MedStar Health

The Case for EMRs (and Strategies for their Acquisition)

Clinical Decision Support – Shared Decision Making

Center for Medicare and Medicaid Studies

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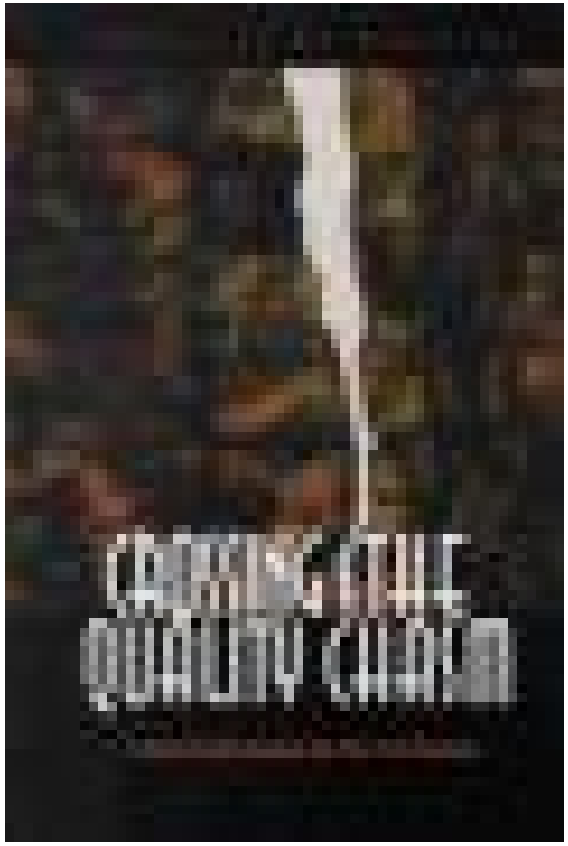
Overview

- The case for the electronic medical record (EMR)
- The evolving business case for EMRs
- Acquisition strategies for having EMR purchase (and use) support healthcare transformation

The chasm…

- **Informational medicine is suffering**
  - **Suboptimal quality**
  - **Too many errors**



…is growing deeper and wider

New definition of quality includes

- Decreasing unwanted variability
- Decreasing the time from "bench-to-bedside"
- Increasing (or perhaps resuming) care coordination
- Reducing / eliminating disparities in care
- Proactive population and disease management
- Shifting focus from episodic to longitudinal care
- Making health information more mobile and shareable
- Increasing involvement of the patient
- Acknowledging the necessity of reporting / transparency
- Efficiency measures
- Patient satisfaction

And what was once considered good care…

- Reactive episodic visits
- “Top-of-mind” decisions
- Paper-based ad hoc prescribing
- Non-interactive documentation
- No news = good news

…is no longer

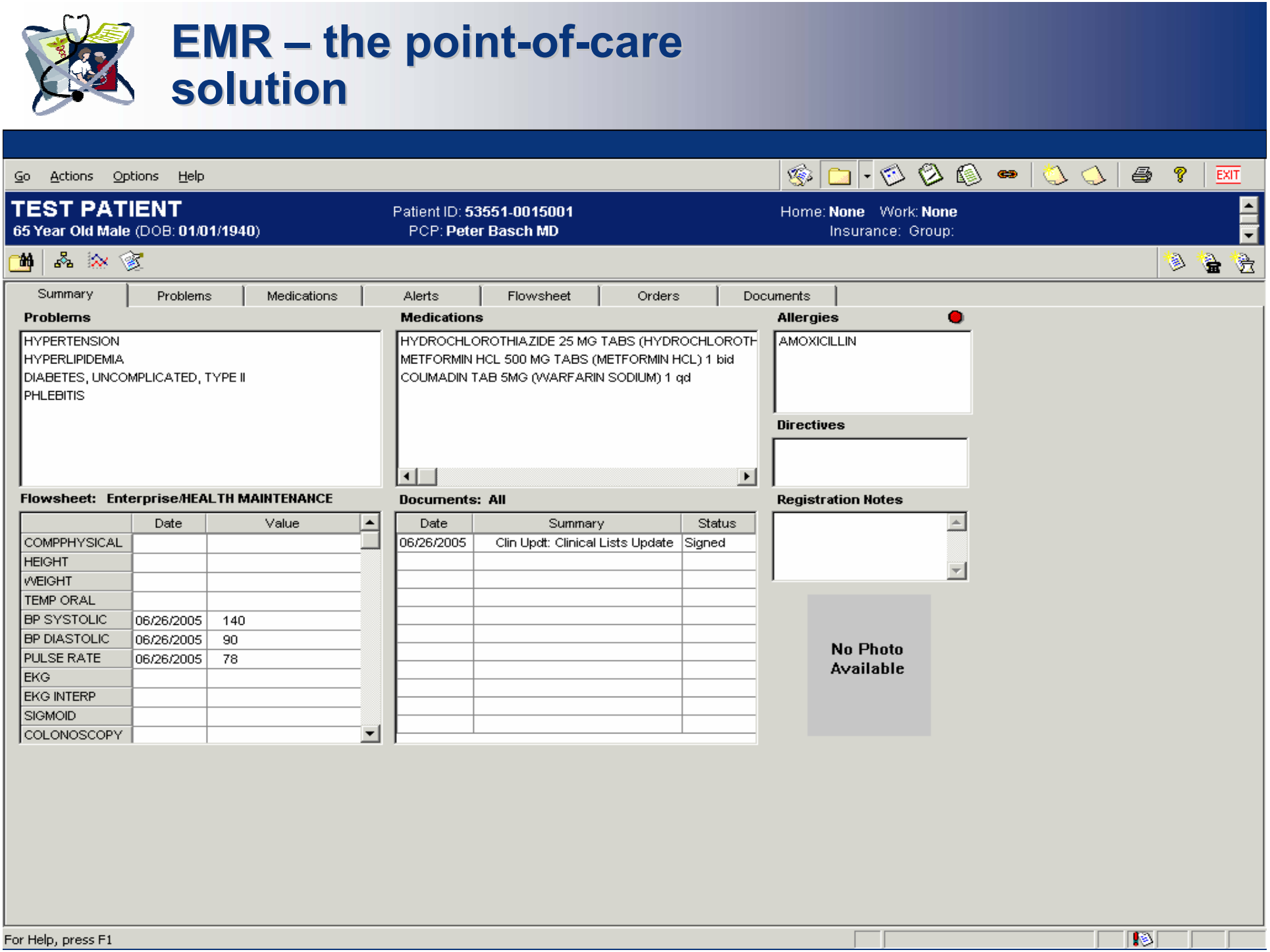
- Reactive episodic visits
- "Top-of-mind" decisions
- Paper-based ad hoc prescribing
- Non-interactive documentation
- No news = good news

