Empowering Effective Patient Self-Management for Diabetes

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2015 Mid-America Pharmacy Conference & Expo
Overland Park, Kansas • September 13, 2015
Learning Objectives

1. Understand patient self-management, patient engagement, patient empowerment
2. Provide examples of effective patient self-management care models and the evidence-base supporting the interprofessional role of the pharmacist
3. Describe how interdisciplinary processes of care that include the pharmacist contribute to improved care, improved outcomes, and lower total costs for care
Pre-Assessment Questions

1. Identify elements included in patient self-management, patient engagement, and patient empowerment
2. List participants included in patient-centered, team-based care
3. Name the outcome categories for which there is evidence-based support for interdisciplinary processes of care for patients with Diabetes
The APhA Foundation Mission

To improve people’s health through pharmacists’ patient care services

Innovative Practice Models & Demonstrated Outcomes

- Adherence
- Alzheimer’s
- Diabetes
- Depression
- Hyperlipidemia
- Hypertension
- Osteoporosis
Where we’re going...

- Empowered patients
- Increased collaboration
- Enhanced safety
- Improved outcomes
- Reduced costs

“The best way to predict the future is to invent it.” - Alan Kay
What’s the best way to get there?

• Put patients first
• Optimize medication use
• Improve communication
• Manage information
• Increase collaboration

“Interdisciplinary care is the best way to invent a preferred future for health care.”
Key Forces Defining Practice

• Aging population
• Increase in new prescription medications & volume
• Greater demand for patient care
• Expansion in community pharmacy
• Movement of Rx products to OTC
• Pharmacoinformatics
• Pharmacogenomics
• Nanotechnology and molecular machines
• Broad Scope of Practice
National Distribution of Provider Groups – Solving Access Challenges

HPSA: Health Provider Shortage Area
Our Research and Innovation

19+ Years of Imagining What is Possible…

• 1996 – Point-of-Care testing to obtain objective patient data in the pharmacy?

• 1999 – Screening, identification, and referral of populations at-risk for chronic disease?

• 2004 – What would happen if 11 National Pharmacy organizations agreed on MTM?

• 2006 – Could monitoring depression status/outcomes with qualitative assessments work?

• 2009 – Home BP / Activity monitoring for hypertension?

• Cholestech LDXs / POC testing now in practices across the U.S.

• HRAs commonly used now; follow-on work in Alzheimer’s

• Consensus definition included in Federal regs / MTM is a standard

• PHQ-9 / PHQ-2 assessments now frequently utilized in practice

• Enhanced accountability and discovery in patient care encounters
Our Research and Innovation
19+ Years of Imagining What is Possible…

• 2010 – Could we translate what worked in employed populations to disproportionately affected populations with Diabetes?

• 2014 – Would it be possible to use a 3D printer to print medications customized to patients genome at the point-of-care?

• 2015 – What would happen if we integrated Pharmacogenomic decision making resources for pharmacists into MTM?

• Quantitative and qualitative evidence that customized, team-based care including pharmacists works in medically underserved

• Proof of concept occurs for printing tablets with precise quantities of medication suitable for patient administration

• Actively working on creating resources that utilize PGx to support the role of the pharmacist in enhancing safe medication use
Our Research and Innovation Continuum

… “Incubating Care Innovation”
Creating the Basis for a Preferred Future
Typical Patient Adherence

Improved Outcomes

397 patients collaborate with pharmacists & physicians in 12 states from March 1996 through October 1999 (24-months of patient care)

- 93.6% Persistence
- 90.1% Compliance
- 62.5% Treatment to NCEP Goal

Historical Control Comparison: L-TAP vs. Project ImPACT

- Low-Risk: 68% L-TAP, 79% ImPACT
  - 23% [25%]
- High-Risk: 62% L-TAP, 37% ImPACT
  - 47% [50%]
- CAD: 48% L-TAP, 18% ImPACT
  - 30% [25%]
- All Patients: 63% L-TAP, 38% ImPACT
  - 79% [80%]


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Health Promotion: Improved Risk Identification and Referral

