Patients As Clinical Data Entry Partners

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Enlisting The Patient To Promote

- **Productivity**
- **Quality**

Items desperately needed in our practices

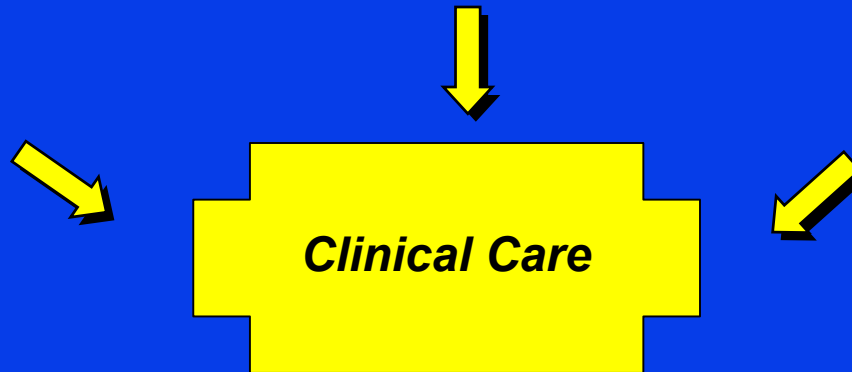# Clinical Care Is Information Intensive

World knowledge base
- Differential diagnoses
- Work up algorithms
- New therapeutics
- New protocols
- Current literature
- Clinical trials available

Patient Knowledge
- Current complaint / symptoms
- Past medical history
- Family history
- Demographics
- Insurance info
- Independent learning

Physician Knowledge
- Formal Training
- Independent learning
- Credentialed CME
- Experience
- Study results - labs, x-rays

Clinical Care

Many problems in medical care today relate to the difficulty in assimilating, recording, and acting on this information.

Medical Practice Environment
A Provider's View

- **More patients – less time per patient**
  - – **Increased patient expectations**
  - – **Decreased patient satisfaction**
- **Rising office costs (including transcription)**
- **Decreased reimbursement**
- **Increased documentation requirements**
  - – **Government**
  - – **Malpractice (not documented, not done nor discussed)**
- **Privacy and security concerns**
- **Quality concerns**

Public Attention On Quality

- **The IOM Reports - "Quality Chasm"**
  - Growing complexity of science with delays in implementation
  - Increased chronic disease burden but an acute care system
  - Inadequate use of information technology
  - System not conducive to quality improvement
- **CHCF -"Principles of Care"**
  - Patient empowerment
  - Reliability and safety
  - Care relationship beyond the encounter
  - Public accountability for quality
- **Handwriting, prescription errors, order entry, etc.**

Patients: A Hidden Resource

- **Strong and vested interest in their care**

- **Very willing to help their physician (for no charge)**

- **Primary historical information source**
  - **On average, 60-70% of a complete clinical chart note is information gathered from the patient**
  - **100% of the demographic and insurance information**

- **Opportunity exists to enlist the patient as a partner in**
  - **Productivity**
  - **Quality**

Patient Data Capture

Patient Input Enlisted From
- Home
- Work
- Physician's waiting room

To Directly Populate

Paper Chart   **Practice Management System**   **Web-Based Consultation Application**   **EMR**

HIPAA defines the framework that makes this possible

Patient As Primary Source Of The Clinical History

- **Chief Complaint**
- **History of Present Illness - (HPI)**
- **Past Medical History**
  - **Allergies**
  - **Medications**
  - **Medical problems**
  - **Surgeries**
  - **Immunizations**

- **Family History**
- **Social History**
- **Review of Systems (ROS)**

- **Demographics**
- **Insurance**

Patient Component

PROBLEM: **Back Pain**

HPI: **This 50 year old gentleman is seen for back pain which has been present for about 3 weeks. It came on after working in his yard and lifting blocks for a new wall. He has had prior episodes of low back pain in the remote past. His pain is in the low back without radiation into the legs. He denies weakness and numbness. Treatment to date has been oral pain meds. He has missed some work. He works as a school teacher.**

