Patient-View: An Interface to Improve Patient-Physician Communication

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University of Utah
PATIENT-PHYSICIAN COMMUNICATION

• Communication is the essential part of the patient interaction with the providers, family members and staff.

• “Patients who understand their doctors are more likely to acknowledge health problems, understand their treatment options, modify their behavior accordingly, and follow their medication schedules.”¹

How effective is the average patient-physician communication currently?

His PSA level was **7.5 ng/mL**

“I’m going to refer you to a urologist...you should have it checked out.”

The patient nodded.

Dr. F made a note in her file regarding the referral to a urologist and gave patient urologist’s card.

Over next 2 ½ years, the patient returned **10 times** for minor complaints...

Dr. F did not question the patient as to whether he had gone to the urologist – she assumed he had.

Dr. F never asked the patient on any of his **10 subsequent visits** whether he had actually seen the urologist,

The patient was diagnosed with metastatic prostate cancer...**5% chance of survival**

“The evidence looks bad...plus, the plaintiff may die or his condition may worsen before we go to trial”

Settled for **$1.7 million** prior to trial.
• In a 2006 study, in 45% of the cases, physicians did not tell patients how many pills of a new medication to take. ¹

• In 2007, a study looking at Warfarin and other oral blood thinners found that 50% of patients differed from their physicians in their understanding of how to take the drugs. ²

• 61% of “technically obese” adults had never been told by a health professional that they were obese...or that they needed to do anything about their weight. ³

• In patient referrals, 47.5% of patients who did not follow up with their referrals believed that their problem had already been resolved. ⁴

Patients and physicians are not able to effectively communicate with each other.
Barriers

Patient Barriers → Misunderstanding and Noncompliance → Physician Barriers

Strain on the Health Care System
To improve patient-physician communication in the exam room

By creating something:

Feasible and effective

Important and meaningful to both the physician and patient.

Innovative and creative

Partnership building
Audio

Visual

Increased Competency
A typical exam room does not facilitate meaningful patient-physician dialogue.
<table>
<thead>
<tr>
<th>ID</th>
<th>Provider Narrative</th>
<th>Status</th>
<th>Entered</th>
<th>Onset</th>
<th>Notes</th>
<th>Modified</th>
<th>Provider</th>
<th>ICD</th>
<th>ICD Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOUC3</td>
<td>TYPE 2 DIABETES MELLITUS</td>
<td>Active</td>
<td>03/11/2000</td>
<td>03/11/2000</td>
<td>In spite of regular exercise, I'm putting client on medication.</td>
<td>03/11/2000</td>
<td>250.0</td>
<td>DM UNCOMPL/T-II/NIDDM, NS</td>
<td></td>
</tr>
<tr>
<td>SOUC1</td>
<td>HYPERTENSION</td>
<td>Active</td>
<td>02/04/2000</td>
<td>01/19/1999</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>401.9</td>
</tr>
</tbody>
</table>

**ICD Pick Lists:**
- Administrative Encounter Nec
- Atypical Chest Pain
- B 12 Def
- Bipolar Disorder
- Bronchitis
- Cad
- Carpal Tunnel
- Cerebral Palsy
- Chest Pain
- Chl
- Chronic Anicoag
- Chronic Pain
- Cirrhosis
- Copd
- Crohn's
- Depression
- Diabetic Retinopathy
- Diverticulosis
- Drm Type 2 Uncnild
- Dysthyroisism
- Encounters For Unspecified Admini
- Erat
- Esrd
- Family Planning
- Fibromyalgia
- Gallstones
- Gastritis
- Gastroenteritis
- Gerd
- Eczema Chronic
- Encounters For Unspecified Admini
- Erat
- Esrd
- Family Planning
- Fibromyalgia
- Gallstones
- Gastritis
- Gastroenteritis
- Gerd
- Left Without Treatment Complete
- Malnutrition

**Historical Diagnosis:**
- 07/22/2005: Fractured femur
- 07/22/2005: TYPE 2 DIABETES MELLITUS
- 07/18/2005: HYPERTENSION
- 06/28/2005: TYPE 2 DIABETES MELLITUS
- 06/16/2005: TYPE 2 DIABETES MELLITUS
- 05/16/2005: TYPE 2 DIABETES MELLITUS
- 05/06/2005: Genital warts contracted in Viet Nam
- 12/16/2004: Hypertension
- 04/11/2004: HYPERTENSION
- 03/03/2004: HYPERTENSION
- 01/01/2004: HYPERTENSION

