

# The Changing Face of Pharmacy: Advancement of Pharmacist Services in Rhode Island



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## Agenda

- Background
  - Scope of the problem
  - Pharmacist training and expertise
- The Changing Face of Pharmacy
  - Community pharmacy
  - Hospital pharmacy
  - Ambulatory Care
    - Primary Care: Coastal Medical
    - Specialists: University Medicine



## Scope of the Problem

“Pharmaceuticals are the most common medical intervention, and their potential for both help and harm is enormous. Ensuring that the American people get the most benefit from advances in pharmacology is a critical component of improving the national health care system.”

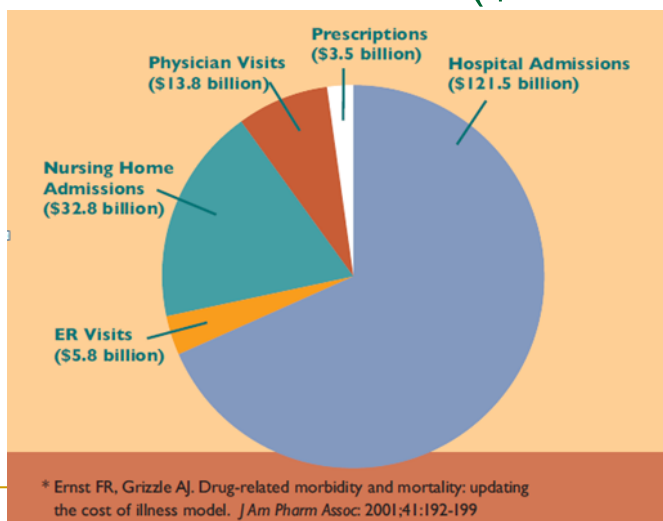
The Institute of Medicine (IOM)<sup>1</sup>

“Drugs Don’t Work in People that Don’t Take Them”

C. Everett Koop, MD  
Former Surgeon General

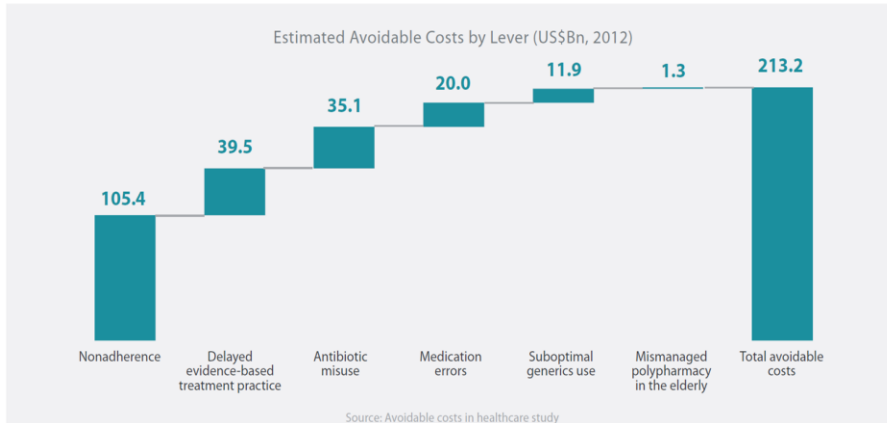
<sup>1</sup> The Institute of Medicine, National Academy of Sciences. Informing the future: Critical issues in health. Fourth edition, page 13. <http://www.nap.edu/catalog/12014.html>

## Annual US Costs Due to Incorrect Use of Medications (\$177.4 B)



## The \$200-300 Billion problem

**Exhibit 1: Avoidable U.S. healthcare costs add up to \$213 billion**



IMS Institute for Healthcare Informatics Avoidable costs in US health care. 2013. Available at: [http://www.imshealth.com/deployedfiles/imshealth/Global/Content/Corporate/IMS%20Institute/RUOM-2013/IHII\\_Responsible\\_Use\\_Medicines\\_2013.pdf](http://www.imshealth.com/deployedfiles/imshealth/Global/Content/Corporate/IMS%20Institute/RUOM-2013/IHII_Responsible_Use_Medicines_2013.pdf). Accessed September 15, 2014.