- **Reactive and proactive care**
- **Embedded CDSS / guidelines**
- **Knowledge-based medication management (eRx)**
- **Interactive documentation**
- **Orders loop management**

Particularly when

- Caring for patients with
  - Chronic disease
  - Multiple disorders
- Attempting to follow complex guidelines in a time-efficient manner
- Coordinating complex medication regimens
- Collecting / reporting quality data to Medicare, QIOs, payers
- Participating in pay-for-performance pilots / programs

EMR – the point-of-care solution



EMR or EHR?

	Information analysis	Information exchange	Personal health management	Enterprise	Ambulatory care
Across organizations		LMR EHR PHR	PHMT		
Within one organization				CPR EMR Direct Care Tools	

The business case for EMRs…

- Upfront costs / clinician = ~ $20,000 - $40,000
  - Hardware
  - Software
  - Networking
- Annual support / maintenance costs = ~$3,000 - $8,000
- Benefit per clinician per year – highly variable
- Net at year 3 = ~-$20,000 - ~+$34,000
- Variables in achieving benefits
  - Software pricing
  - Cost of risk
  - Cost of connectivity
  - Pre-EMR conditions
    - Staffing ratios
    - Use of transcription
    - Average E/M coding level
    - Cost per chart pull?
  - Additional revenue from P4P efforts

…is improving

Barrier	Solution	Current Work
Confusion about quality of application	EMR product certification	Certification Commission on HIT (CCHIT)
Not knowing which EMR is best for which type of practice	Trusted specialty-specific EMR guidance	Medical specialty societies; KLAS, HIMSS, others
Wide variability in contracting and business practices	Standard contracting language, RFP guidance	eHealth Initiative
Risk of implementation failure	Trusted technical advice	DOQ-IT
Difficult and expensive access to external information	Standards-based solutions for labs, imaging centers, etc	California Health Care Foundation (eLINCS)

Acquisition Strategies - #1

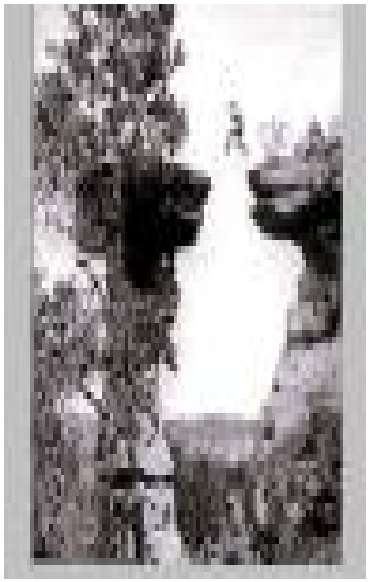
- Decrease risks of bad purchase
  - CCHIT certification likely
  - Advice from medical specialty societies, colleagues
  - Careful review of purchase / lease contract
- Decrease initial and ongoing costs
  - Group purchasing
  - ASP model?
- Maximize benefits of implementation
  - Include sufficient time / clinician in purchase
  - Focus on practice efficiencies, not just learning software
- While EMRs <u>can</u> make care better…

  There is little evidence that they have (thus far)!

Before you buy…

- Why?
  - Culture?
  - Right tool?
  - Training?
  - Reimbursement?
- Toxic reimbursement system
  - Only financial incentives are for visit volume
  - Improving care = ↑ cost to clinicians / ↑ benefit to payers
- Having a sustainable business case for information management and quality (such as Section 646)
  - Creates a market for advanced EMRs
    - Bundled with the right tools (and the drafting of some not yet in existence)
  - And training
  - And performance