- 11 community pharmacy screenings, 487 patients
- 75% were at high or moderate risk for future fracture
- Patients referred to primary care and/or specialty practice physicians
Demonstrated Outcomes

• Process of Care Models
  ✓ Adherence ✓ Hyperlipidemia
  ✓ Alzheimer’s ✓ Hypertension
  ✓ Diabetes ✓ Osteoporosis
  ✓ Depression

• Economic Savings (per patient per year):
  ➢ The Asheville Project: $1,622 - $3,356
  ➢ Patient Self-Management Program: $918
  ➢ Diabetes Ten City Challenge: $1,079
  ➢ Project ImPACT: Depression: $983
Diabetes Toll in the U.S.

- Amputation
  - 200 daily limb amputations

- Blindness
  - 24,000 new cases each year

- Cardiovascular
  - Accounts for 67% of mortality

- Death
  - Leading cause – 1 every 10 minutes

- Economic
  - $1 out of every $5 in health care spent on Diabetes ($174 billion/yr)

Pharmacists can help...

- Foot Exams
- Eye Exam Referrals
- A1c, BP & Cholesterol
- Diet, exercise, lifestyle, patient self-management
- Typical $1,000+ pppy reductions vs. projected
Building the Diabetes Evidence Base

• Asheville
  • Started in 1997, 1 geographic area, 2 employers
• Patient Self-Management Program \((n=256)\)
  • 2002 to 2005, 5 geographic areas, 9 employers
• Diabetes Ten City Challenge \((n=573)\)
  • 2006 to 2008, 10 geographic areas, 29 employers
• Project IMPACT: Diabetes \((n=1,836)\)
  • 2011 to 2013, 25 geographic areas, disproportionately affected populations
  • Framework for spread – 2015 and beyond…
Empowering Effective Patient Self-Management
What is Patient Credentialing?
*Our novel approach to patient empowerment since 2003*

- Increases patients’ engagement in their chronic disease care
- Providers administer assessments regarding knowledge, skill, and performance on a timeline customized for each patient
- Patients are “credentialed” at various levels depending upon demonstrated expertise and competence
- Providers deliver education that is focused on building the individual’s knowledge and skills in the highest need areas
- Patients may earn co-pay forgiveness, discounts on medical supplies, or other incentives for participation
Patient Self-Management Credential

Meeting patients where they are to improve self-management of diabetes

• PSMC for Diabetes:
  • 3 domains, 3 achievement levels

• IMPACT of the PSMC:
  • Identify patient’s strengths and weaknesses
  • Target self-management education
  • Enhance efficiency and effectiveness of care delivery
  • Risk stratification for additional services
Consistent Clinical Outcome Improvement

• Three APhA Foundation programs with pharmacist-led patient credentialing interventions showed statistically significant improvements in patient outcomes

• Patient Self-Management Program for Diabetes (n=256)
  • Mean A1C decreased from 7.9% at initial visit to 7.1%
  • Mean LDL-C decreased from 113.4 mg/dL to 104.5 mg/dL
  • Mean systolic blood pressure decreased from 136 to 131 mm Hg

• Diabetes Ten City Challenge (n=573) ²
  • Mean A1C decrease from 7.5% to 7.1%
  • Mean LDL-C decrease from 98 to 94 mg/dL
  • Mean systolic blood pressure decrease from 133 to 130 mm Hg

• Project IMPACT: Diabetes (n=1,836) ³
  • Mean A1C decrease from 9.0% to 8.2%
  • Mean LDL-C decrease from 98.6 to 91.4 mg/dL

# Knowledge Achievement and Associated Clinical Outcomes

<table>
<thead>
<tr>
<th>Baseline Achievement Level</th>
<th>Baseline A1c (%)</th>
<th>Final A1C (%)</th>
<th>Change</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginner (n = 622)</td>
<td>9.3</td>
<td>8.3</td>
<td>-1.0</td>
<td>&lt;0.001</td>
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<tr>
<td>Proficient (n = 721)</td>
<td>8.9</td>
<td>8.2</td>
<td>-0.7</td>
<td>&lt;0.001</td>
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<tr>
<td>Advanced (n = 324)</td>
<td>8.5</td>
<td>8.0</td>
<td>-0.5</td>
<td>&lt;0.001</td>
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</table>

