



Patient EHR: Early Patient and Physician Experiences

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Why Link?

A former Fox News television producer became seriously ill while working in Pakistan. After he got home, he was notified that the hepatitis A vaccine had been recalled because it was ineffective. Tests confirmed Hepatitis A and severe liver damage.

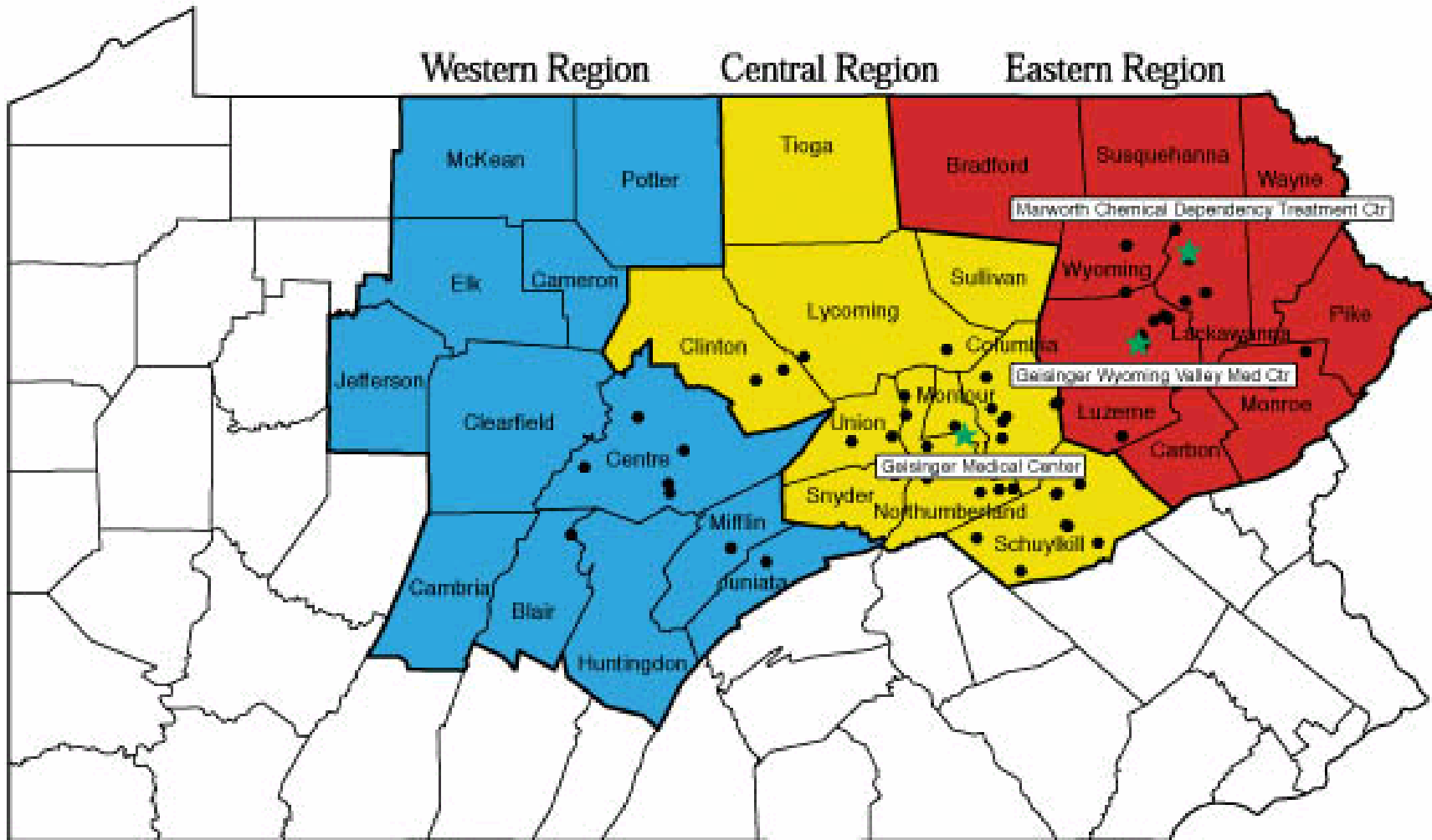
He remains unable to work.