## The Facts

- 75% of all healthcare costs are related to chronic disease
- 5 % of patients account for 50% cost
- Appropriate use of medications can
  - Improve health
  - Enhance quality of life
  - Increase productivity



## “The Invisible Epidemic” Medication Nonadherence

- 50% of patients take their meds as prescribed
- Costs: ~ \$177 billion/year (direct & indirect)
- Consequences:

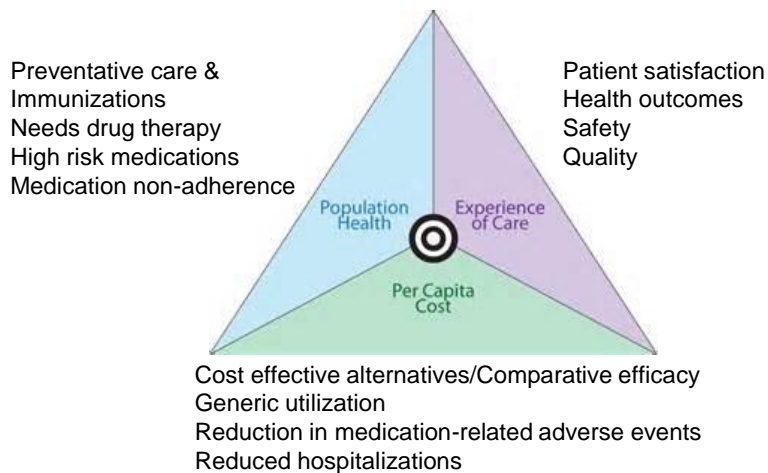
Disease progression	Disease complications	Reduced functional abilities	Lower quality of life	Premature death
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- Non-adherence affects people of all ages, both genders, and is just as likely to involve high-income, well-educated people as those at lower socioeconomic levels

## Pharmacists = Medication Experts

- Education and Training
  - Entry-level 6-yr degree (PharmD) 2 yr pre-pharmacy + 4 yr pharmacy curriculum
  - 2-3 yrs Pharmacotherapeutics
  - 1.5 yr Drug Info/Literature Evaluation
  - 3 yrs integrated pharmacy problem- solving seminars
  - 4 yrs patient-care experience + clinical rotations
- Postgraduate Residencies and Fellowships (optional)
- Board-certified specialties (optional)
  - Ambulatory Care, Geriatrics, Pharmacotherapy, Nutrition Support, Psychopharmacy, Oncology, Nuclear Pharmacy

## Collaborating with pharmacists is key to achieving IHI: Triple Aim



### What is going on in Rhode Island currently?

- Payer funded pharmacy programs are evolving
  - BCBSRI
  - United Health Care
  - Neighborhood Health
  - Accountable Care Organizations

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## COMMUNITY/RETAIL PERSPECTIVE

- Medication Therapy Management
    - Outcomes MTM
    - Mirixa
  
  - Medication Quality Measures
    - High risk medications
    - Diabetes treatment
    - Medication adherence
      - Diabetes (oral medications)
      - Hypertension
      - Cholesterol
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## How to Expand Opportunities for Pharmacists?