Risk Stratification  Potential for Improvement

*Population Health Management 2014;0069.*
Average Cost Per Patient

Projected Year 1  Actual Year 1

<table>
<thead>
<tr>
<th>Category</th>
<th>Projected</th>
<th>Actual</th>
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</thead>
<tbody>
<tr>
<td>MTMS</td>
<td>$0</td>
<td>$351</td>
</tr>
<tr>
<td>Medication</td>
<td>$3,128</td>
<td>$3,373</td>
</tr>
<tr>
<td>Medical</td>
<td>$6,254</td>
<td>$4,740</td>
</tr>
</tbody>
</table>


Average Cost Savings Per Patient:

$918
Economic – Total Costs
...Results through 31-Dec-07 (n=573)

Year 1 Projected vs. Year 1 Overall Savings = $618,387

Average Annual Cost Savings Per Patient $1,079

### HEDIS Indicators in PSM Solutions Model

<table>
<thead>
<tr>
<th>Indicator</th>
<th>HEDIS 2003</th>
<th>PSMP</th>
<th>HEDIS 2007</th>
<th>DTCC</th>
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</thead>
<tbody>
<tr>
<td>A1c Testing</td>
<td>85%</td>
<td>100%</td>
<td>88%</td>
<td>97%</td>
</tr>
<tr>
<td>A1c Control (&lt; 9)</td>
<td>68%</td>
<td>94%</td>
<td>71%</td>
<td>91%</td>
</tr>
<tr>
<td>Lipid Profile</td>
<td>88%</td>
<td>100%</td>
<td>84%</td>
<td>92%</td>
</tr>
<tr>
<td>Lipid Control (&lt; 100)</td>
<td>31%</td>
<td>49%</td>
<td>44%</td>
<td>63%</td>
</tr>
<tr>
<td>Flu Shots</td>
<td>48%</td>
<td>77%</td>
<td>55%</td>
<td>81%</td>
</tr>
<tr>
<td>Eye Exams</td>
<td>49%</td>
<td>82%</td>
<td>49%</td>
<td>65%</td>
</tr>
</tbody>
</table>

**References:**

DTCC Satisfaction Outcomes

Patient Satisfaction with Overall Diabetes Care
*Initial vs. 6 Months*

- **Patients Ranking Overall Diabetes Care as 8 to 10**
  - Initial: 67.1%
  - 6-month: 90.2%

Patient Satisfaction with Pharmacist-Provided Diabetes Care at 6 Months

- **98% of Patients were Satisfied (4) or Very Satisfied (5)**

Project IMPACT: Diabetes

IMProving America’s Communities Together
Systematic Approach…
Programmatic Consistency with Local Variability

Health Care Services that are:
- Patient-centered,
- Pharmacist-supported, and
- Inter-disciplinary

Patient Populations in Need
Collaborative care w/ Pharmacists
Patient Self-Management Credential
Continuous Quality Improvement
Minimum Dataset Submission
Project IMPACT: Diabetes

...25 Communities in 17 States

• **Project Goal:** to improve diabetes outcomes by integrating pharmacists into diabetes care teams in diverse communities disproportionately affected by diabetes across the USA

• **Pharmacy’s Goal:** to increase patient access to pharmacists’ patient care services, especially in underserved areas

• **Cornerstones of Implementation:**
  • Pharmacists’ patient care services
  • Patient Self-Management Credential for Diabetes
  • Minimum dataset reporting

Supported by the Bristol Myers Squibb Foundation’s Together on Diabetes initiative
Cornerstones of Implementation: Pharmacists’ patient care services