Acquisition Strategy – Create a compelling vision

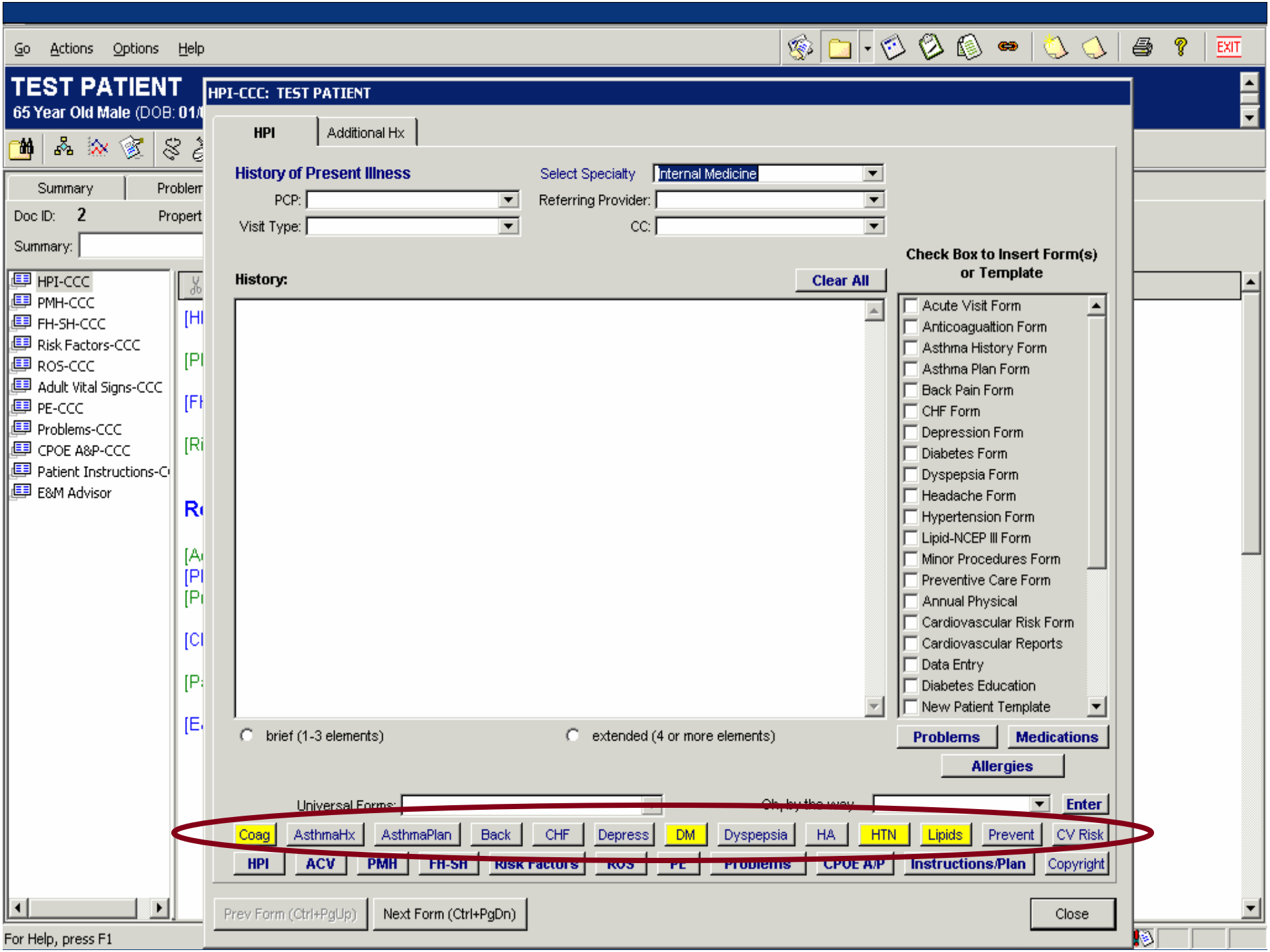


The EMR as enabler of healthcare transformation

- Informing practice
- Transforming practice

Informing practice

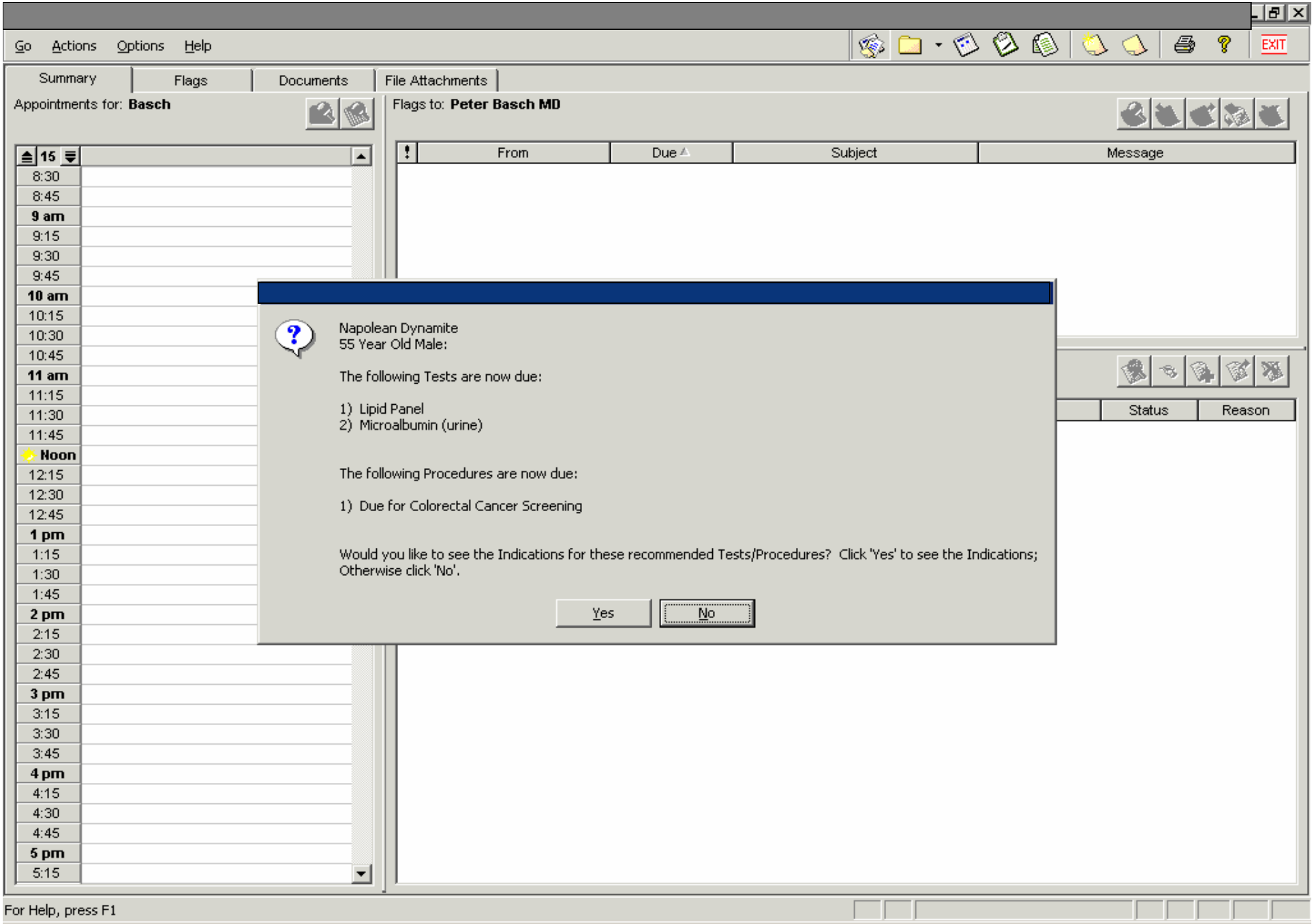
- Most care is now reactive / episodic
- Including more proactive care in reactive visits


