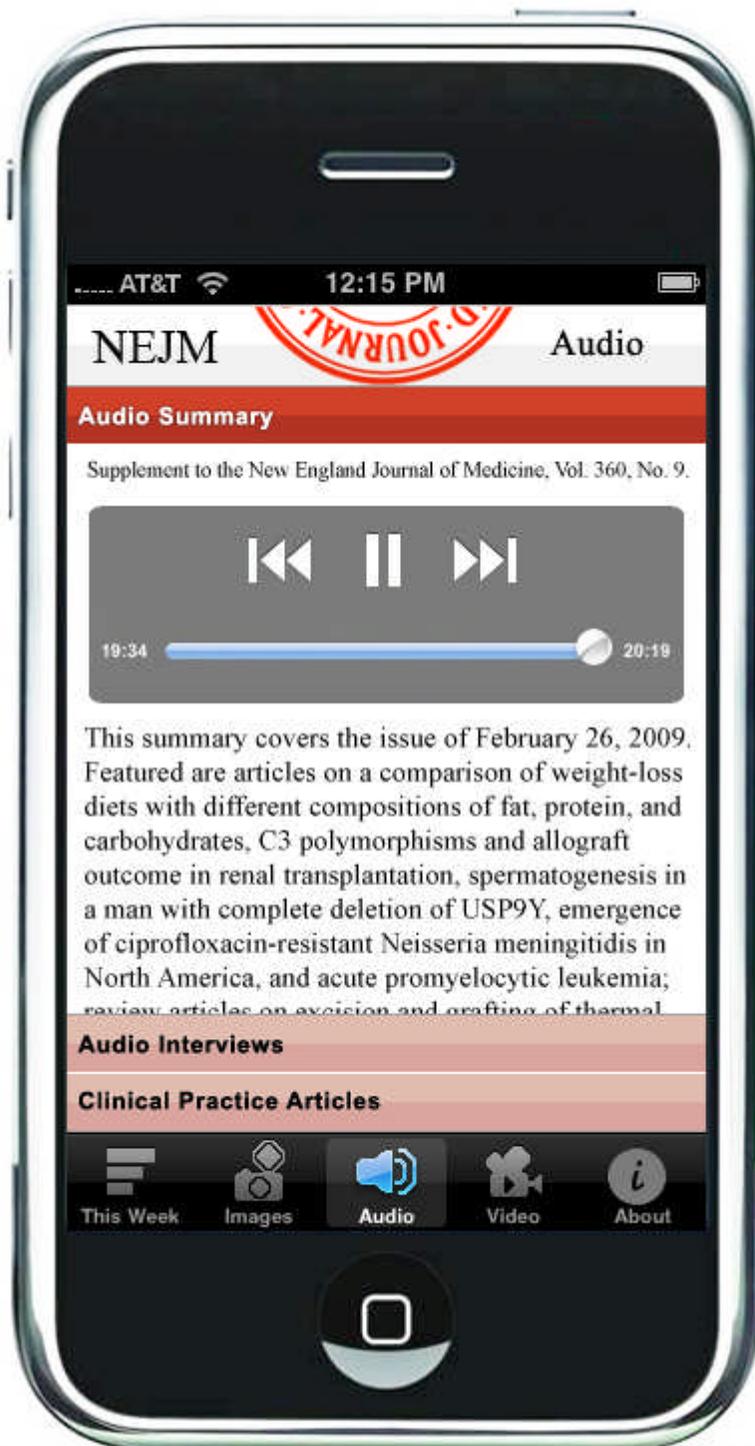


The Hands Give It Away

An imprint of a health care worker's ungloved hand was obtained for

This Week Images Audio Video About





AT&T 12:15 PM

NEJM



Audio

Audio Summary

Supplement to the New England Journal of Medicine, Vol. 360, No. 9.

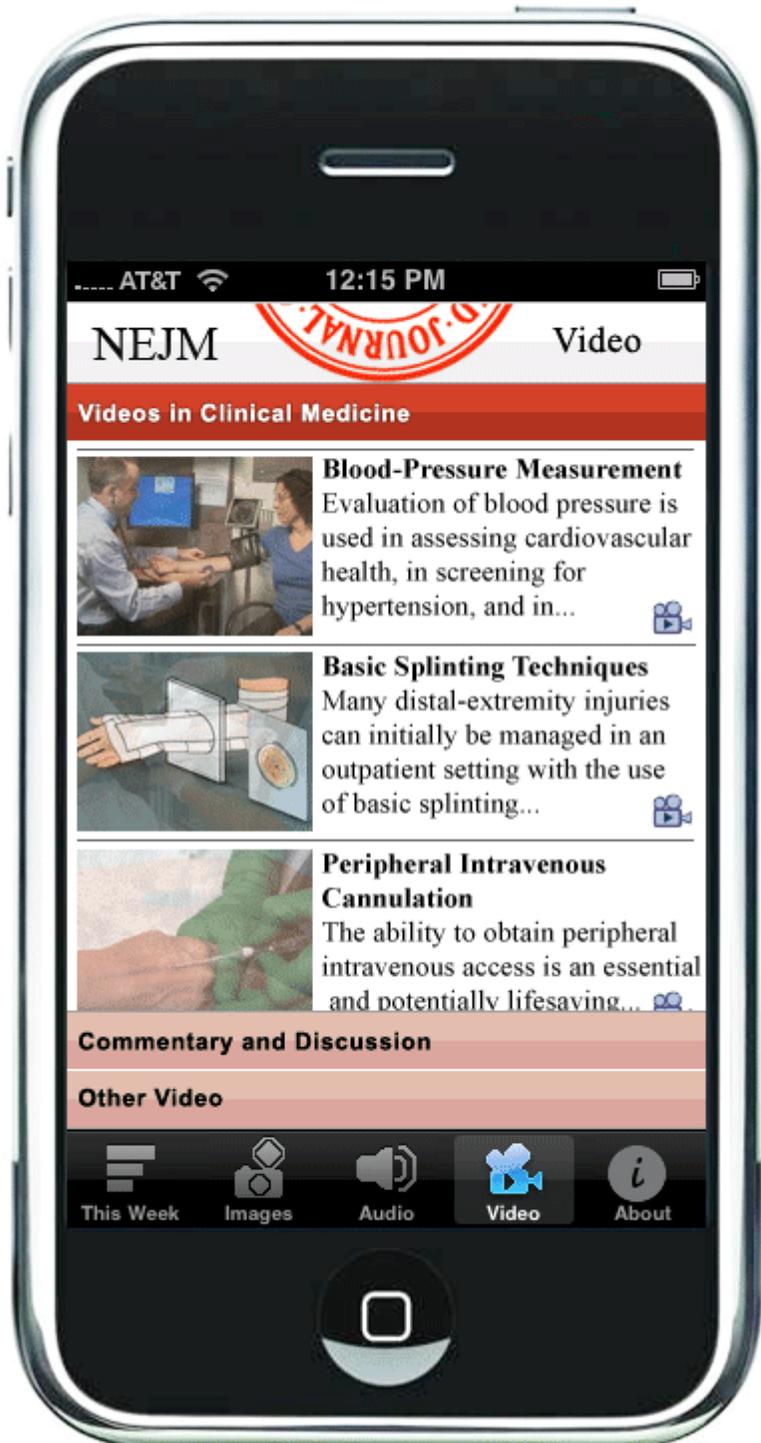
Audio player controls including a play button and a progress bar showing 19:34 / 20:19.

This summary covers the issue of February 26, 2009. Featured are articles on a comparison of weight-loss diets with different compositions of fat, protein, and carbohydrates, C3 polymorphisms and allograft outcome in renal transplantation, spermatogenesis in a man with complete deletion of USP9Y, emergence of ciprofloxacin-resistant *Neisseria meningitidis* in North America, and acute promyelocytic leukemia; review articles on excision and grafting of thermal

Audio Interviews

Clinical Practice Articles

- This Week
- Images
- Audio
- Video
- About



AT&T 12:15 PM

NEJM

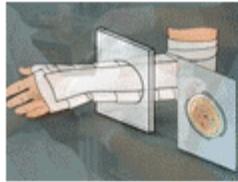


Video

Videos in Clinical Medicine



Blood-Pressure Measurement
Evaluation of blood pressure is used in assessing cardiovascular health, in screening for hypertension, and in...



Basic Splinting Techniques
Many distal-extremity injuries can initially be managed in an outpatient setting with the use of basic splinting...



Peripheral Intravenous Cannulation
The ability to obtain peripheral intravenous access is an essential and potentially lifesaving...