Outline

- Setting
- Drivers
- Patient experience
- Physician experience
- Barriers

Geisinger Health System



The logo consists of a vertical black line on the left, intersected by a horizontal black line. To the left of the vertical line are three overlapping squares: a yellow one at the top, a red one in the middle, and a blue one at the bottom. The text 'Geisinger Health System' is written in a blue, sans-serif font to the right of the vertical line.

Geisinger Health System

- 31 counties
- 800 physicians (650 employed)
- 42 clinic sites
- 2 hospitals
- Primary to quaternary care
- 70% fee for service



Outpatient EHR Status

- All employed physicians use the EMR to
 - View all results, images, and records
 - Enter all orders
 - Document most patient encounters (and view all)



Geisinger Drivers

Outpatient EHR designed for patient EHR



Geisinger Drivers

- Access to one's own medical record
- Easy communication with physician
- Access to information for self care

*Crossing the Quality Chasm.
Institute of Medicine, 2001.*



Geisinger Drivers - HIPAA

- Access to Personal Health Information
- Clinical Communication



Geisinger's Goal: Transform Care

- Delight patients.



Geisinger's Goal: Transform Care

- Delight patients.
- Empower patients.



Geisinger's Goal: Transform Care

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- Improve practice efficiency.

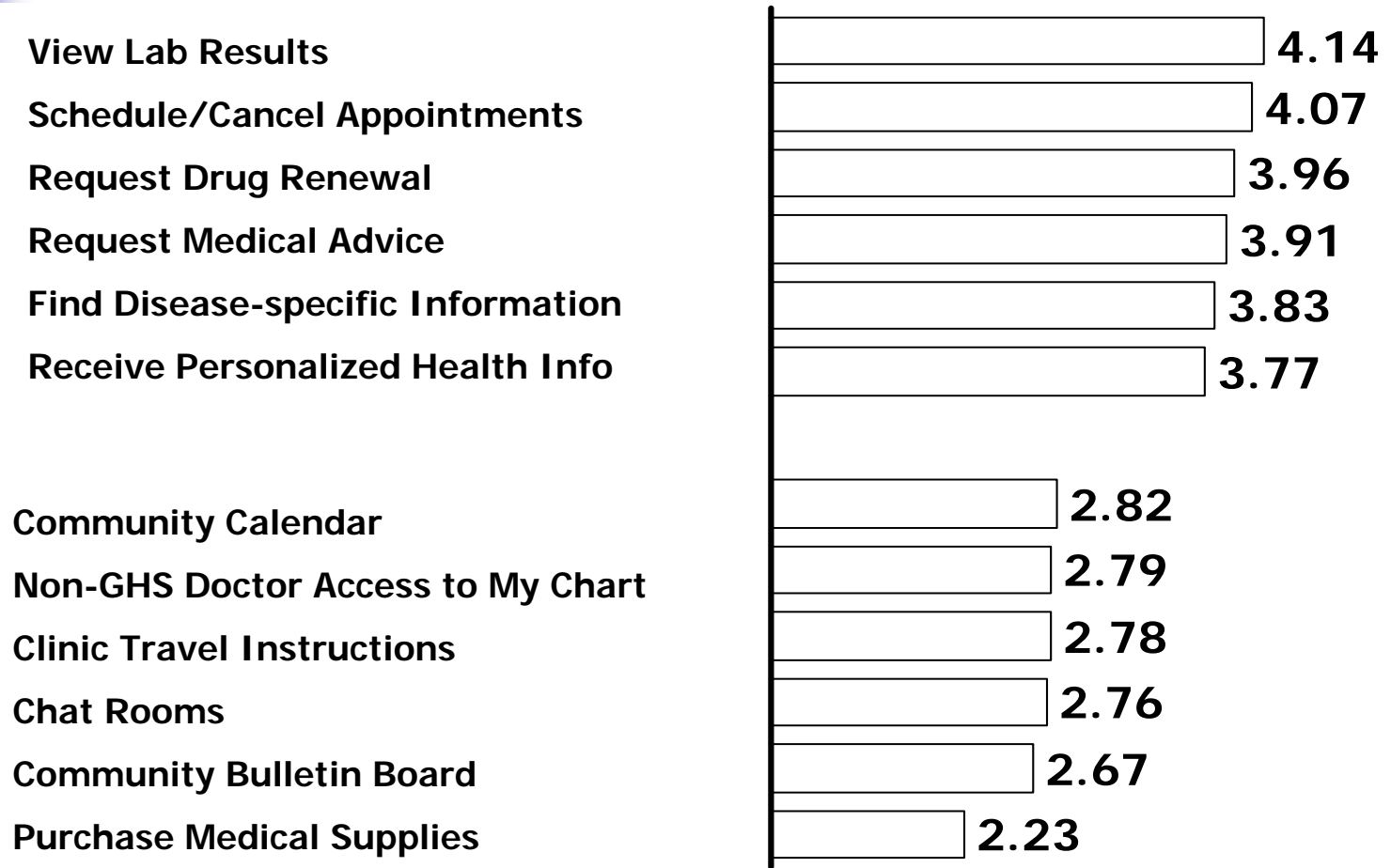


Geisinger's Goal: Transform Care

- Delight patients.
- Empower patients.
- Improve practice efficiency.
- Delight providers.



Patient Drivers





Patient Drivers

- Ask health questions 77%
- Manage appointments 71
- Prescriptions renewals 71
- Get the results of tests 70

Taylor, H. (2002). Patient/Physician Communication Online, Harris Interactive.



Patient EHR Status

- All practices, all specialties
- 17,000 active users
- Pediatric access
- Proxy access



1. View Your Records

- Problem list



1. View Your Records

- Problem list
- Allergies and Medicines



1. View Your Records

- Problem list
- Allergies and Medicines
- Immunizations



1. View Your Records

- Problem list
- Allergies and Medicines
- Immunizations
- Histories – surgical, medical, family, “social”



1. View Your Records

- Problem list
- Allergies and Medicines
- Immunizations
- Histories
- Lab results (with interpretations)



1. View Your Records

- Problem list
- Allergies and Medicines
- Immunizations
- Histories
- Lab results
- Appointment information