Go
Actions
Options
Help
EXIT
TEST PATIENT
65 Year Old Male (DOB: 01/
Summary
Problem
Doc ID: 2
Propert
Summary:
HPI-CCC
PMH-CCC
FH-SH-CCC
Risk Factors-CCC
ROS-CCC
Adult Vital Signs-CCC
PE-CCC
Problems-CCC
CPOE A&P-CCC
Patient Instructions-C
E&M Advisor
HPI-CCC: TEST PATIENT
HPI
Additional Hx
History of Present Illness
Select Specialty
Internal Medicine
PCP:
Referring Provider:
Visit Type:
CC:
History:
Clear All
Check Box to Insert Form(s) or Template
Acute Visit Form
Anticoagualtion Form
Asthma History Form
Asthma Plan Form
Back Pain Form
CHF Form
Depression Form
Diabetes Form
Dyspepsia Form
Headache Form
Hypertension Form
Lipid-NCEP III Form
Minor Procedures Form
Preventive Care Form
Annual Physical
Cardiovascular Risk Form
Cardiovascular Reports
Data Entry
Diabetes Education
New Patient Template
brief (1-3 elements)
extended (4 or more elements)
Problems
Medications
Allergies
Universal Forms:
Enter
Coag
AsthmaHx
AsthmaPlan
Back
CHF
Depress
DM
Dyspepsia
HA
HTN
Lipids
Prevent
CV Risk
HPI
ACV
PMH
FH-SH
Risk Factors
ROS
PE
Problems
CPOE A/P
Instructions/Plan
Copyright
Prev Form (Ctrl+PgUp)
Next Form (Ctrl+PgDn)
Close
For Help, press F1

Informing practice

- Most care is now reactive / episodic
- Including more proactive care in reactive visits

Or even in the process of scheduling visits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Summary
Flags
Documents
File Attachments
Appointments for: Basch
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Due
Subject
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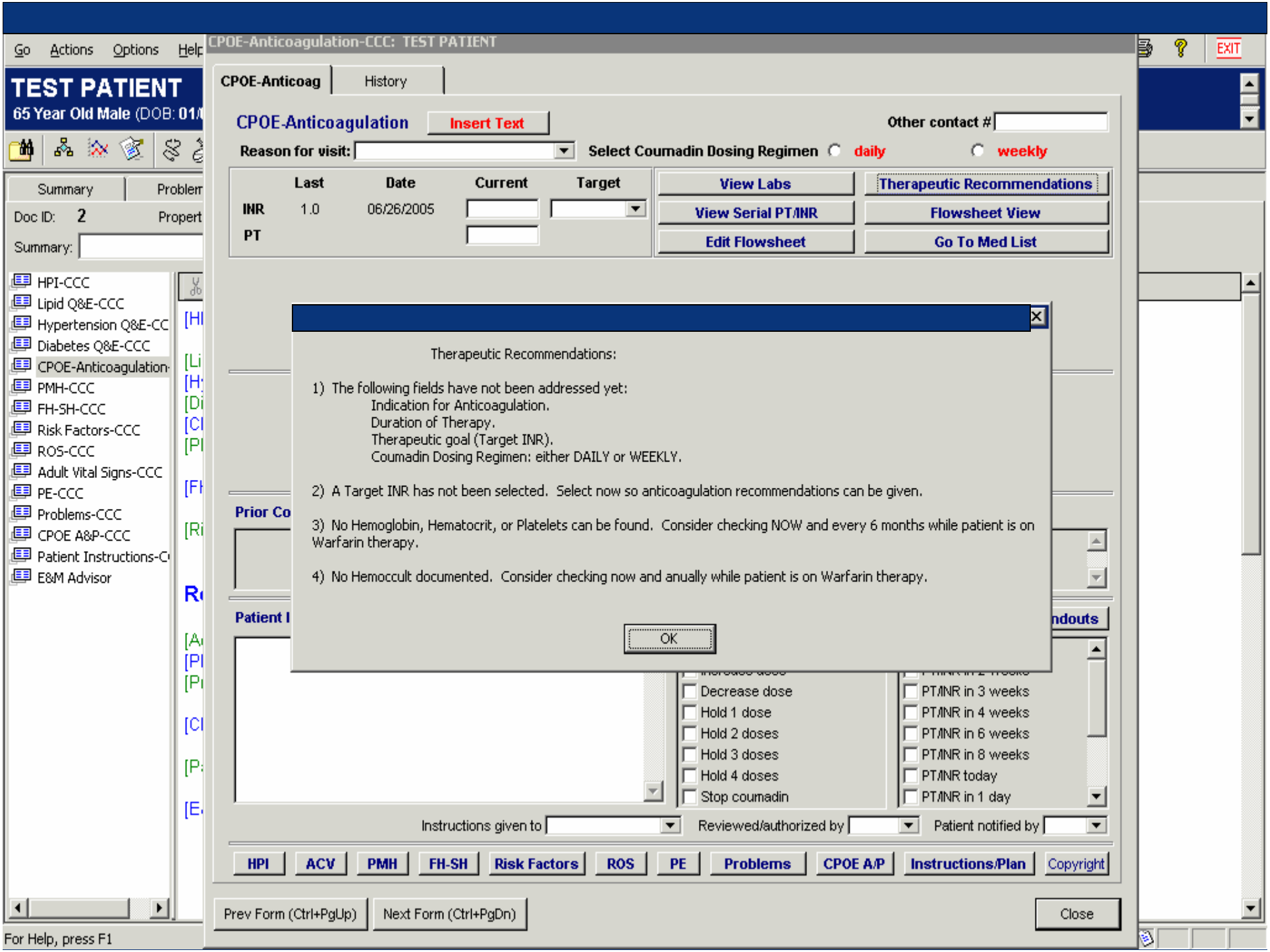
5 pm
5:15
Napolean Dynamite
55 Year Old Male:
The following Tests are now due:
1) Lipid Panel
2) Microalbumin (urine)
The following Procedures are now due:
1) Due for Colorectal Cancer Screening
Would you like to see the Indications for these recommended Tests/Procedures? Click 'Yes' to see the Indications; Otherwise click 'No'.
Yes
No
For Help, press F1