Commentary and Discussion

Other Video

This Week

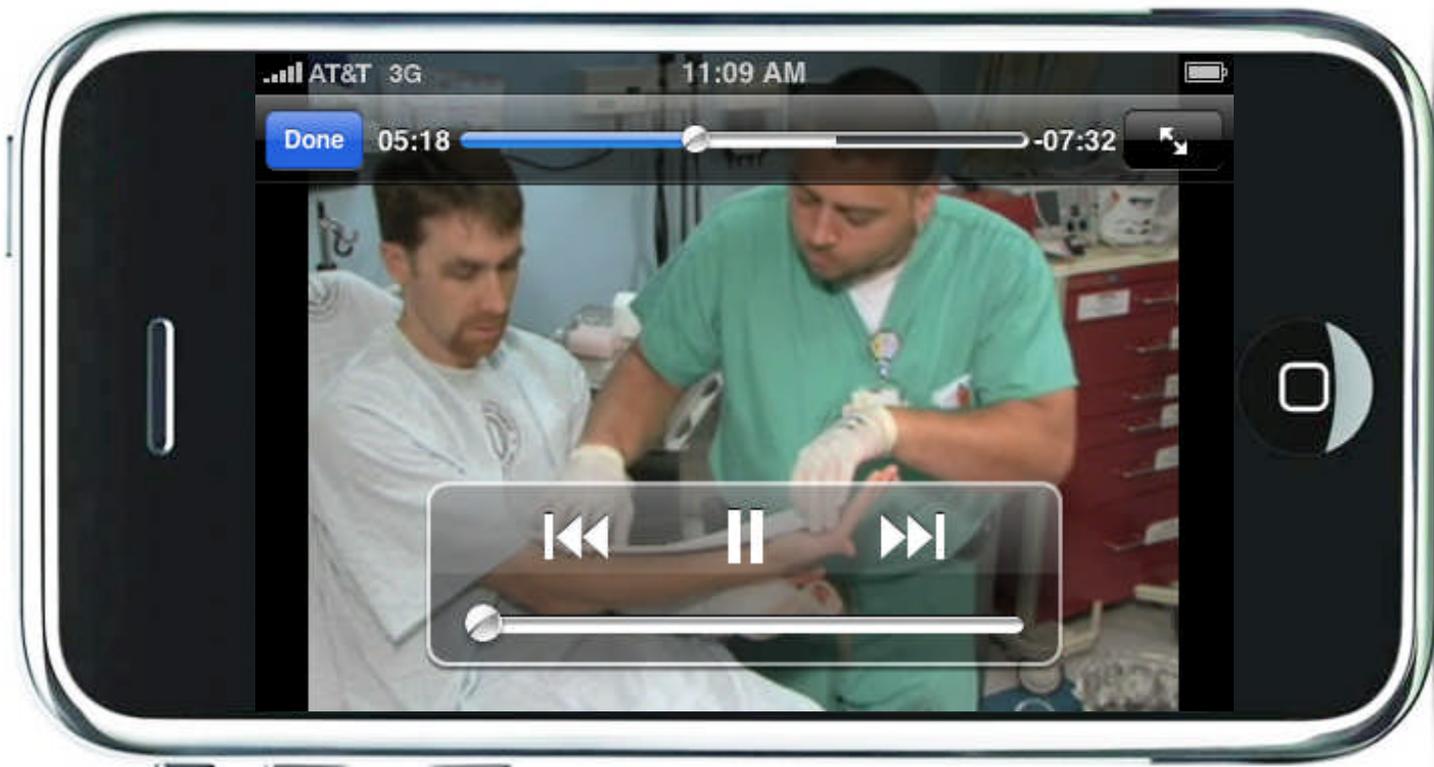
Images

Audio

Video

About







AT&T 12:15 PM

NEJM



Settings

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Stay Logged In ON

Font Size



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- This Week
- Images
- Audio
- Video
- About

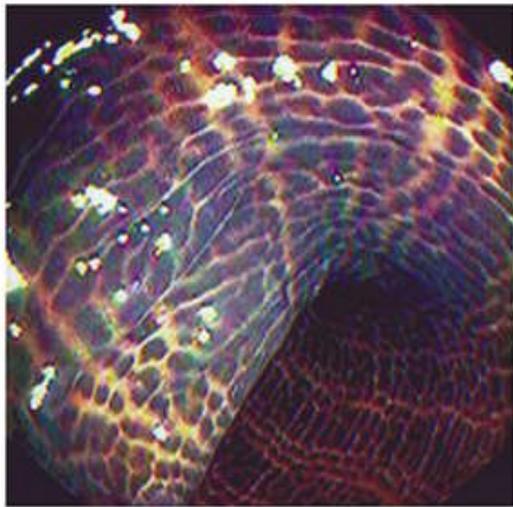


NEJM Image Challenge



> 10 Million responses since October 2005

NEJM IMAGE CHALLENGE



QUESTION:

This appearance was noticed during routine colonoscopy. What is the diagnosis?

- 1. Addison's disease
- 2. Hemochromatosis
- 3. Laxative use
- 4. Metastatic melanoma
- 5. von Hippel-Lindau disease

CHECK ANSWER

How Others Chose

Third most-traffic for a domain URL (after home page and search)

Popular with younger physicians, physicians-in-training

Famous as an NEJM-only feature

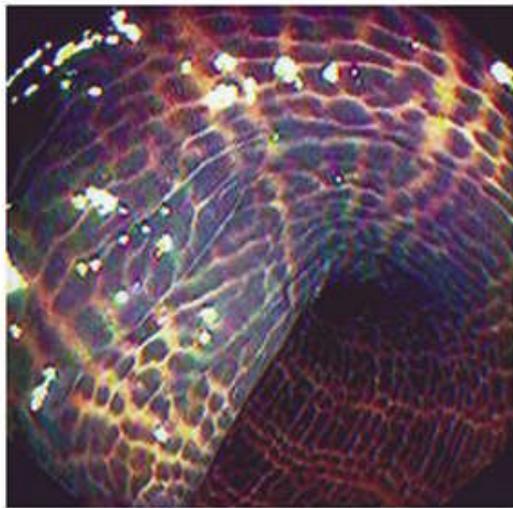
Fun! Interactive!!

NEJM IMAGE CHALLENGE GALLERY



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NEJM IMAGE CHALLENGE

[Get PowerPoint](#)

QUESTION:

This appearance was noticed during routine colonoscopy. What is the diagnosis?

- 1. Addison's disease
- 2. Hemochromatosis
- 3. Laxative use
- 4. Metastatic melanoma
- 5. von Hippel-Lindau disease

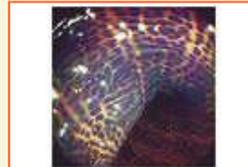
(38486 total responses)

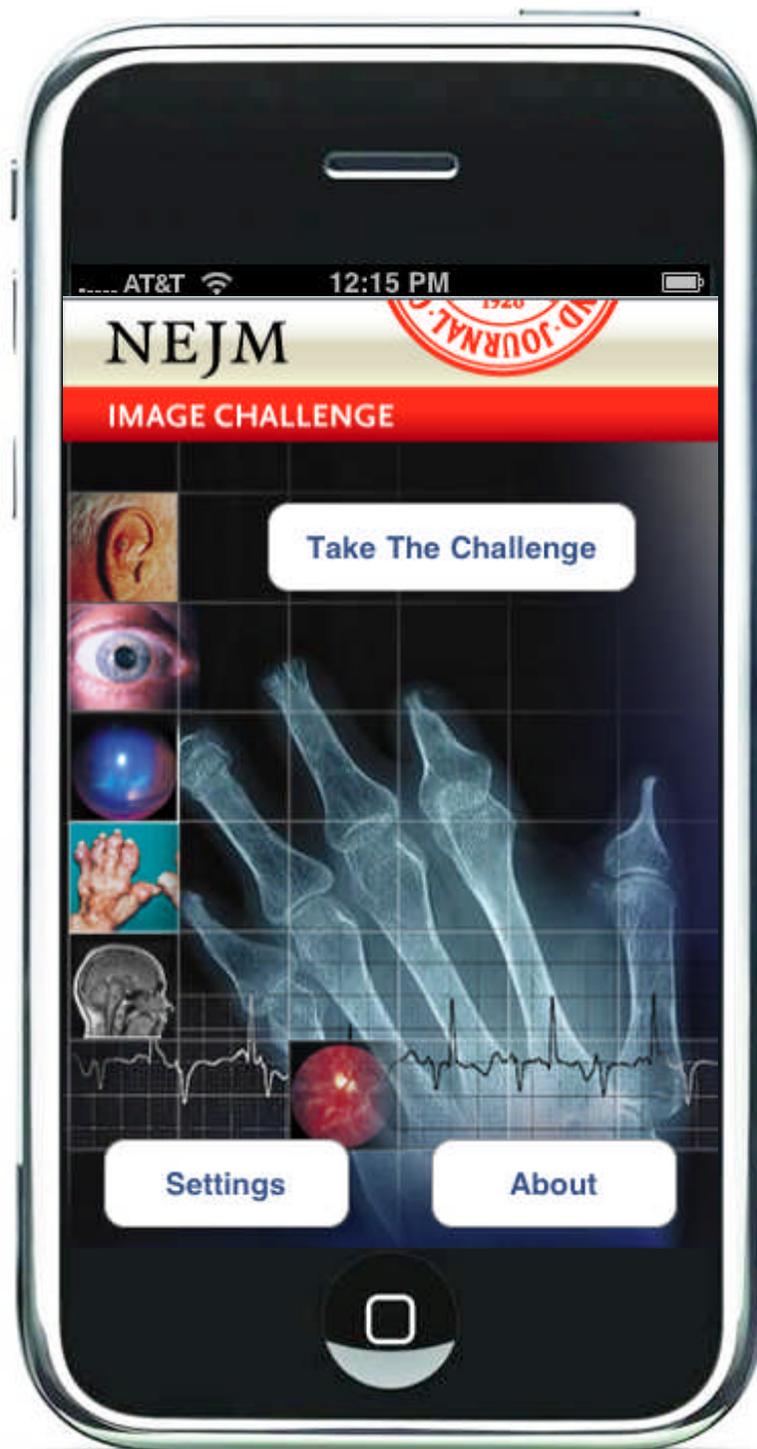
[CHECK ANSWER](#)[How Others Chose](#)