**Visit Diagnosis:**
- Provider Narrative: I broke my ankle <user demo>
- ICD: 999.99
- ICD Name: Uncod
- Priority: Primary
- Cause: Injuries
- Injury Date: 07/22/2005
- Injury Cause: Fracture
- Injury Place: Right Ankle
- Modify: No

**Chief Complaint:**
- Vitals: WT: 200 (91 kg), HT: 65 (165 cm), TMP: 98.7 (37.1 C), BP: 120/80, PU: 72, RS: 16, PA: 7, CXR: 5
- BMI: 33.3
- Obesity - Class 1

**Immunizations:**
- DTAP
<table>
<thead>
<tr>
<th>TESTS</th>
<th>RESULT</th>
<th>FLAG</th>
<th>UNITS</th>
<th>REFERENCE INTERVAL</th>
<th>LAB</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUN/Creatinine Ratio</td>
<td>12</td>
<td></td>
<td>mmol/L</td>
<td>8 - 27</td>
<td></td>
</tr>
<tr>
<td>Sodium, Serum</td>
<td>140</td>
<td>mmol/L</td>
<td>135   - 145</td>
<td>01</td>
<td></td>
</tr>
<tr>
<td>Potassium, Serum</td>
<td>4.2</td>
<td>mmol/L</td>
<td>3.5   - 5.2</td>
<td>01</td>
<td></td>
</tr>
<tr>
<td>Chloride, Serum</td>
<td>101</td>
<td>mmol/L</td>
<td>97    - 108</td>
<td>01</td>
<td></td>
</tr>
<tr>
<td>Carbon Dioxide, Total</td>
<td>26</td>
<td>mmol/L</td>
<td>20    - 32</td>
<td>01</td>
<td></td>
</tr>
<tr>
<td>Calcium, Serum</td>
<td>9.4</td>
<td>mg/dL</td>
<td>8.7    - 10.2</td>
<td>01</td>
<td></td>
</tr>
<tr>
<td>Protein, Total, Serum</td>
<td>7.1</td>
<td>g/dL</td>
<td>6.0    - 8.5</td>
<td>01</td>
<td></td>
</tr>
<tr>
<td>Albumin, Serum</td>
<td>4.6</td>
<td>g/dL</td>
<td>3.5    - 5.5</td>
<td>01</td>
<td></td>
</tr>
<tr>
<td>Globulin, Total</td>
<td>2.5</td>
<td>g/dL</td>
<td>1.5    - 4.5</td>
<td>01</td>
<td></td>
</tr>
<tr>
<td>A/G Ratio</td>
<td>1.8</td>
<td></td>
<td>1.1    - 2.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bilirubin, Total</td>
<td>1.1</td>
<td>mg/dL</td>
<td>0.0    - 1.2</td>
<td>01</td>
<td></td>
</tr>
<tr>
<td>Alkaline Phosphatase, S</td>
<td>83</td>
<td>IU/L</td>
<td>25     - 150</td>
<td>01</td>
<td></td>
</tr>
<tr>
<td>AST (SGOT)</td>
<td>20</td>
<td>IU/L</td>
<td>0      - 40</td>
<td>01</td>
<td></td>
</tr>
<tr>
<td>ALT (SGPT)</td>
<td>20</td>
<td>IU/L</td>
<td>0      - 40</td>
<td>01</td>
<td></td>
</tr>
<tr>
<td>IGF-I</td>
<td>242</td>
<td>ng/mL</td>
<td>117    - 329</td>
<td>02</td>
<td></td>
</tr>
<tr>
<td>Testosterone, Serum</td>
<td>691</td>
<td>ng/dL</td>
<td>280    - 800</td>
<td>01</td>
<td></td>
</tr>
</tbody>
</table>