Informing practice

- Most care is now reactive / episodic
- Including more proactive care in reactive visits
- **All visits can include optimization of concurrent and chronic care management, as well as necessary preventative care**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Lipid Q&E-CCC
Hypertension Q&E-CC
Diabetes Q&E-CCC
CPOE-Anticoagulation-
PMH-CCC
FH-SH-CCC
Risk Factors-CCC
ROS-CCC
Adult Vital Signs-CCC
PE-CCC
Problems-CCC
CPOE A&P-CCC
Patient Instructions-C
E&M Advisor
For Help, press F1
CPOE-Anticoagulation-CCC: TEST PATIENT
EXIT
CPOE-Anticoag
History
CPOE-Anticoagulation
Insert Text
Other contact #
Reason for visit:
Select Coumadin Dosing Regimen
daily
weekly
Last
Date
Current
Target
INR
1.0
06/26/2005
PT
View Labs
Therapeutic Recommendations
View Serial PT/INR
Flowsheet View
Edit Flowsheet
Go To Med List
Therapeutic Recommendations:
1) The following fields have not been addressed yet:
Indication for Anticoagulation.
Duration of Therapy.
Therapeutic goal (Target INR).
Coumadin Dosing Regimen: either DAILY or WEEKLY.
2) A Target INR has not been selected. Select now so anticoagulation recommendations can be given.
3) No Hemoglobin, Hematocrit, or Platelets can be found. Consider checking NOW and every 6 months while patient is on Warfarin therapy.
4) No Hemoccult documented. Consider checking now and anually while patient is on Warfarin therapy.
OK
Prior Co
Patient I
ndouts
Decrease dose
Hold 1 dose
Hold 2 doses
Hold 3 doses
Hold 4 doses
Stop coumadin
PT/INR in 3 weeks
PT/INR in 4 weeks
PT/INR in 6 weeks
PT/INR in 8 weeks
PT/INR today
PT/INR in 1 day
Instructions given to
Reviewed/authorized by
Patient notified by
HPI
ACV
PMH
FH-SH
Risk Factors
ROS
PE
Problems
CPOE A/P
Instructions/Plan
Copyright
Prev Form (Ctrl+PgUp)
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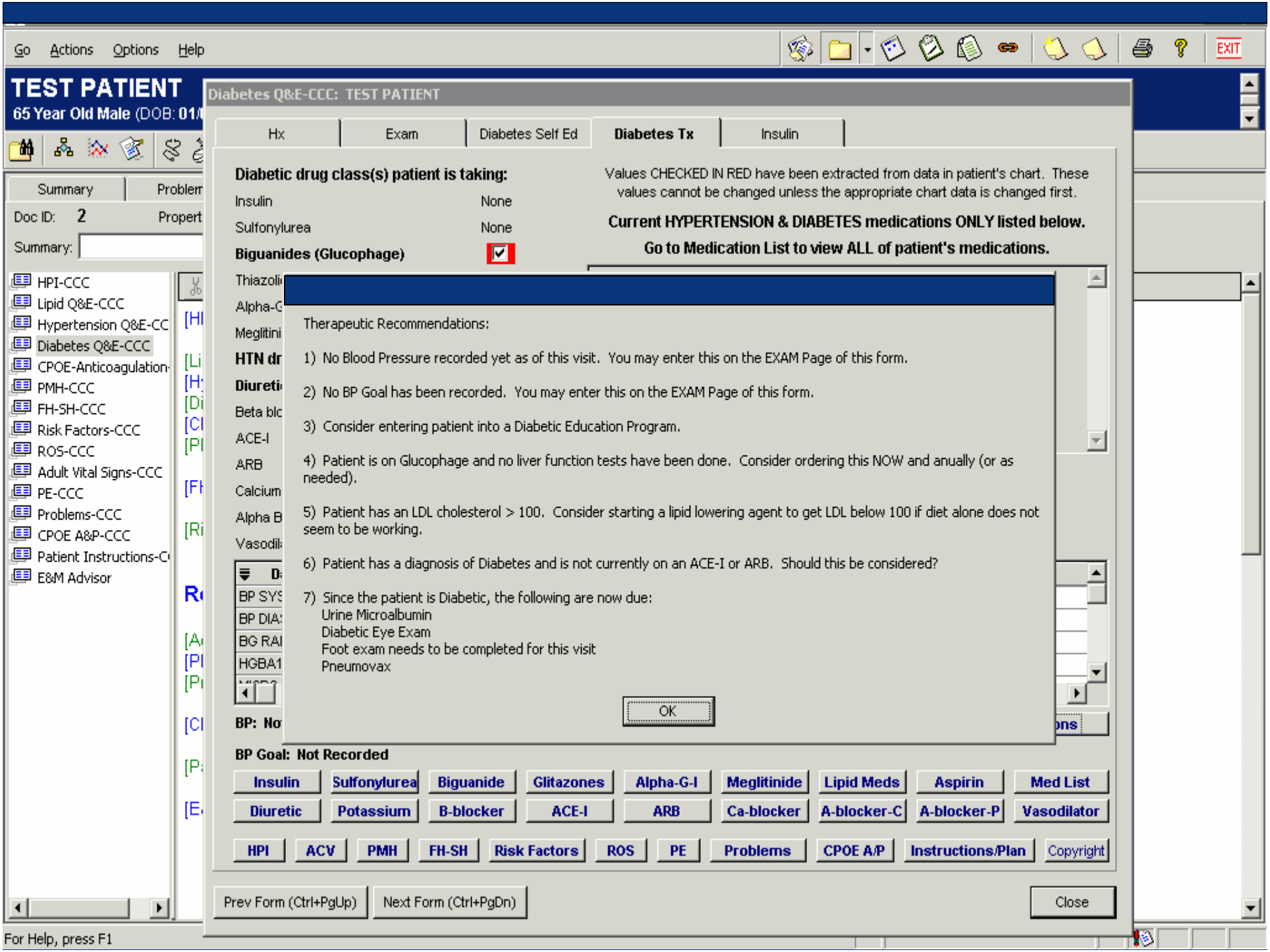
Close