ANSWER:

[▶ Take Another Challenge](#)[▶ About Image Challenge](#)[▶ Notify A Friend](#)[▶ Feedback](#)

NEJM IMAGE CHALLENGE GALLERY





NEJM

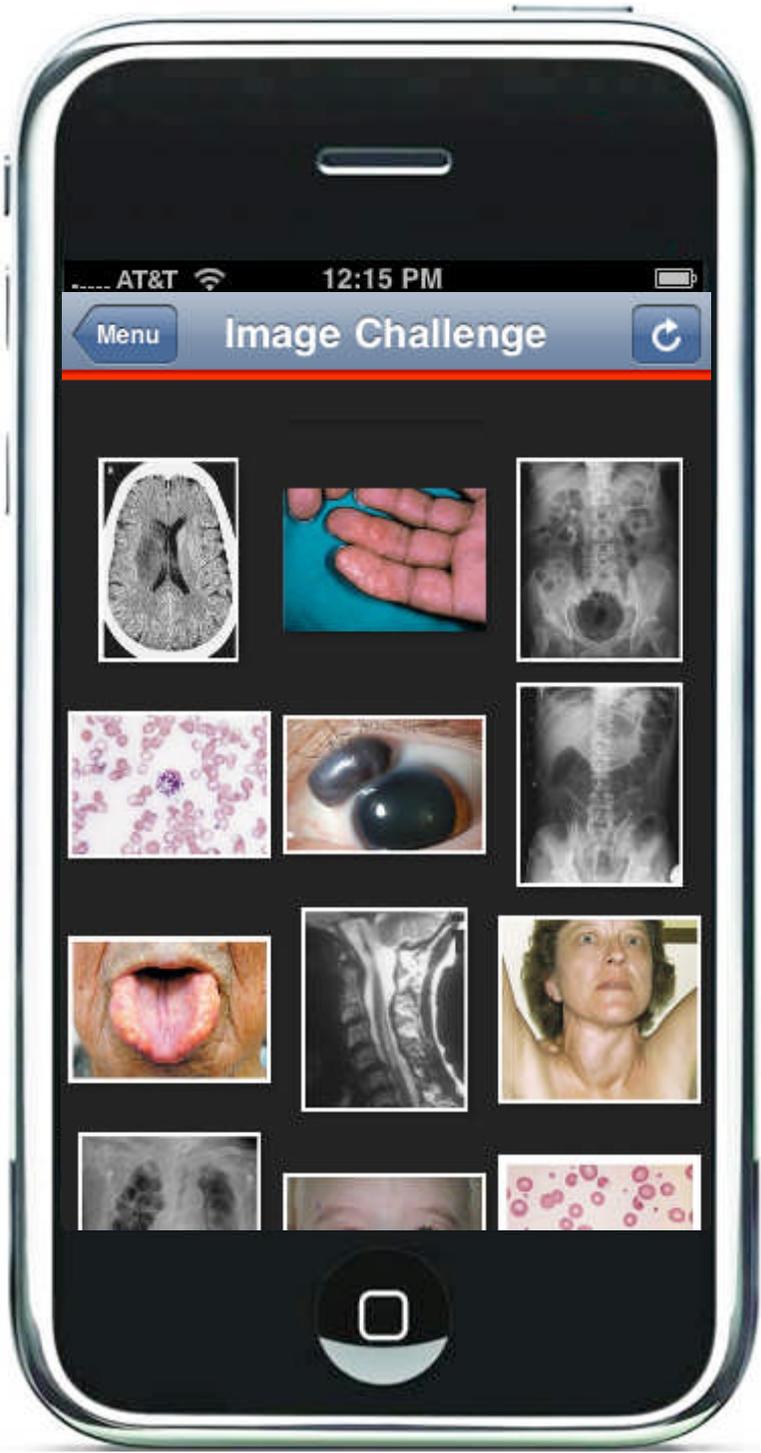


IMAGE CHALLENGE

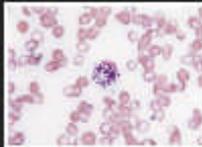
Take The Challenge

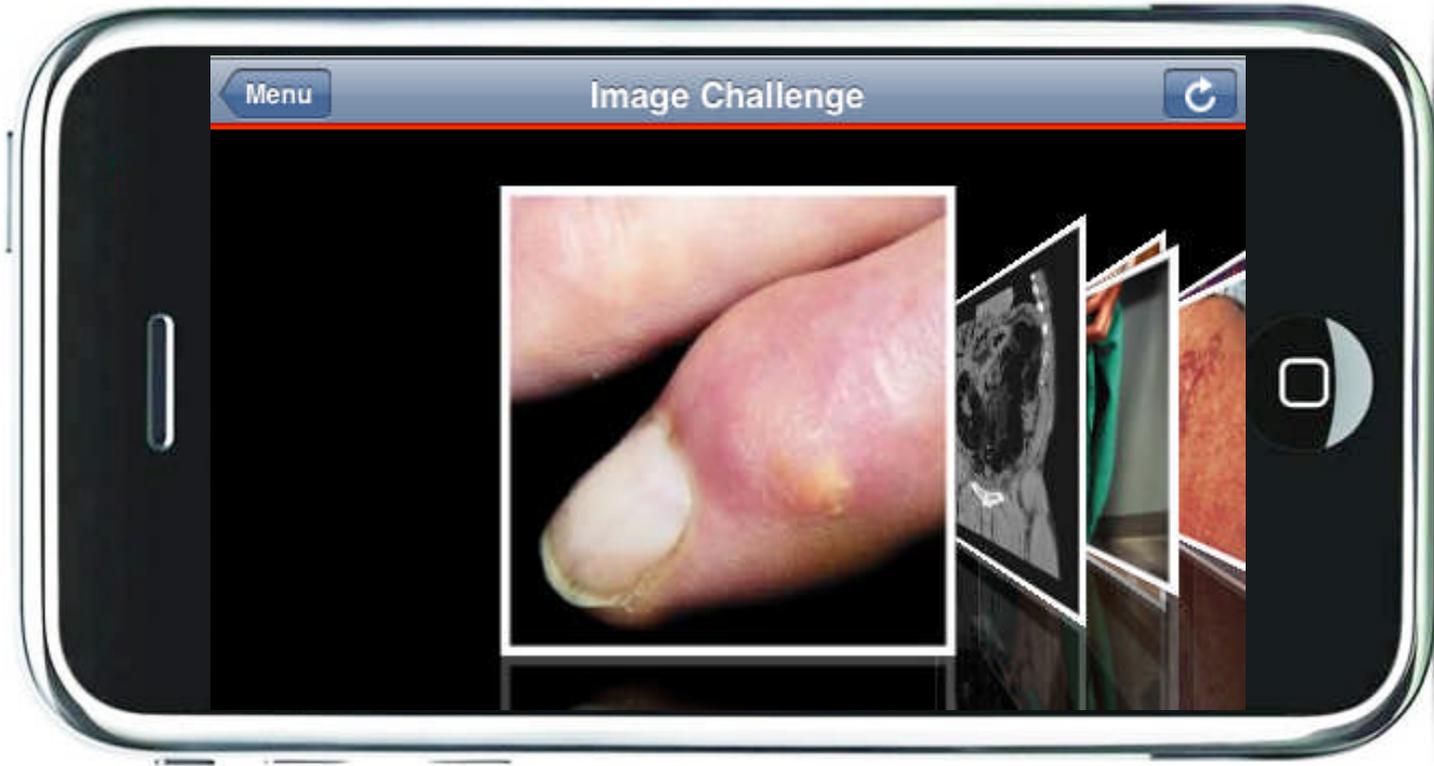
Settings

About



AT&T 12:15 PM
Menu Image Challenge









iPod



9:11 AM



Menu

About



The **NEW ENGLAND**
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The New England Journal of Medicine features some of the most compelling medical graphics and illustrations found anywhere. The Image Challenge provides an opportunity for you to use these images to test your diagnostic and visual skills.