2. Send and Receive Messages

- Renew drugs



2. Send and Receive Messages

- Renew drugs
- Request appointments



2. Send and Receive Messages

- Renew drugs
- Request appointments
- Request referrals



2. Send and Receive Messages

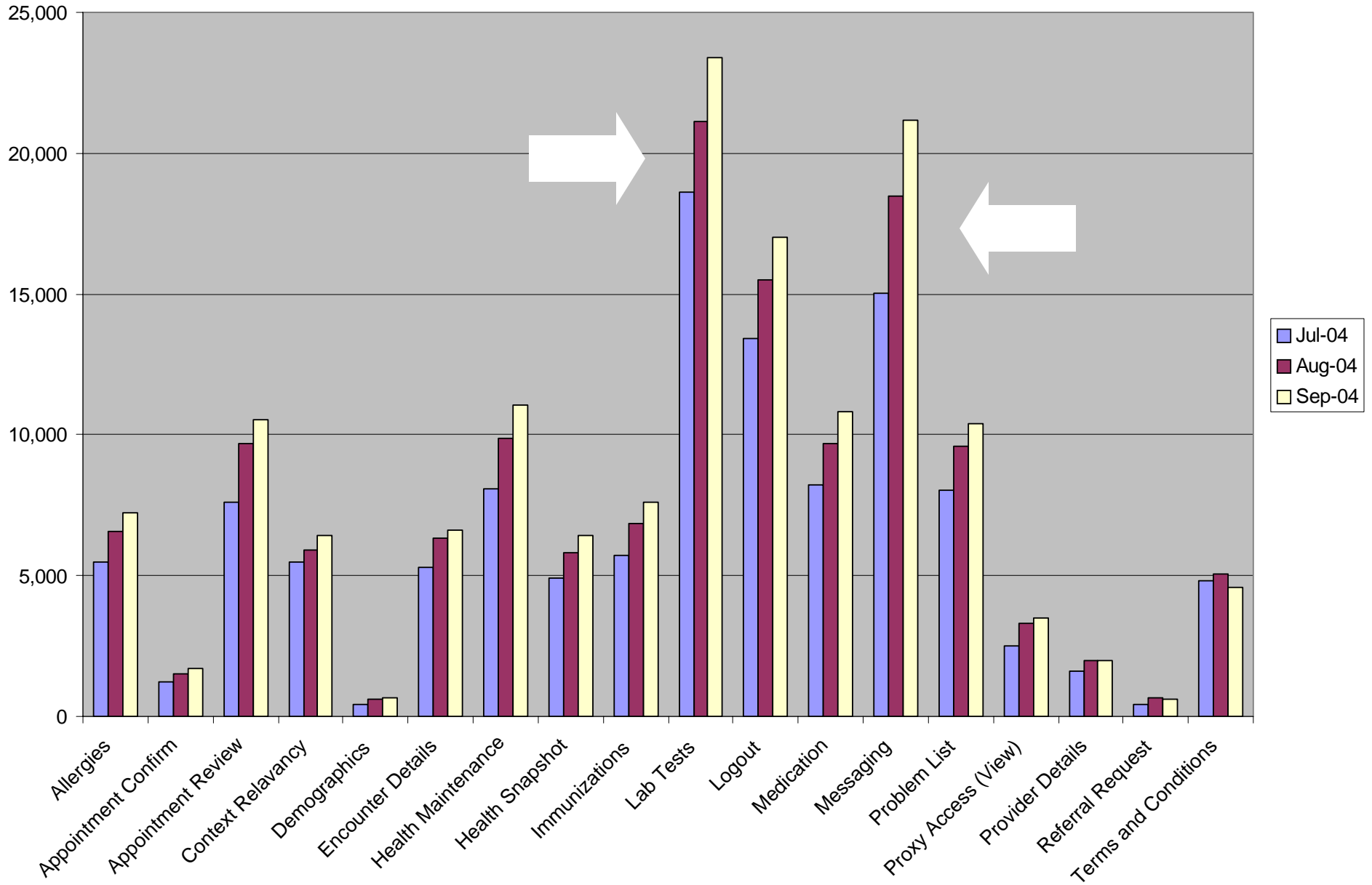
- Renew drugs
- Request appointments
- Request referrals
- Ask for medical advice