Go Actions Options Help
EXIT
TEST PATIENT
65 Year Old Male (DOB: 01/
Diabetes Q&E-CCC: TEST PATIENT
Hx
Exam
Diabetes Self Ed
Diabetes Tx
Insulin
Diabetic drug class(s) patient is taking:
Insulin None
Sulfonylurea None
Biguanides (Glucophage)
Values CHECKED IN RED have been extracted from data in patient's chart. These values cannot be changed unless the appropriate chart data is changed first.
Current HYPERTENSION & DIABETES medications ONLY listed below.
Go to Medication List to view ALL of patient's medications.
Therapeutic Recommendations:
1) No Blood Pressure recorded yet as of this visit. You may enter this on the EXAM Page of this form.
2) No BP Goal has been recorded. You may enter this on the EXAM Page of this form.
3) Consider entering patient into a Diabetic Education Program.
4) Patient is on Glucophage and no liver function tests have been done. Consider ordering this NOW and anually (or as needed).
5) Patient has an LDL cholesterol > 100. Consider starting a lipid lowering agent to get LDL below 100 if diet alone does not seem to be working.
6) Patient has a diagnosis of Diabetes and is not currently on an ACE-I or ARB. Should this be considered?
7) Since the patient is Diabetic, the following are now due:
Urine Microalbumin
Diabetic Eye Exam
Foot exam needs to be completed for this visit
Pneumovax
OK
BP Goal: Not Recorded
Insulin Sulfonylurea Biguanide Glitazones Alpha-G-I Meglitinide Lipid Meds Aspirin Med List
Diuretic Potassium B-blocker ACE-I ARB Ca-blocker A-blocker-C A-blocker-P Vasodilator
HPI ACV PMH FH-SH Risk Factors ROS PE Problems CPOE A/P Instructions/Plan Copyright
Prev Form (Ctrl+PgUp)
Next Form (Ctrl+PgDn)
Close
Summary
Doc ID: 2
Summary:
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Lipid Q&E-CCC
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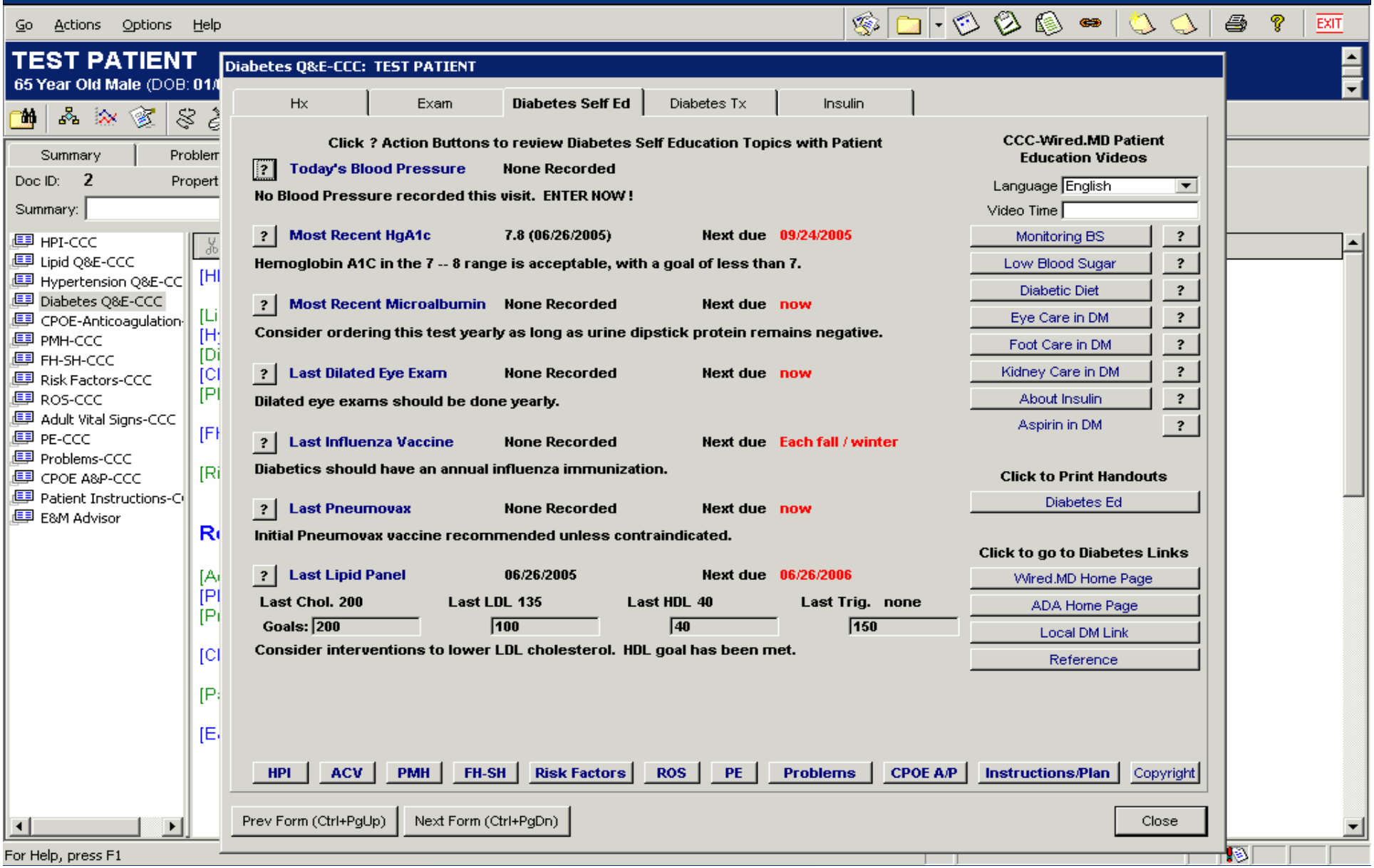
Patient Instructions-C
E&M Advisor
For Help, press F1