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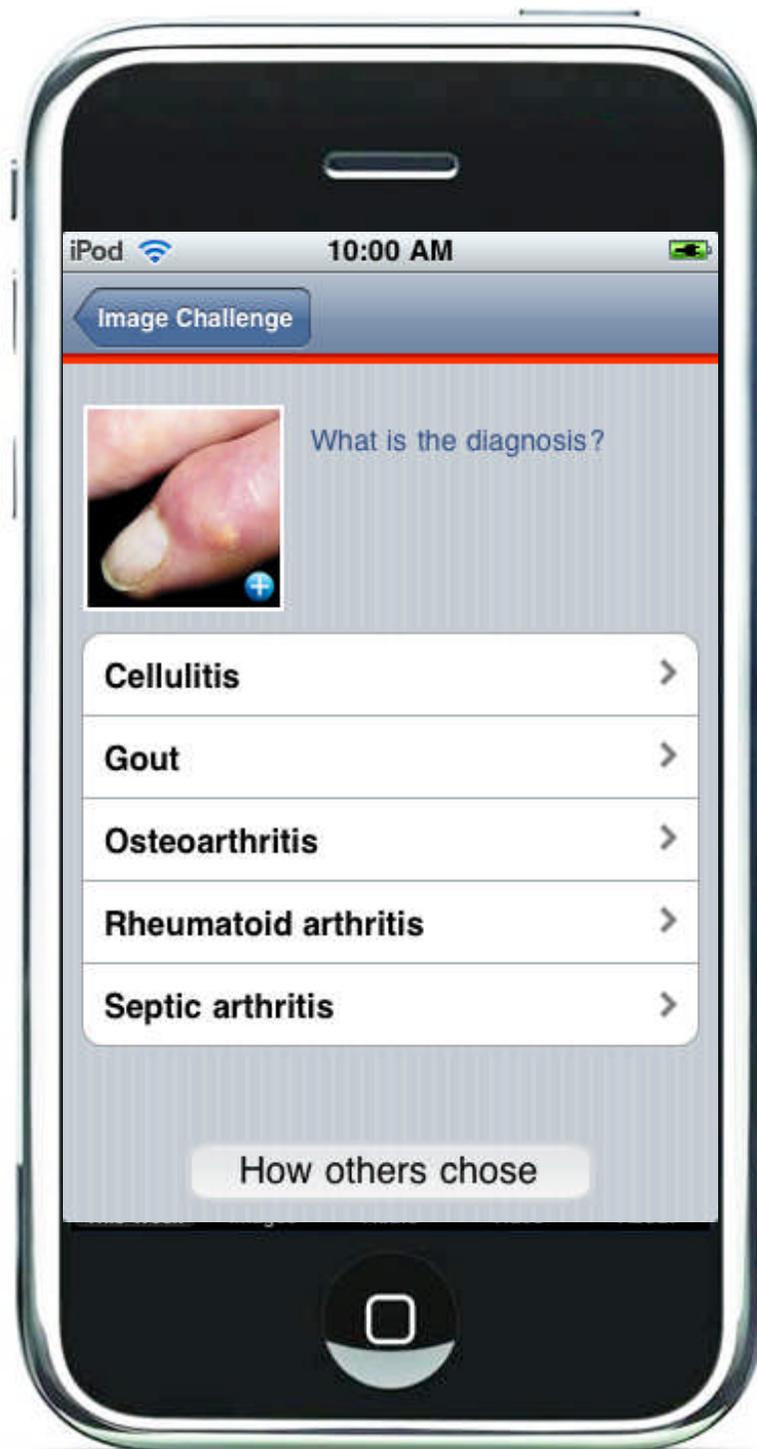