1. Update the laws to improve opportunities/remove barriers
2. Secure funding sources for sustainable payment models

Some suggestions:

- Recognize pharmacists as providers
  - Collaborative practice agreements
  - Perform CLIA waived tests/limited function laboratory tests
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## HOSPITAL INITIATIVES



## Transitions of Care (TOC)

### Why is there such a focus in healthcare on TOC?

- \$25-45 billion in wasteful spending
- Avoidable

### What is being done in RI?

- TOC Pharmacy Services in RI
  - Collaboration with Lifespan / Coastal
    - Patients discharged to home from hospital
      - High readmission risk
    - Goal is to prevent readmissions



# Antimicrobial Stewardship

## Why is this ASP important?

- 50% of antibiotic use inappropriate in hospitals, 70% in LTCF = Antibiotic Resistance
  - Consequences:
    - Increased morbidity
    - Increased mortality
    - Increased healthcare costs
  - Rhode Island Antimicrobial Stewardship Task Force
  - Hospital ASP Programs

Table 1. Hospital *Clostridium difficile* LabID Events in New England States, First Quarter of 2013

State	Observed Cases	Predicted Cases	SIR	95% CI	Rank
Vermont	23	37.4	0.614	0.389-0.922	4
Maine	65	97.8	0.665	0.513-0.847	7
New Hampshire	77	94.6	0.814	0.642-1.017	16
Massachusetts	663	640.0	1.083	1.004-1.167	38
Connecticut	397	356.9	1.100	0.994-1.213	40
Rhode Island	170	125.2	1.358	1.162-1.578	51

SIR, standardized incidence ratio; CI, confidence interval.  
Note: Data from Hospital Compare Website (<https://data.medicare.gov/>)

## Other Initiatives

- Specialty Clinics
  - Hepatitis Clinic
  - Hypertension monitoring
- Retail pharmacy
- ED Pharmacists
  - Medication Reconciliation
- Naloxone program
- BCBS quality outcomes
- VNA





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Ambulatory Care Perspective

## Role of Pharmacist in PCMH (Patient-Centered Medical Homes)

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### National and Regional Relevance

- PCMH concept introduced to RI in 2008
- Model is centerpiece of Affordable Care Act, 2009
- Meaningful Use
- Accountable Care Organization
- NCQA (National Committee for Quality Assurance) Patient Centered Medical Home certification

**They all require:**

- A new practice focus on **quality outcomes**.

- Exchange level **data systems** to track and report outcomes.

- Care delivery systems require **team-based** care to achieve outcomes.

Pharmacist integration is more widespread,  
locally and nationally

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[www.cms.gov](http://www.cms.gov) for meaningful use

[www.innovation.cms.gov](http://www.innovation.cms.gov) for **accountable** care organizations

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## Role of the PCMH Pharmacist



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## Coastal Medical: A Snapshot

- Founded in 1995 as a group practice with 27 doctors
  - Today: a **primary care driven ACO**
  - 84 physicians, 27 advanced practitioners, 21 NCMs, 10 Pharmacists, and 5 Pharmacy Technicians
  - Mostly primary care
  - 120,000 patients at 20 sites across RI
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## 2015 Care Model

PCMH	Population Health Management
<ul style="list-style-type: none"> <li>• Team based care</li> <li>• Enhanced access</li> <li>• Patient engagement</li> <li>• Central medication refills</li> </ul>	<ul style="list-style-type: none"> <li>• Team of analysts</li> <li>• Data management</li> <li>• Population segmentation</li> <li>• Portfolio of clinical initiatives</li> </ul>

## Coastal Medical Pharmacy Services

Population Health	Centralized	Office Based Services
<ul style="list-style-type: none"> <li>• Diabetes Management Program</li> <li>• Pain Management</li> <li>• Transitions of Care</li> <li>• Preventive Care</li> </ul>	<ul style="list-style-type: none"> <li>• Pharmacy Refills and Prior Authorizations</li> <li>• Medication Reconciliation</li> <li>• Staff Training</li> </ul>	<ul style="list-style-type: none"> <li>• MTM consults</li> <li>• Collaborative Disease Management</li> <li>• Cardiac Risk Reduction</li> <li>• Medication Conversion</li> <li>• Safety</li> </ul>

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## What quality measures can pharmacists impact the most?