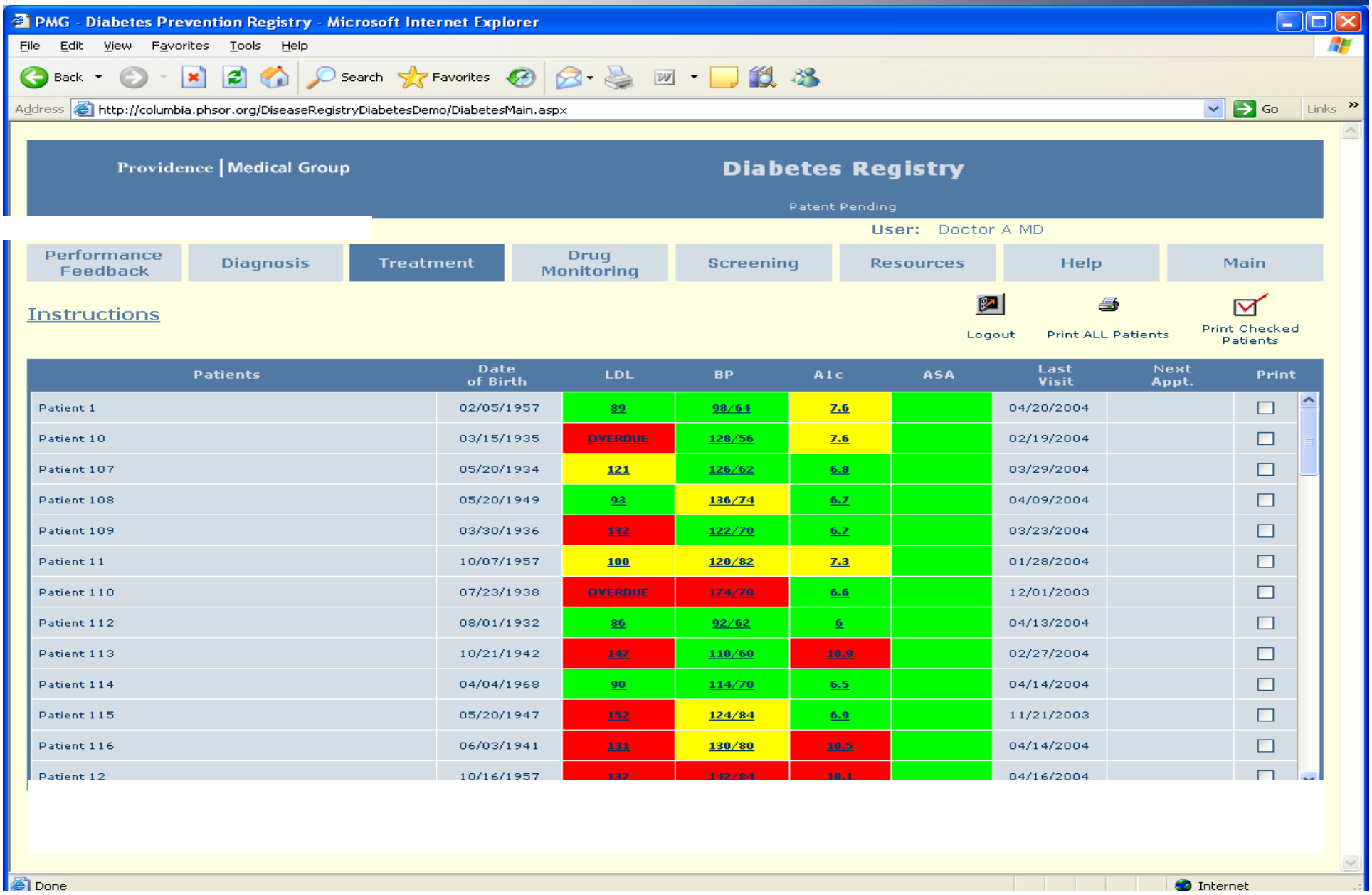
Transforming practice – Achieving 'STEEEP' care

- Different / additional software
  - Advanced granular / actionable decision support
  - Registry
  - Patient connectivity
    - Secure portal / tethered PHR
    - Can write to / read from PHR
- Practice redesign
  - Evidence-based preventative services
  - Proactive care for select chronic diseases
  - Improved care coordination
  - Enabling collaborative care with patient
  - New definition of 'reactive' care
    - Patient satisfaction
    - Recent hospital discharges
    - Most difficult / expensive