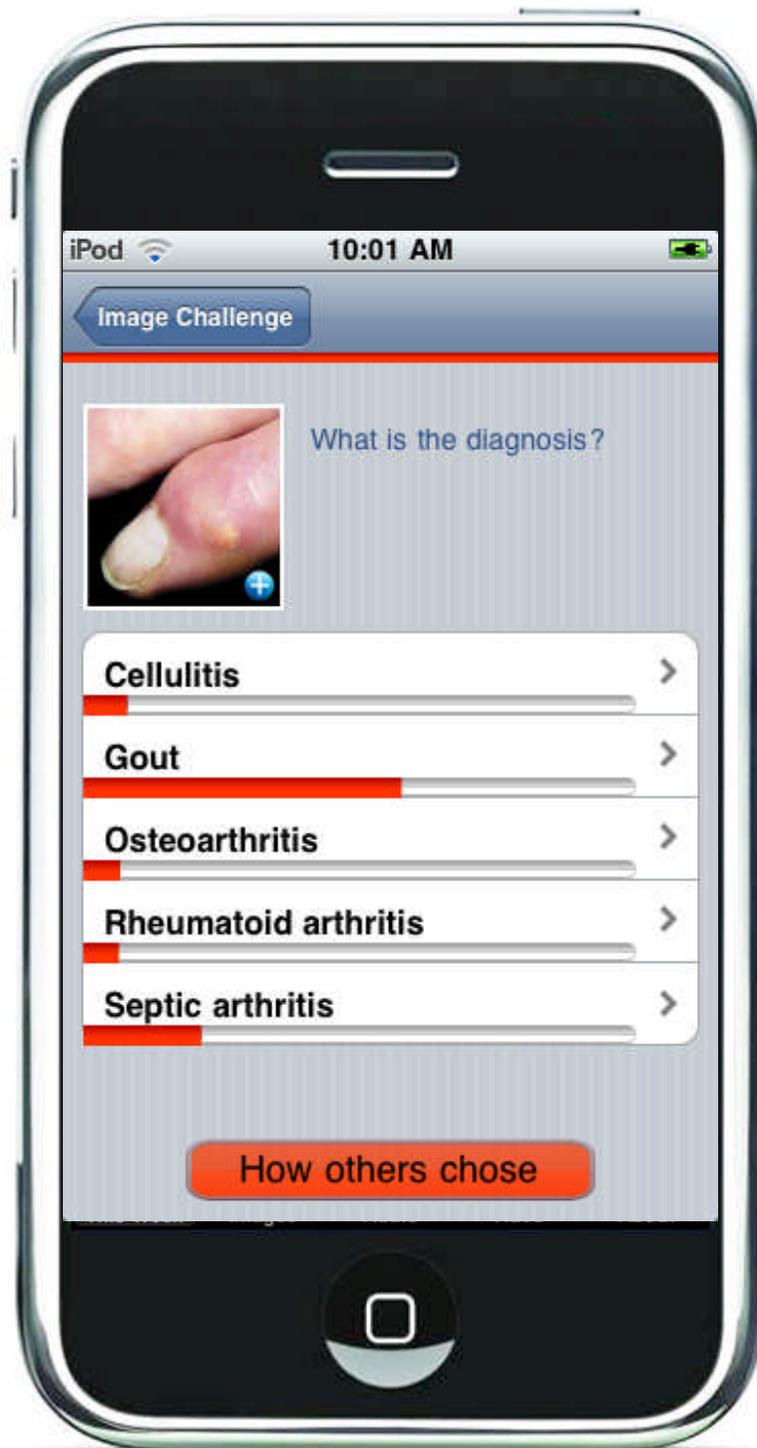
Image Challenge

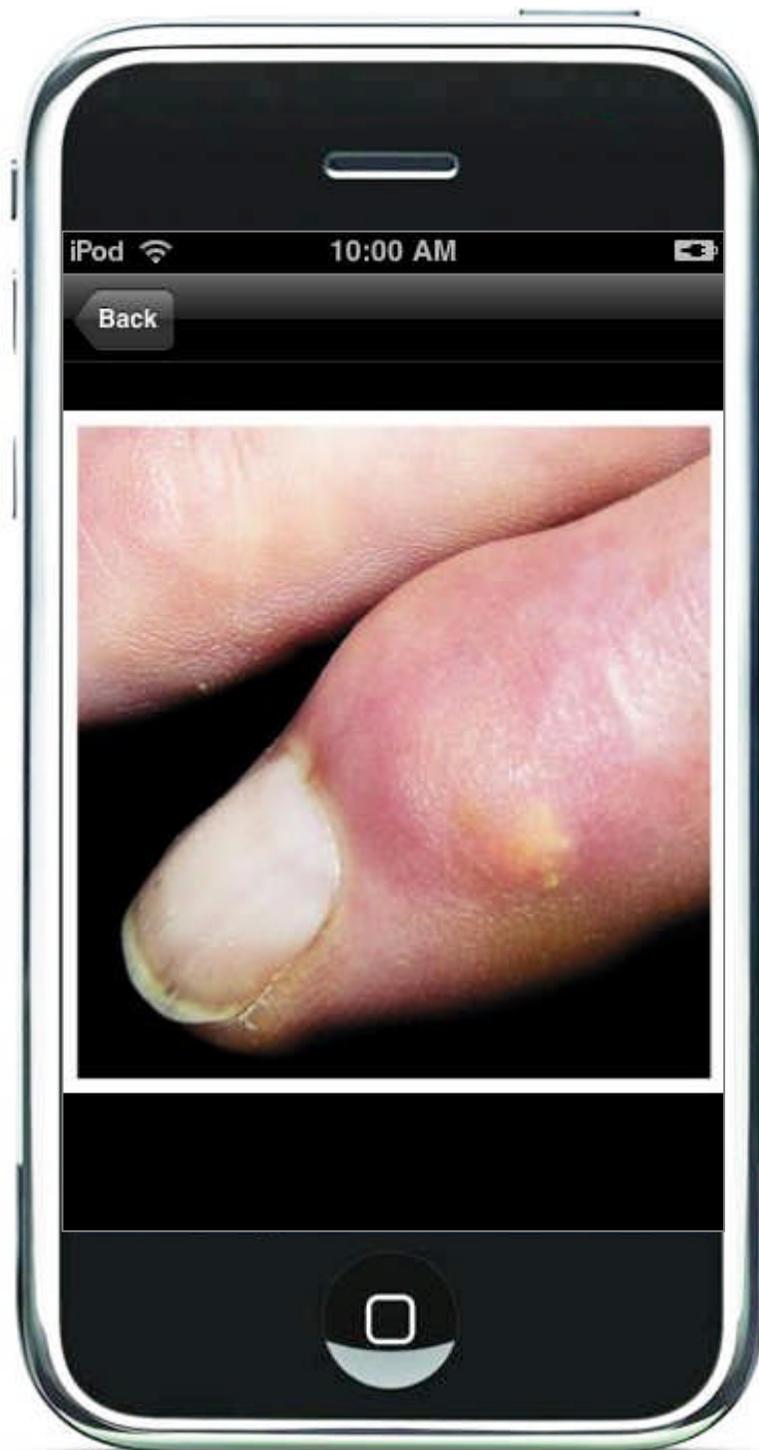


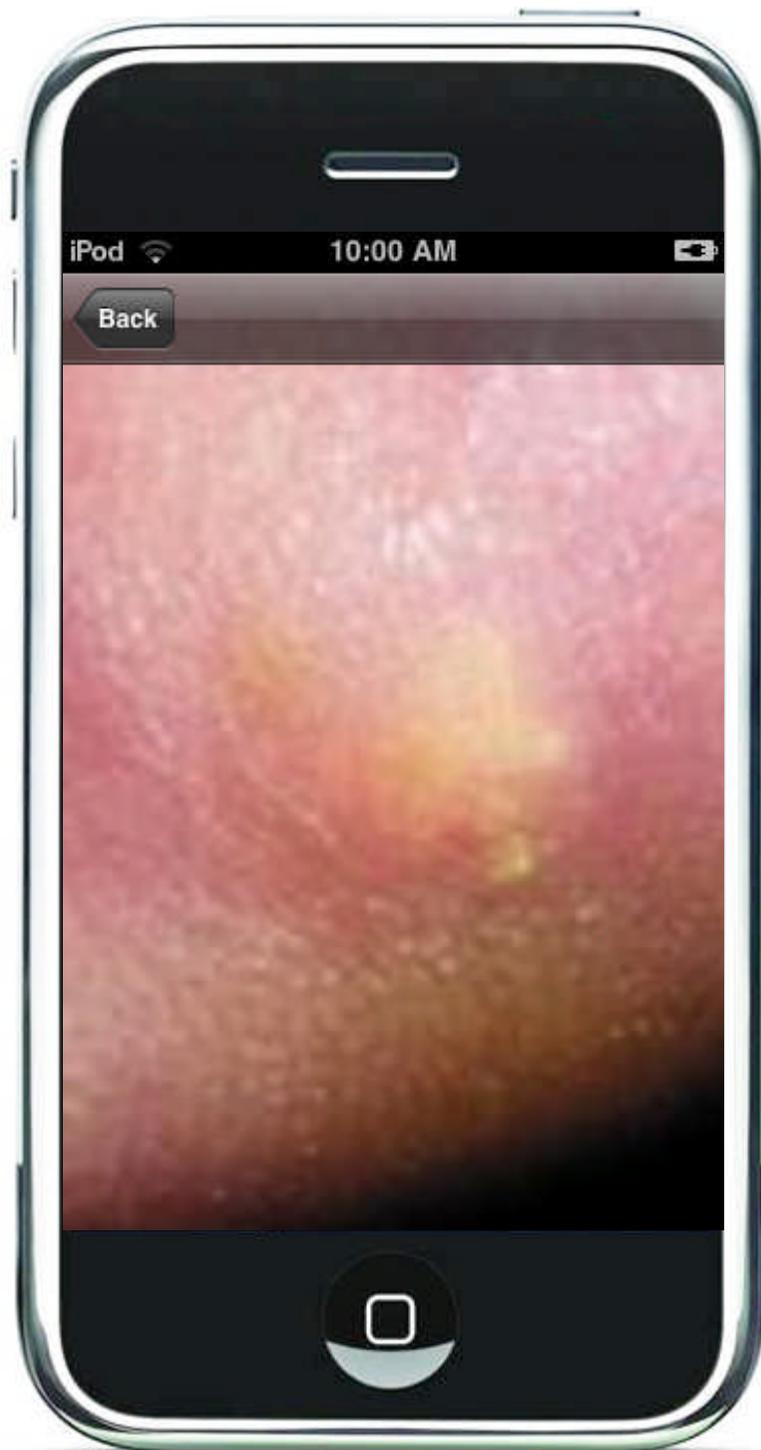
What is the diagnosis?

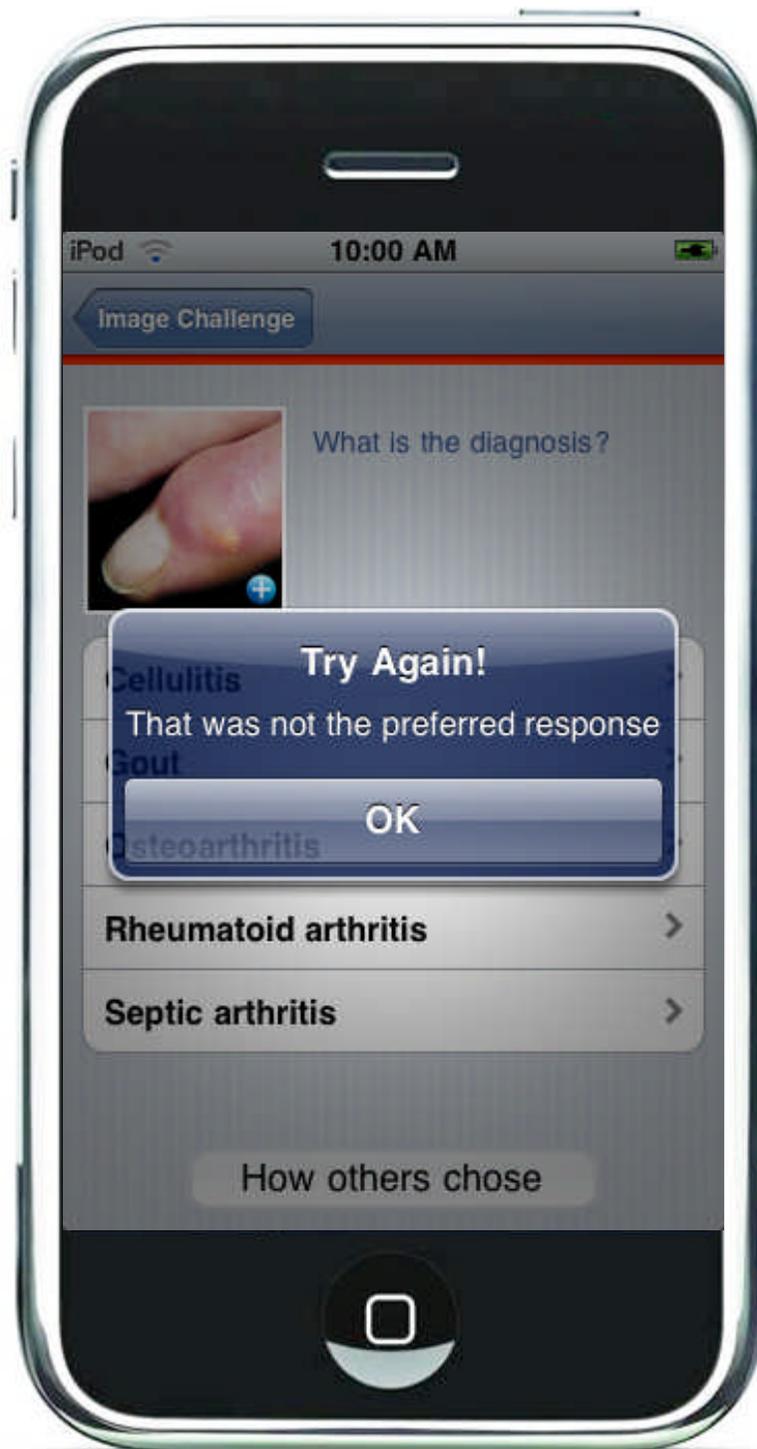
- Cellulitis >
- Gout >
- Osteoarthritis >
- Rheumatoid arthritis >
- Septic arthritis >

How others chose









iPod

10:00 AM

Image Challenge



What is the diagnosis?