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### Pharmacy Quality Metrics

- Over 140 clinical quality measures= **Opportunity!**
  - Medication Measures
  - Medication reconciliation after admission
    - Developed training program for Medical Assistants
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## Pharmacy Quality Metrics

- Disease Management Quality Metrics
  - ❑ Diabetes measures
  - ❑ LDL screening rates for cardiovascular conditions
  - ❑ Blood pressure control
- Medication Therapy Management Services
  - ❑ MTM visits
  - ❑ Targeted medication reviews
  - ❑ Pharmacy cost and utilization

## Coastal Medical Pharmacy Interventions

Pharmacy Interventions	Interventions	Annualized Savings
Statin Conversions	433	\$777,228
Prescription Assistance	61	\$145,354
ARB Switch	95	\$114,708
PPI Switch	70	\$107,520
Discontinue Meds	48	\$73,500
Non-preferred to preferred brand	13	\$20,412
Inhaler Conversions	33	\$15,060
Other	30	\$3,948
<b>Total</b>	<b>733</b>	<b>\$1,320,088</b>

## Pharmacy Activity 2013

<b>Face to Face encounters</b>		<b>Total</b>
	Total Encounters	1289
<b>Telephone Encounters</b>		
	Total Encounters	7044
<b>Other Programs</b>		
	Medication Conversion Reviews	957
	Care Conferences	1453
	Cardiac Risk Reduction Clinic	2724
<b>Total Activity</b>		
	Total	13467
	Total/PharmD	3848

## Improvements in Quality

### ACO Quality Measures for 2014

- Diabetes A1C <9%
  - Coastal rate: 9.48%; 90<sup>th</sup> percentile: 10%
- Diabetes composite
  - Coastal rate: 45%; 90<sup>th</sup> percentile: 36%
- CAD composite
  - Coastal rate: 86%; 90<sup>th</sup> percentile: 80%

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## Proving the ROI

- Medication Utilization
    - Identified top medications prescribed by cost and volume
    - Identified medications that were clinically appropriate to recommend generic substitution
  - Quality Measures
    - 90<sup>th</sup> percentile for ACO medication measures
  - Disease Management
    - Better A1C control in Diabetic population
    - Increased adherence to evidence based recommendations
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## Patient Experience

- *“Received some very useful information from my visit and commend Coastal for getting to those over 65 and making a great effort to keep them healthy and informed.”*
  - Answer to question: Did you learn anything new about your medications from the pharmacist?  
*“Very helpful. This was the high point of the visit.”*
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## PCMH Pharmacists in RI

- 2014 BCBS supported the expansion of PCMH Pharmacist Model
    - Rhode Island Primary Care
    - Anchor Medical
    - University Medicine
    - South County Hospital
    - Medical Associates of Rhode Island
  - Coastal Medical has supported expansion of Pharmacy services from 3 pharmacists to 11
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## University Medicine

- Largest non-profit, academic, multi-specialty medical group in Rhode Island
  - ~ 190 physicians
  - Affiliated with Warren Alpert Medical School of Brown University
- Primary Care and Specialty Outpatient Services
- Primary Care Services are offered at 8 locations throughout RI
- Specialties include:
  - Endocrinology
  - Gastroenterology
  - Geriatrics & Palliative Medicine
  - Hematology/Oncology
  - Hospital Medicine
  - Hypertension & Kidney Disease
  - Infectious Disease
  - Pulmonary, Critical Care & Sleep Medicine
  - Rheumatology
  - Travel Medicine Clinic
- UM physicians also lead many inpatient medical services at RIH and TMH

## Welcome to the Patient-Centered Medical Neighborhood



[http://www.hin.com/infographics/Medical\\_home\\_neighborhood\\_infographic.html#.VTBmZqPD9fw](http://www.hin.com/infographics/Medical_home_neighborhood_infographic.html#.VTBmZqPD9fw)