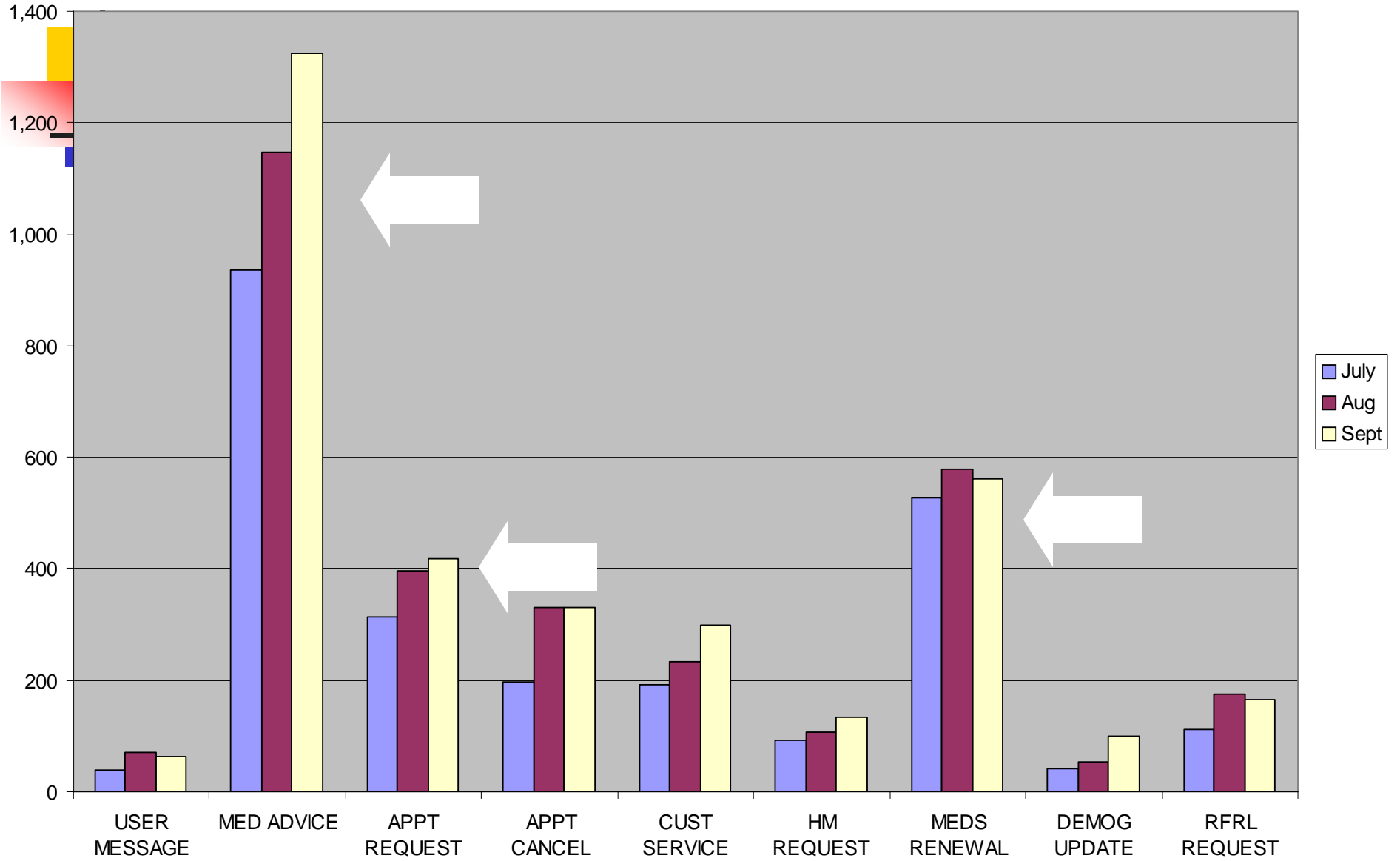
Patient EHR Use (annualized)

- 280,000 lab test checks
- 250,000 messages
 - 15,000 requests for medical advice
 - 7,000 drug renewals
 - 5,000 appointment requests

MyGeisinger Activity 3rd QTR 2004



MyGeisinger Messages Jul - Sept 2004





Reference

Hassol, A., J. M. Walker, et al. (2004).
"Patient Experiences and Attitudes about
Access to a Patient Electronic Healthcare
Record and Linked Web Messaging." J Am
Med Inform Assoc **11**: 505-13.



Users vs. Non-users

| | Users n = 4,245 | Non-users n= 281,517 |
|--|--------------------|-------------------------|
| Age* | | |
| 18-30 | 7% | 20% |
| 31-45 | 27% | 25% |
| 46-64 | 49% | 30% |
| 65+ | 18% | 25% |
| Sex | | |
| Female | 58.6% | 57.3% |
| Male | 41.4% | 42.7% |
| Clinic visits during the 9 months pre-implementation | | |
| | 3.48 | 2.58 |



Patient Users

- More office visits
- More chronic problems
- Children of elders
- Age 46 to 64
- Familiar with the Internet

Personal Health Working Group (2003). Connecting for Health: A Public-Private Collaborative.