Try Again!

That was not the preferred response

OK

Cellulitis

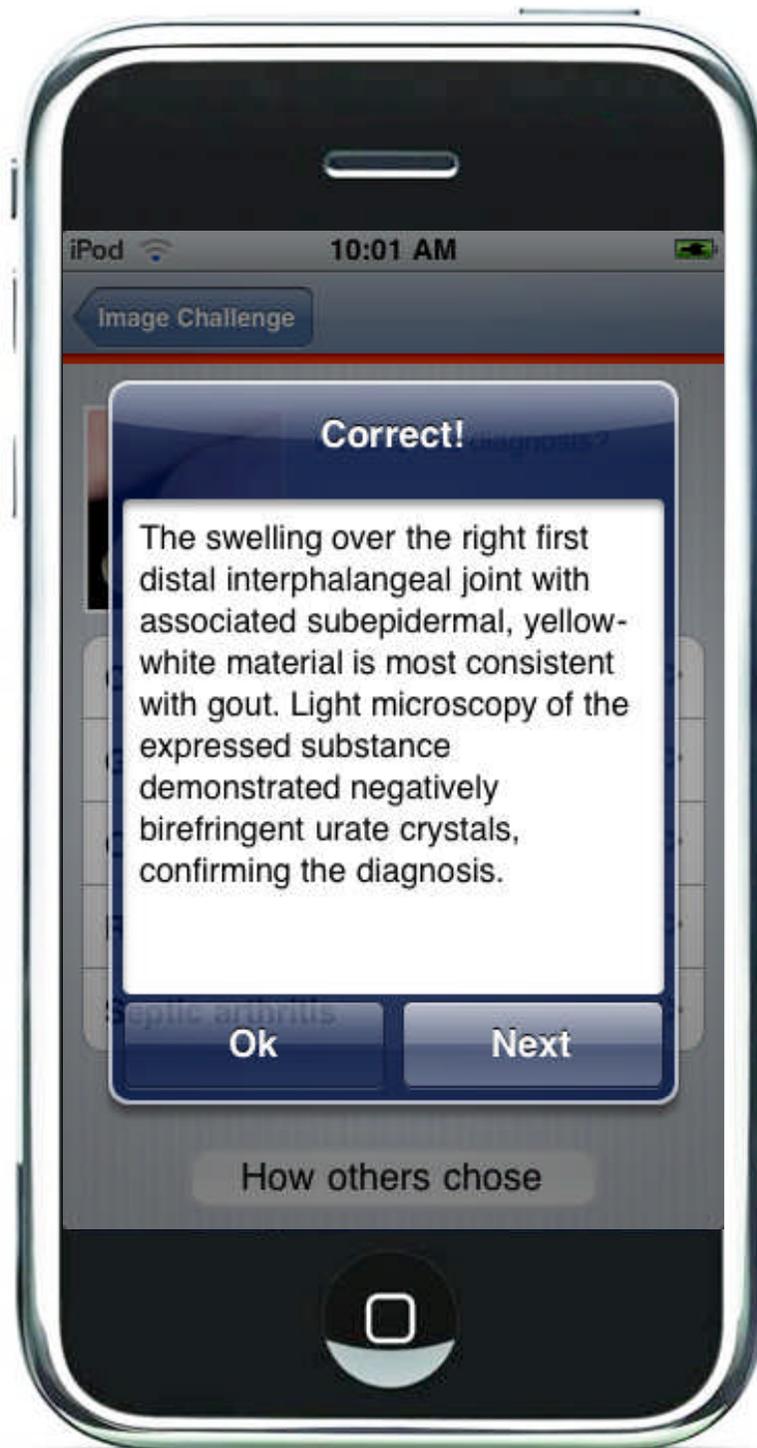
Gout

Osteoarthritis

Rheumatoid arthritis

Septic arthritis

How others chose



iPod

10:01 AM

Image Challenge

Correct!

The swelling over the right first distal interphalangeal joint with associated subepidermal, yellow-white material is most consistent with gout. Light microscopy of the expressed substance demonstrated negatively birefringent urate crystals, confirming the diagnosis.

Ok

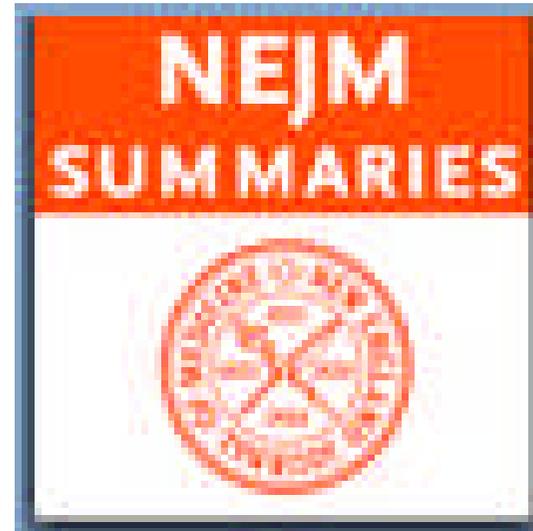
Next

How others chose

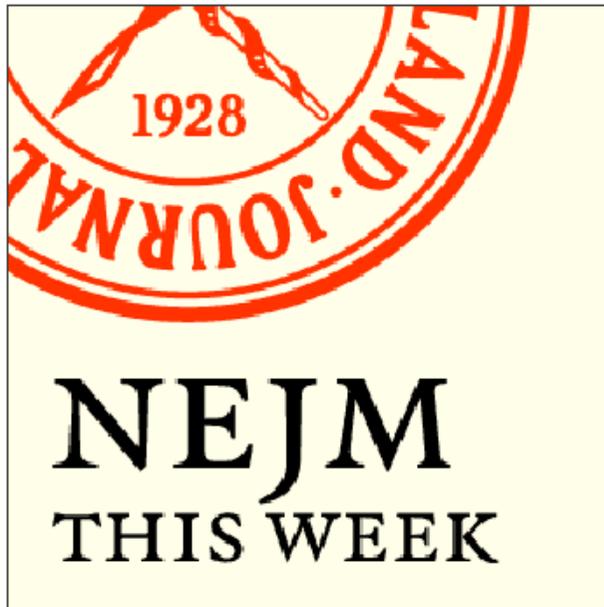
Branding Small Spaces

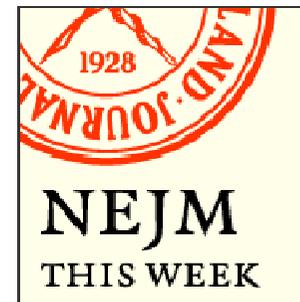
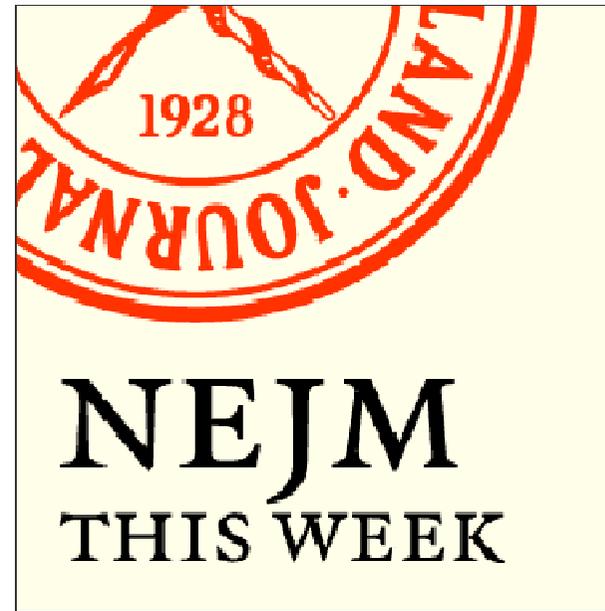
- Prevalence of smaller displays forced us to revisit branding guidelines developed for print and larger surfaces
- Had to squeeze more information into smaller areas
- Had to reconcile early, scattered attempts into a cohesive approach

Before . . .



After . . .