## Building a Pharmacy Program for CKD

- CKD patients cost 6 times more than avg patient
  - \$22,647 vs. \$3,829
- Complications are common in this population
- Co-morbidities are common
  - High Blood Pressure
  - Heart Failure
  - Diabetes
- Early identification of patients with Chronic Kidney Disease and collaboration within the healthcare team (PCP, Nephrologist, NCM, Pharmacist, etc) will lead to better management, reduced complications, improved health outcomes, and reduced costs in this population
  - Project team used EMR to identify population

## Incorporating Pharmacists in the Patient-Centered Medical Neighborhood

- 2 Pharmacists practicing at the “top of their license”
- Collaborate with providers to:
  - Identify, resolve and monitor medication use and safety
  - Optimize cost-effectiveness of medications
  - Improve medication compliance and persistence = adherence
  - Perform medication reconciliation and communicate med info to patient, providers, and all other entities in care transitions
- Enhance Access to Care
  - Pharmacists can provide patient services in multiple locations
- Address Health Disparities
  - Health literacy issues
  - Motivational interviewing



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## Early Lessons Learned

- > 5 physicians involved in a CKD patient's care
  - New to patients but experience/feedback has been overwhelmingly positive
  - Avg # drug therapy opportunities identified/encounter= 4
    - Indication: Untreated/undertreated conditions
    - Indication: Unnecessary medications
    - Effectiveness: Changing timing of administration
    - Effectiveness: Suboptimal therapy
    - Safety: Side effect due to drug
    - Safety: Inappropriate dosing based on kidney function
    - Safety: High risk medications
    - Adherence
    - Cost effective therapy
    - Lab monitoring
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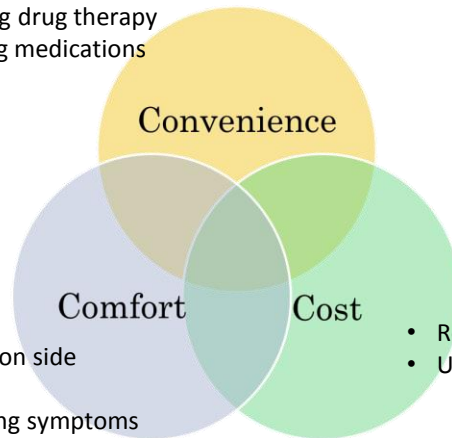
## Establishing/Solidifying the Framework

- 1) Clinical data-sharing
  - 2) Patient-centered focus
  - 3) Strong community links
  - 4) Carefully managed care transitions
  - 5) Clear agreement on neighbors' roles
  - 6) Individualized care plans for complex patients
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## Pharmacists can help patients based on their individual needs

- Simplifying drug therapy
- Organizing medications



- Avoiding medication side effects
- Reducing/managing symptoms

- Reducing med expenses
  - Using generic meds
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## IMPACT OF PHARMACIST SERVICES

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## Return on Investment

- **On average, \$16.70 saved for every \$1 invested in clinical pharmacy services (review of 104 studies)**

Bussey HI. Blood, sweat, and tears: Wasted by Medicare's missed opportunities. *Pharmacotherapy* 2004;24:1655-58.

- **Benefit: cost ratio ranged from 1.7:1 - 17.0:1 (literature review)**

Schumock GT, Butler MG, Meek PD, Vermeulen LC, Arondekar BV, Bauman JL. 2002 Task Force on Economic Evaluation of clinical Pharmacy Services of the American College of Clinical Pharmacy. Evidence of the economic benefit of clinical pharmacy services: 1996-2000. *Pharmacotherapy*. 2003 Jan, 23(1):113-32.

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## Return on Investment

- **Asheville Project \*\* - Pharmacist MTM program for diabetics saved \$1200/pt/yr with improved outcomes**

Bunting BA, Cranor CW. The Asheville project: long term, clinical, humanistic, and economic outcomes of a community based medication therapy management program for asthma. *J Am Pharm. Assoc* 2006;46:133-47.

\*\* Scope of MTM services provided in some programs may differ from the comprehensive framework described and recommended for the PCMH.

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Questions??