Criteria for Choosing Channels

- Convenience
- Familiarity
- Availability
- Complexity of the message
- Cost



Criteria for Choosing Channels

- Fit with established care processes
- Interactivity
- Fit with new, optimized processes
- Security and confidentiality

Differential Preferences

| % | In Writing | | Telephone | | Online (%) | | In-Person (%) | |
|-------------------|------------|----|-----------|----|------------|----|---------------|----|
| | Pt. | MD | Pt. | MD | Pt. | MD | Pt. | MD |
| General Question | 3 | 0 | 21 | 44 | 53 | 15 | 23 | 38 |
| Test results | 7 | 44 | 26 | 24 | 32 | 12 | 36 | 18 |
| Tx | 9 | 24 | 19 | 21 | 26 | 6 | 46 | 47 |
| Self-monitor | 7 | 15 | 13 | 18 | 46 | 18 | 33 | 47 |
| Lifestyle Choices | 3 | 24 | 7 | 6 | 45 | 18 | 45 | 44 |
| Routine follow-up | 2 | 0 | 26 | 68 | 41 | 18 | 30 | 12 |
| Rx renewals | 2 | 6 | 28 | 38 | 64 | 44 | 7 | 9 |

Patients and Physicians

| % | In Writing | | Telephone | | Online (%) | | In-Person (%) | |
|-------------------|------------|----|-----------|----|------------|----|---------------|----|
| | Pt. | MD | Pt. | MD | Pt. | MD | Pt. | MD |
| General Question | 3 | 0 | 21 | 44 | 53 | 15 | 23 | 38 |
| Test results | 7 | 44 | 26 | 24 | 32 | 12 | 36 | 18 |
| Tx | 9 | 24 | 19 | 21 | 26 | 6 | 46 | 47 |
| Self-monitor | 7 | 15 | 13 | 18 | 46 | 18 | 33 | 47 |
| Lifestyle Choices | 3 | 24 | 7 | 6 | 45 | 18 | 45 | 44 |
| Routine follow-up | 2 | 0 | 26 | 68 | 41 | 18 | 30 | 12 |
| Rx renewals | 2 | 6 | 28 | 38 | 64 | 44 | 7 | 9 |



Do Patients Like It?

- “More, More, Faster, Faster.”
- Age secondary.
- Pediatric access critical.
- Adult children assist their parents.
- Usability critical.



Patient Satisfaction

- “Other things equal, I would prefer to go to a doctor who provides it.” 85
- “It provides the information I need.” 78
- “It is easy to find the information I need.” 85



Lab Results

- “At times, test results have worried me.” 21 (from 44)
- “I would like to have more of my lab results available online.” 92



MD/Staff Feedback Groups

(With 2% of patients active.)

- No impact on office workloads.
- No excessive demand on doctors to answer e-mails.
- Concerns that both could be negatively affected remain.



More Efficient Than Phones?

- Kaiser Northwest found that e-mail is quicker and reduces the number of office visits.
- A similar Blue Cross/Blue Shield study found that e-mail took longer.



Barriers

- Lack of EHRs designed to support it



Barriers

- Lack of EHRs designed to support it
- Lack of effectiveness evidence



Barriers

- Lack of EHRs designed to support it
- Lack of effectiveness evidence
- Physicians' cost of change



Barriers

- Lack of EHRs designed to support it
- Lack of effectiveness evidence
- Physicians' cost of change
- Patient acceptance



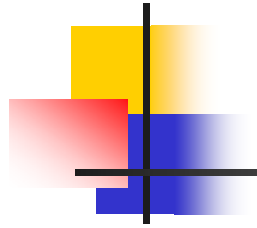
Barriers

- Much of the medical record is jargon (unusable as is)
- Legal complexity (pediatric access)



Next Steps

- Demonstrate provider benefits.
 - Convenience
 - Pay for performance
- Demonstrate patient benefits.
 - Convenience
 - Well-being



Contact

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