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NEW AND NOTABLE



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Dr. Ginger Campbell



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My Three Shrinks
Shrink Rap



NEJM This Week
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National Public Radio



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KQED-FM



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podcast



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TOP PODCASTS

1. NPR: Justice Talking Pod...
National Public Radio
2. NEJM This Week
The New England Journal ...
3. MedPod101
MedPod101.com
4. the Brain Science Podca...
Dr. Ginger Campbell
5. PTJ Podcasts
Physical Therapy (PTJ): Jo...
6. Videocast Podcasts
NIH
7. Vital Signs
Discover Magazine
8. KQED's The California R...
KQED-FM
9. Johns Hopkins PodMed -...
Elizabeth Tracey and Rick ...
10. Second Opinion | PBS
Second Opinion
11. 101 Nursing Tips
David W. Woodruff, MSN, ...
12. MedicCast: EMS News a...
podmedic@mac.com
13. Surgery ICU Rounds Pod...
Jeffrey S. Guy, MD, EMT-P...
14. My Three Shrinks
Shrink Rap
15. NEJM Interviews with PDF
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- World - Meditrn/...
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Podcasts > Medicine > NEJM Interviews with PDF

ctwiche11@nejm.org

NEJM Interviews with PDF



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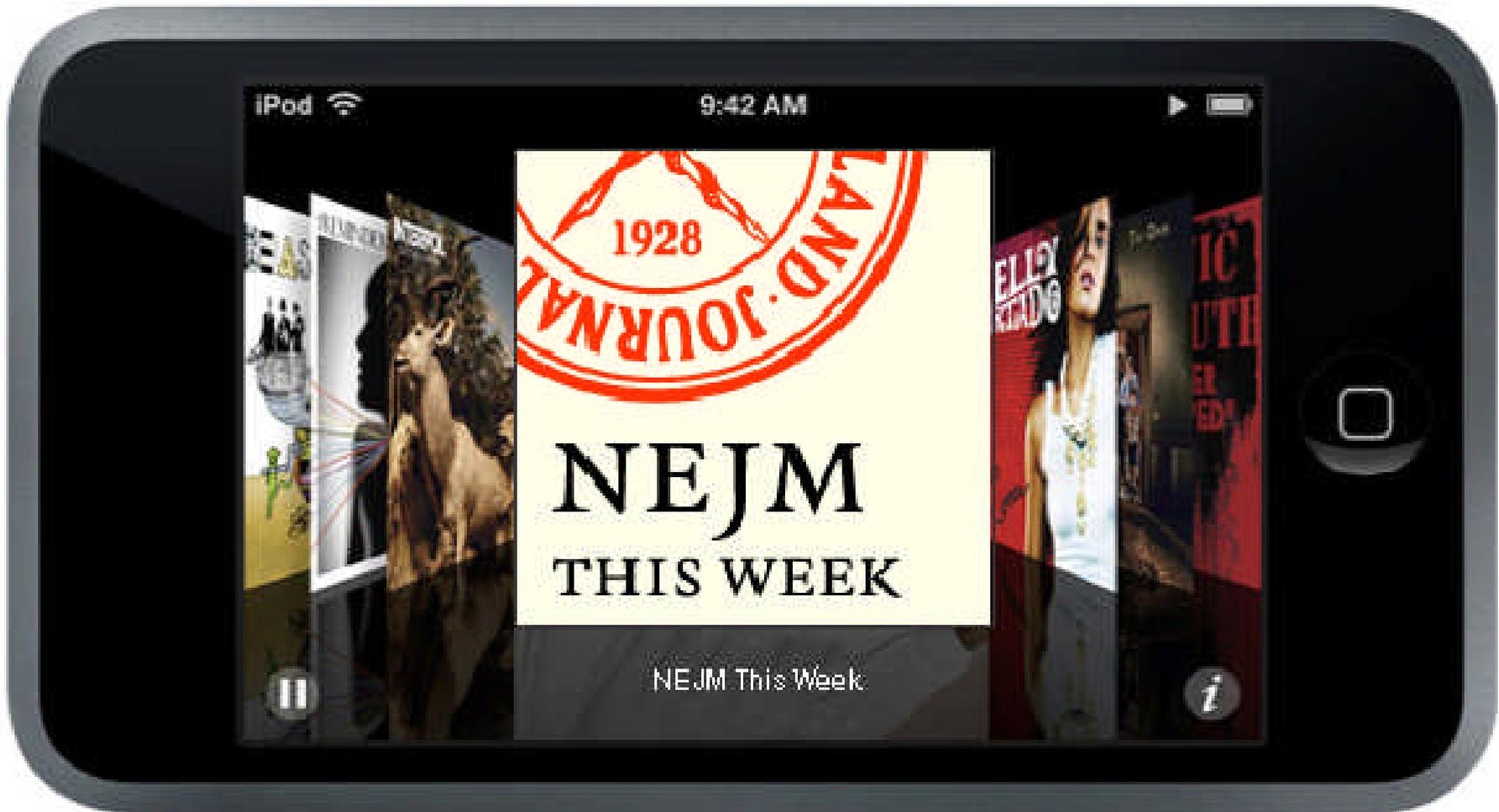
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- NEJM This Week
- JAMA: This Week's Audio Commentary
- Listen to The Lancet
- Mayo Clinic - Medical Edge Radio
- MedlinePlus: NLM Director's Comments

PODCAST DESCRIPTION

The New England Journal of Medicine (NEJM) Audio interview RSS feed. A PDF of the associated article is included. NEJM (<http://www.nejm.org>) is a weekly general medical

▲	Name	Time	Artist	Release Date	Description
1	NEJM Interview: David Hemenway	7:24	The New E...	3/19/08	David Hemenway is a professor of health p
2	Perspective (PDF): Handgun...		The New E...	3/19/08	On March 18, the Supreme Court heard ora
3	NEJM Interview: Mohamed Ali ...	7:04	The New E...	1/30/08	Mohamed Ali is a statistician in the Depart
4	Perspective (PDF): Estimatin...		The New E...	1/30/08	There is no set formula for accurately tally
5	NEJM Interview: Atul Gawande...	25:23	The New E...	1/23/08	On January 7, the Supreme Court heard ora
6	NEJM Interview: Peggy Porter ...	7:03	The New E...	1/16/08	Peggy Porter is a cancer biology researche
7	Perspective (PDF): "Westerni...		The New E...	1/16/08	Recent media reports have highlighted the
8	NEJM Interview: Muin Khoury ...	6:45	The New E...	1/9/08	Muin Khoury is the director of the Nationa
9	Perspective (PDF): Letting t...		The New E...	1/9/08	A patient shows up in your office with an a
10	NEJM Interview: Thomas Lee d...	10:51	The New E...	12/26/07	Dr. Thomas Lee is network president for Pa
11	Perspective (PDF): Compari...		The New E...	12/26/07	What are the controversies surrounding the
12	NEJM Interview: Gretchen Berl...	7:57	The New E...	12/19/07	Gretchen Berland is an assistant professor
13	Perspective (PDF): The View...		The New E...	12/19/07	Dr. Gretchen Berland gave video cameras t



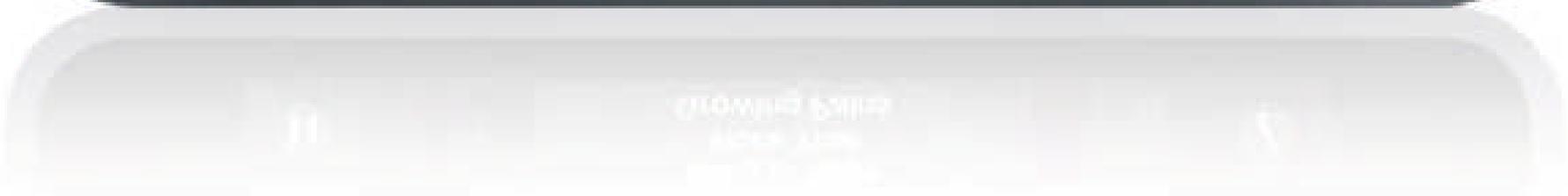
iPod  9:42 AM 

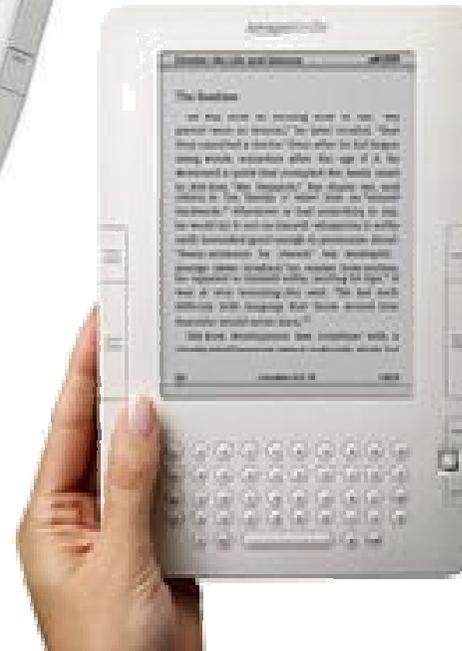
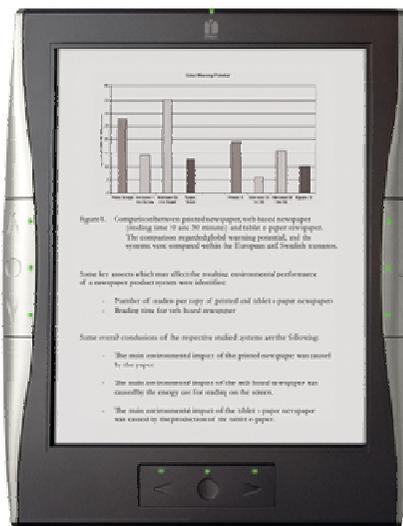
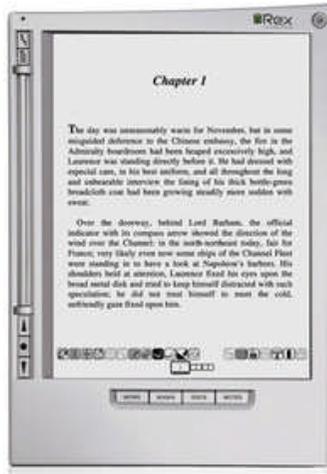
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NEJM
THIS WEEK