PMH:

Allergies

Sulfa

Medications

Tylenol

Zestril 10 mg per day

Albuterol inhaler as needed

Medical illnesses

Hypertension

Asthma

Surgery

Appendectomy

Family History

Hypertension

Social History

Lives with family

Non smoker

ROS:

Occasional headaches, occasional cough, heartburn,

Right knee pain

PE:

Assessment:

Plan:

Traditional Patient Data Capture

Two – step process

- **Extracting the clinical data from the patient**

- **Documenting that data in a medical record**

(Plenty of room for incompleteness, illegibility, excessive variations, mistakes, lost information, and costs)

Extracting The Clinical Data

- **Interviewing**
  - **Mainly the details of the current problem**
    (Huge variations by physician, time allotment, setting, etc)

- **Intake forms**
  - **Past medical history (PMH)**
    - **Allergies, medications, medical problems, etc.**
  - **Review of systems (ROS)**
  - **Demographics and insurance**

    (Forms-based capture more consistent patient to patient, day to day, independent of MD work schedule)

Documenting The Encounter In The Medical Record

- **Handwritten notes**
- **Dictated and transcribed**
- **Dictated using voice recognition**
- **Entry into an EMR**
- **Combinations of above**

(Each with productivity or quality concerns)

Improved Patient Data Capture

- **Expand forms-based capture to include the details of the HPI**
  - **Condition-specific interview**
    - **Generated by a specialist in that field**
    - **Age and gender adjusted as needed**
  - **Big task - but is possible**
- **Simple user interface on a computer screen to directly capture the information**
  - **Skip the clipboard**
- **Present the clinical information in a useable fashion at the visit**
  - **From which the physician expands**

Structured Clinical Interviews
Forms-Based Capture of HPI

- **Much larger and varied task than**
  - **PMH, FH, SH, ROS, Demographics**
- **Multiple condition-specific interviews**
  - **Symptoms**
  - **Illnesses**
  - **Injuries**
  - **Health maintenance**
- **Adjusted for**
  - **Age**
  - **Gender**
  - **Initial visit**
  - **Follow-up visit**
  - **Sidedness**

"Structured" Clinical Interview Follows Traditional HPI Format

- **Duration**
- **Onset**
  - **Rapidity?**
  - **Trauma?**
  - **Prior episodes?**
- **Pain**
  - **Location**
  - **Nature**
  - **VA scale**
- **Symptoms**

- **Functional difficulties**
- **Important associated conditions**
- **Work-up to date**
- **Non-op care to date**
- **Surgical care to date**

Condition-Specific Structured Clinical Interviews

- **Collect and present to the physician**
  - **80% of the baseline clinical information for a specific visit**
    - **As a text worksheet**
    - **Already in an EMR**
- **Allow education tagged to the visit**
  - **Condition known before visit**
    - **Physician – level**
    - **Patient - level**

Productivity

- **Physician time savings**
  - **Dictating, handwriting, or EMR data entry**
- **Cost savings**
  - **Transcription**
  - **Employee data entry**
    - **Secretary for the demographics**
    - **Nurse for the clinical data entry**
- **Patient education and satisfaction**

Quality

- **Clear, thorough, and legible clinical note**
  - **Independent of today's schedule and emergencies**
- **Consistent baseline of information collected for each condition**
- **Searchable database of clinical attributes**
- **Physician and patient education tied to the reason for the visit**

Patient Data Capture Will Improve and Differentiate

- **Electronic medical record systems**

- **Practice management systems**

- **Patient – physician communication applications**

Patient Data Capture Demo

- **Please ignore this application's user interface**
  - It exists for demonstration purposes
- **Primarily focus on condition-specific clinical data capture**
  - Structured clinical interviews at the disease/condition level
  - Database storage of the patient's responses
  - Generation of a clear and thorough chart note
  - Education appended to the reason for the visit / consult