**Effective December 13, 2010, Testosterone reference interval will be changing to:**

<table>
<thead>
<tr>
<th>MALE TANNER STAGE</th>
<th>FEMALE TANNER STAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;3</td>
<td>1</td>
</tr>
<tr>
<td>&lt;3 - 432</td>
<td>2</td>
</tr>
<tr>
<td>65 - 778</td>
<td>3</td>
</tr>
<tr>
<td>180 - 763</td>
<td>4</td>
</tr>
<tr>
<td>188 - 882</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MALE ADULT</th>
<th>FEMALE ADULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-49 years</td>
<td>20-49 years</td>
</tr>
<tr>
<td>&gt;49 years</td>
<td>&gt;49 years</td>
</tr>
</tbody>
</table>

| LDH         | IU/L | 151 | 100 - 250 | 01 |
| Creatine Kinase, Total, Serum | 204 | U/L | 24 - 204 | 01 |
| Magnesium, Serum | 2.4 | mg/dL | 1.6 - 2.6 | 01 |
| Zinc, Plasma or Serum | 109 | ug/dL | 70 - 150 | 02 |
| Ferritin, Serum | 185 | ng/mL | 30 - 400 | 01 |
Generate a positive feedback loop

Create capacity to change

Action

Importance to patient

Individualized health data

Choices and personalized goals
RAPID STREP TEST B/O

Comments from the Doctor's Office
Reviewed your test results and everything looks great.

Component Results

<table>
<thead>
<tr>
<th>Component</th>
<th>Your Value</th>
<th>Standard Range</th>
<th>Flag</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAPID STREP</td>
<td>neg</td>
<td>neg-pos</td>
<td></td>
</tr>
<tr>
<td>Quality Check</td>
<td></td>
<td>- yes/no</td>
<td></td>
</tr>
</tbody>
</table>

General Information

Resulted: 10/17/2007
Ordered By: Your Physician
Result Status: Final result

This shows you the details of that test result and any physician comments.
### LABS FOR JUDY XTESTDQ

**Print this page**

Currently Viewing Records for: **SELF**

<table>
<thead>
<tr>
<th>Date</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>05/14/2007</td>
<td>Basic Metabolic Panel</td>
</tr>
<tr>
<td>02/07/2007</td>
<td>Transcutaneous Bilirubin</td>
</tr>
<tr>
<td>01/18/2007</td>
<td>Glucose, Fasting</td>
</tr>
<tr>
<td>01/18/2007</td>
<td>Prothrombin Time And INR</td>
</tr>
<tr>
<td>01/18/2007</td>
<td>CBC Without Diff</td>
</tr>
<tr>
<td>01/18/2007</td>
<td>Potassium</td>
</tr>
<tr>
<td>01/18/2007</td>
<td>Sodium</td>
</tr>
<tr>
<td>12/20/2006</td>
<td>Whole Blood Glucose</td>
</tr>
<tr>
<td>07/20/2006</td>
<td>B-Type Natriuretic Peptide</td>
</tr>
<tr>
<td>07/20/2006</td>
<td>CK</td>
</tr>
</tbody>
</table>

Results: 1-10 of 51
Results Page 1 2 3 4 5 6 Next >>
The Patient-View EMR is a tool designed:

• For **PATIENTS** to help them **understand** and **track** their health.

• For **PROVIDERS** to **educate** and **motivate** patients to take better care of their overall health.

• For **PATIENTS AND PROVIDERS** to create a partnership-centered care approach.
The Patient-View EMR is:

- **NOT** a replacement for traditional EMRs
- **NOT** intended for use **ONLY** by patients at home
John M. Doe

Age: 51
Gender: Male
Height: 6'2"
Weight: 215 lbs.
Body Mass Index: 27.6
Temperature: 98.3
Blood Pressure: 128 / 85
Pulse: 72
Respiratory Rate: 22

System

- Urinary
- Reproductive
- Lower Digestive
John M. Doe

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Temperature: 98.3
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System
- Urinary
- Reproductive
- Lower Digestive

Reproductive
- PSA: 12.6
  Current: 5
  History: 10

Cross-Section:

Summary:
John M. Doe

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Respiratory Rate: 22

System
Urinary
Reproductive
Lower Digestive

Reproductive
PSA: 12.6
Current: 5
History: 12.6

Summary:

Referrals
My Referral:
No current referral

Search for a Physician
Last Name: [Blank] First Name: [Blank] Speciality: Urology
Location: within 25 miles of [Blank] City Languages Spoken: [Blank]
Gender: Male Female No Preference Accepts my insurance: [Blank]
Search
In a study published by *The Journal of Family Practice*, providers and patients shared their feelings on diabetes...