NEJM This Week



The Major Devices



The Kindle DX





The NEW ENGLAND
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Sections List

PERSPECTIVES

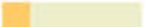
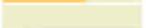
Ounces of Prevention — The Public Policy Case
for Taxes on Sugared Beverages - Kelly D.
Brownell, Ph.D., et al. | Sugar, rum, and tobacco are
commodities which are nowhere necessities of
life, which are become objects of almost universal
consumption, and which ...

Rationing Antiretroviral Therapy in Africa —
Treating Too Few, Too Late - Nathan Ford, D.H.A.,
et al. | The past 6 years have seen striking

| |

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5 Reviews

5 star:		(1)
4 star:		(3)
3 star:		(0)
2 star:		(1)
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Average Customer Review

★★★★☆ ([5 customer reviews](#))

Most Helpful Customer Reviews

12 of 14 people found the following review helpful:

★★★★★ **NEJM is a medical pioneer**, May 10, 2009

By [D. J Najarian](#) (New Jersey) - [See all my reviews](#)

REAL NAME VINE™ VOICE

As far as I can tell, the New England Journal (NEJM) is the first medical journal available for the kindle. There are several benefits to getting the NEJM on the kindle, and these benefits will likely lead all the major medical journals to follow suit at some point in the near future.

The benefits:

First, getting the kindle edition eliminates a ton of waste. Walk into any serious doctor's home or office (or even medical library), and you will likely find stacks and stacks of journals. Most copies sit there and collect dust...and only a few are used at any one point (what a waste of trees/paper and space). At some point, all the old journals have to be tied up and recycled (or bound up) (another waste of time and energy). The kindle version of the NEJM eliminates all this waste.

Second, it is easier to read the NEJM off the kindle screen than a computer screen.

Third: the kindle will read the NEJM to you. The kindle therefore allows doctors to transform commuting (driving) time into more CME time.

Fourth: doctors tend to be mobile and hard pressed for time--walking (running) throughout the hospital or from office to office. It would be a god send to have all the major journals available at one's fingertips on an easy to read platform.

The kindle version of the NEJM is the first step toward this vision. To expand on this thought, having "Up to Date" or other medical info resources available

1 of 3 people found the following review helpful:

★★★★☆ **Good primer/ practice for prospective students of medicine,**

May 16, 2009

By [tyE](#)  - [See all my reviews](#)

As a current undergraduate and prospective future physician scientist, I decided to try out a subscription to the famed NEJM in order to get a survey of some of the research thats being done in medicine. This was my first time reading a full issue of the NEJM and I must say that I am impressed and will keep my subscription. The one major downfall of the kindle format are indeed the charts. They are subject to magnification via the five-way kindle clicker that causes the image to fit to the screen. Most visuals were readable, but many were not. Although unfortunate this was not a deal breaker for me. The rest of the format was fine, and I consider it a major conservation of paper, especially for those that like to horde publications like I do.

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- NEJM This Week – we will test advertising
- NEJM Image Challenge – we will test paid
- Kindle – licensing arrangement with Amazon

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 SEARCH

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Community Highlights

May 8, 2009

"The Canadian Medical Assn. Journal had a study in early 2009 showing that this is not a class effect- Pantoprazole did not affect the activation of clopidogrel to the extent that other PPIs did. We need more information before we throw out the baby with the bath water."

- Ronald L. Hirsch, MD
commenting on the JournalWatch article [Proton Pump Inhibitors and Clopidogrel: Bad Company?](#)

1 | 2 | 3 | 4 | 5

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Upcoming Events

NOV 14-15, 2009
[Resuscitation Science Symposium](#)

FEATURED CONTENT - Updated July 16, 2009

Curated By: Harlan M. Krumholz, MD, SM
Associate Curators: Jane R. Doe, MD, MPH and Mary Z. Smith, MD

Acute Coronary Syndromes: Getting Our Timing Down

May 20, 2009 | Should angiography be performed within hours after high risk patients present with acute coronary syndromes or can it be delayed for several days, thereby reducing the risk of procedure-related complications? Should patients receive glycoprotein IIb/IIIa at the time of angiography or hours before? Two studies in The New England Journal of Medicine provide much needed data.

Early versus Delayed Invasive Intervention in Acute Coronary Syndromes (May 12, 2009)
S.R. Mehta and Others
ORIGINAL ARTICLE NEW
4 recommendations | 7 comments

Early versus Delayed, Provisional Eptifibatid in Acute Coronary Syndromes (April 7, 2009)
R. P. Giugliano and Others
ORIGINAL ARTICLE NEW
2 recommendations | 3 comments

Optimal Management of Acute Coronary Syndromes (April 28, 2009)
L. D. Hillis and R. A. Lange
EDITORIAL NEW
0 recommendations | 2 comments

POLL: Should based high-risk patients with acute coronary syndromes undergo angiography within the first 24 hours of presentation?
YES | NO

[Early or Delayed Intervention for Acute Coronary Syndromes Without](#)

Groups

Prevention

87 members

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Interventional Cardiology

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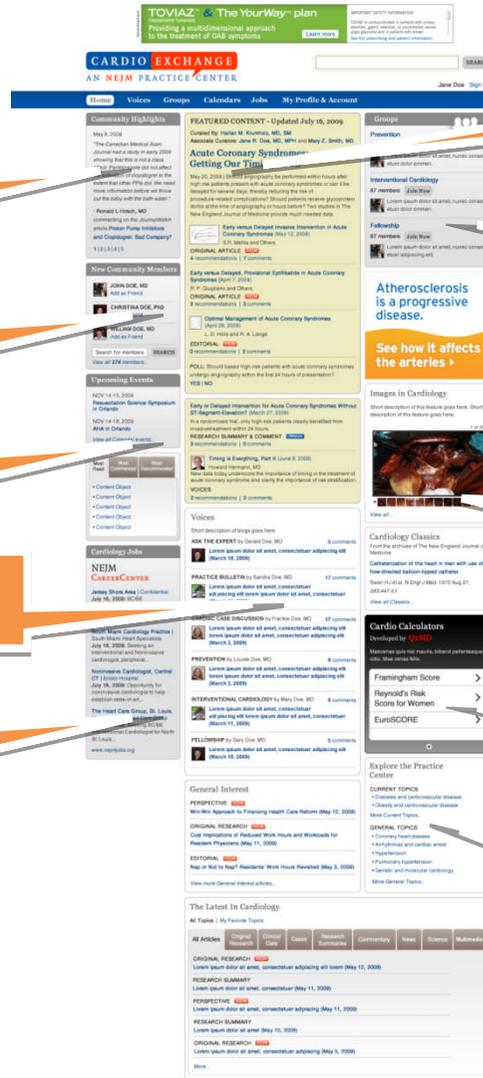
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Atherosclerosis is a progressive disease.

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adult coronary syndrome and clarify the importance of risk stratification.

VOICES

7 recommendations | 8 comments

Plans for iPhone Apps

- Launch both NEJM applications (This Week and Image Challenge) in late 2009 or early 2010
- Launch CardioExchange companion app in early 2010
- Conduct market and technology assessments in Fall 2009
 - iPhone 3.0 upgrades?
 - Customer acceptance
 - Integration with business models
- Explore partner solutions for other products
- Gauge success of paid application

Remaining Challenges for Apps

- Completion – These require as much work as a small site
- Approval – Apple's App Store has an approval process that can take weeks
 - You can start early, but it's hard to judge when
 - Apps with medical content may take longer to explain to the prudes
- Marketing

Customer Trends

- They own the infrastructure we use to reach them
- This infrastructure is moving to the body
 - Soon, greater than 100% penetration for cell phones in key regions
- Bandwidth is portable
- Mobile, social, and immediate
- Look how far behind them we are . . .

Thank You

Kent Anderson

Executive Director, Product Development

The New England Journal of Medicine



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