Sharing decision support with patients

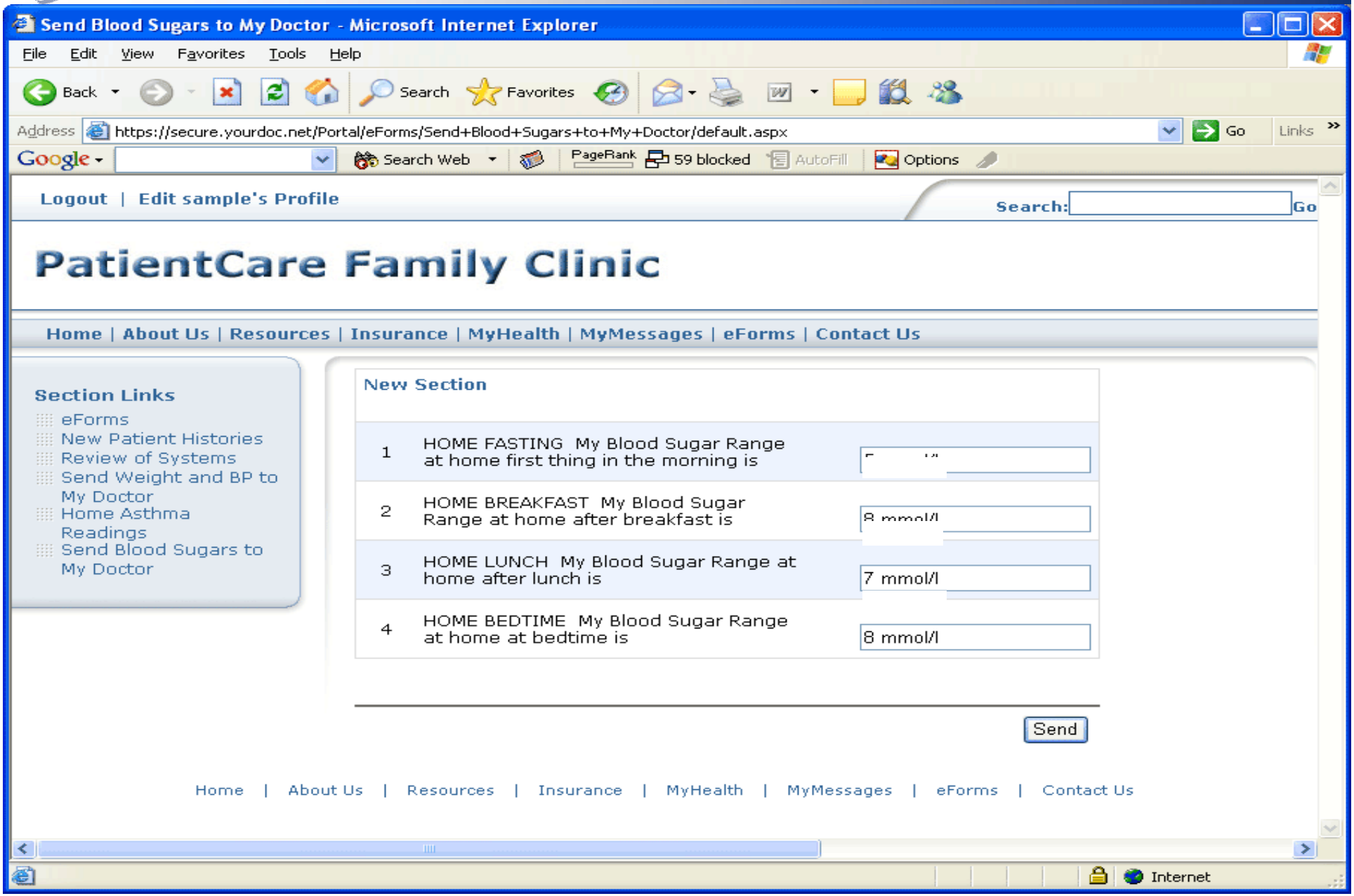


Adding a DM registry



Patients	Date of Birth	LDL	BP	A1c	ASA	Last Visit	Next Appt.	Print
Patient 1	02/05/1957	89	98/64	7.6		04/20/2004		
Patient 10	03/15/1935	OVERDUE	128/56	7.6		02/19/2004		
Patient 107	05/20/1934	121	126/62	6.8		03/29/2004		
Patient 108	05/20/1949	93	136/74	6.7		04/09/2004		
Patient 109	03/30/1936	132	122/70	6.7		03/23/2004		
Patient 11	10/07/1957	100	120/82	7.3		01/28/2004		
Patient 110	07/23/1938	OVERDUE	174/70	6.6		12/01/2003		
Patient 112	08/01/1932	86	92/62	6		04/13/2004		
Patient 113	10/21/1942	147	110/60	10.9		02/27/2004		
Patient 114	04/04/1968	90	114/70	6.5		04/14/2004		
Patient 115	05/20/1947	152	124/84	6.9		11/21/2003		
Patient 116	06/03/1941	131	130/80	10.5		04/14/2004		
Patient 12	10/16/1957	137	142/84	10.1		04/16/2004		

Integrating eCare

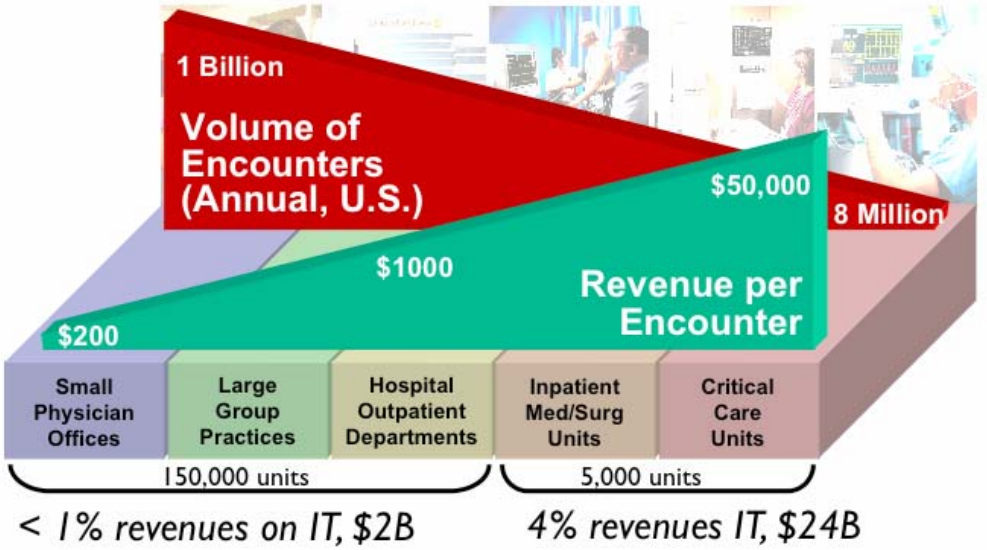


Acquisition Strategy – Purchase towards vision

- Embedded granular / actionable decision support
  - Reactive care (both definitions)
  - Proactive care
  - Chronic care management
  - Shared care
- Knowledge-based medication management
- Robust orders loop management
- Enabling collaborative care with patient
- Performance measurement
  - Measures and aggregates select structured elements
  - Readily able to share reports with others PRN

Remember small practices

- > 50% of all healthcare expenditures in the US on ambulatory care (rate of increase is greater for outpatient than inpatient services)
- ~80% of the nearly 1 billion annual outpatient visits take place in practices of 10 or fewer clinicians (and ~50% in practices with fewer than 5 clinicians)



Summary

- EMRs are an essential element of achieving ‘STEEEP’ care
  - EMRs and HIE are enablers of effective / efficient process change – not the end-result or vision
- Having a sustainable business case for robust information management and quality
  - Makes advanced EMR purchase a wise investment
  - Makes it more likely that the EMR will be used to support system level change / transformation
- Acquisition strategies
  - #1 – Decrease risks & costs; maximize returns
  - #2 – Purchase EMRs that support compelling vision