**WHAT DO THEY BOTH WANT IN TERMS OF CARE?**

“It’s **hard to talk to them about nutrition**, and **you try to talk to them about exercise**, and again a lot of times that’s hard for our patients who live in urban areas...so quickly **you move to drugs.**”  -Attending

“I was just talking to a doctor, and I said when I check my blood sugar before I eat it’s like 80 or maybe below...**he told me not to do that...** [but] for some reason the low blood sugar feeling is a lot easier to deal with than the high blood sugar; I think because **I have control.**”  -Patient

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Diabetes (Type II) April 21, 2009
Currently:
- Blood Glucose: 121
- Blood Pressure: 128 / 85
- Cholesterol: HDL: 30 LDL: 159
- Weight: 215 lbs.
### Diabetes (Type II)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood Glucose</td>
<td>121</td>
</tr>
<tr>
<td>Weight</td>
<td>215 lbs.</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>HDL: 30 LDL: 159</td>
</tr>
</tbody>
</table>

### Goals

<table>
<thead>
<tr>
<th>Goal</th>
<th>What</th>
<th>How</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>I want to be able to build a treehouse with my grandkids</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Diabetes (Type II)

Blood Glucose: 121

History:

Weight: 215 lbs.

History:

Cholesterol: HDL: 30 LDL: 159

HDL: 30

LDL: 159

History

Goals

Goal

What

How

When

I want to be able to build a treehouse with my grandkids

Manage my weight

2007

2008

2009

2010

2011
Diabetes (Type II)

Blood Glucose: 121

History:

Weight: 215 lbs.

History:

Cholesterol: HDL: 30 LDL: 159

HDL: 30

LDL: 159

History

Goals

Goal

What

How

When

I want to be able to build a treehouse with my grandkids

Manage my weight

Exercise

2007  2008  2009  2010  2011
**Health Stats**

**Diabetes (Type II)**

- **Blood Glucose:** 121 (120-140)
- **History:**
- **Weight:** 215 lbs. (185-210)
- **History:**
- **Cholesterol:** HDL: 30 LDL: 159
  - **HDL:** 30 (25-30)
  - **LDL:** 159 (140-180)
  - **History:**

**Goals**

<table>
<thead>
<tr>
<th>Goal</th>
<th>What</th>
<th>How</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>I want to be able to build a treehouse with my grandkids</td>
<td>Manage my weight</td>
<td>Exercise</td>
<td>Walk around neighborhood with my wife when I get home from work</td>
</tr>
</tbody>
</table>

**Timeline:**
- **2007**
- **2008**
- **2009**
- **2010**
- **2011**
# Health Stats

## Diabetes (Type II)

**Blood Glucose:** 121

**History:**

**Weight:** 215 lbs.

**History:**

**Cholesterol:** HDL: 30 LDL: 159

**History:**

<table>
<thead>
<tr>
<th>Goal</th>
<th>What</th>
<th>How</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Manage my weight</td>
<td>Exercise</td>
<td>Walk around neighborhood with my wife when I get home from work</td>
</tr>
<tr>
<td>Control my cholesterol</td>
<td>Eat right</td>
<td></td>
<td>Bring a healthy lunch from home instead of eating out</td>
</tr>
<tr>
<td>Keep my diabetes under control</td>
<td>Check blood sugar levels</td>
<td></td>
<td>Test after every meal and before I go to bed</td>
</tr>
</tbody>
</table>

**Timeline:**

- 2007
- 2008
- 2009
- 2010
- 2011
WHAT DOES THE FUTURE HOLD?

Is this something you’ll see at your next checkup?

Probably not.

But in the meantime...

What should we do?
Encourage physicians and patients to:

1. Go over test results **TOGETHER**
2. Have **MEANINGFUL** dialogue
3. Discuss relevant **OPTIONS** and **GOALS**
4. Leave the exam room feeling **UNDERSTOOD**.