- Community Champions in diverse practice settings
- Collaborative care teams that include pharmacists
- One-on-one visits with the pharmacist
  - Diabetes overview and education
  - Medication Therapy Management (MTM)
  - Medication administration and adherence techniques
  - Lifestyle coaching
  - Healthcare navigation
  - Accountability and caring
- Average of 5.2 visits with pharmacist during one-year care period, each lasting 39 minutes

Cornerstones of Implementation: Patient Self-Management Credential

- PSMC for Diabetes: 3 domains, 3 achievement levels

- IMPACT of the PSMC for Diabetes:
  - Identify patient’s strengths and weaknesses
  - Target self-management education
  - Enhance efficiency and effectiveness of care delivery
  - Risk stratification for additional services

- Knowledge Assessment used at baseline for all patients
Cornerstones of Implementation: Minimum dataset reporting

Quarterly data reports to APhA Foundation, included:

• Demographic (age, sex, ethnicity)
• Visit Information (date/length of visit, MTM services)
• Clinical Measures
  • A1C
  • BMI
  • Blood pressure (systolic/diastolic)
  • Cholesterol (LDL, HDL, triglycerides, total cholesterol)
• Process Measures
  • Foot exam
  • Eye exam
  • Influenza vaccine
  • Smoking status
Customization of the Care Process

<table>
<thead>
<tr>
<th>Activity</th>
<th># Communities</th>
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</thead>
<tbody>
<tr>
<td>Collaborative practice agreements</td>
<td>13</td>
</tr>
<tr>
<td>Group education classes</td>
<td>11</td>
</tr>
<tr>
<td>Joint provider visits</td>
<td>8</td>
</tr>
<tr>
<td>Use of AADE7 framework</td>
<td>8</td>
</tr>
<tr>
<td>Food store tours</td>
<td>7</td>
</tr>
<tr>
<td>Cooking classes</td>
<td>4</td>
</tr>
<tr>
<td>Provided patient incentives</td>
<td>19</td>
</tr>
</tbody>
</table>

Sustainability

• One year following the end of data collection:
  96% of communities are still providing diabetes care services
  100% of communities still have pharmacists integrated into healthcare teams

• True sustainability and scalability requires:
  • Widespread payment for pharmacists’ services
  • Expansion of interdisciplinary care models
  • Quality- and data-driven decision-making

Project IMPACT: Diabetes Works

Pharmacists providing care

- *in a variety of settings,*
  - community pharmacy practices, employer worksites, FQHCs, homeless clinics, and county health departments
- *for all kinds of patients,*
  - cooks, cleaners, city/county executives, teachers, farm workers, trash truck drivers, homeless people, and both rich and poor individuals
- *in various stations of life,*
  - employed and unemployed, those with a place to live or were homeless, those with good food access or not, those who were insured or uninsured, and individuals who live in urban or rural settings

*empower people to improve their health.*
Collaborative Practice
Centers for Disease Control and Prevention

- Goal – Create effective principles and translational tools to expand the implementation of innovative practice models whose success has been demonstrated
  - Brought key thought leaders together for informed dialog
  - Developed consensus on model principles and language
  - Created translational tools to enhance implementation
  - Strategic outreach to key stakeholders nationwide
Seven key themes identified for successfully implementing and creating infrastructure for empowering collaborative, interdisciplinary care.
Pharmacists’ Patient Care Services

• Include the broad array of services that every pharmacist can provide based on their scope of practice, local privileges, and practice setting

• Can include patient care services such as medication review, lab interpretation, disease screening, patient assessment and counseling, continuity of care, medication reconciliation, and referral as well as selecting, initiating, administering, monitoring, modifying, or discontinuing medication therapy

• Exact scope of what pharmacists’ patient care services can encompass depends on each state’s practice act; therefore, initiating, modifying, or discontinuing medication therapy may be pursuant to physician authorization or the use of collaborative practice agreements
Collaborative Practice Agreements

- Used to create formal relationships between pharmacists and physicians or other providers
- Define certain patient care functions that a pharmacist can autonomously provide under specified situations and conditions
- Many are used to expand the depth and breadth of services the pharmacist can provide to patients and the health care team
- When a CPA is in place, a licensed health care provider makes a diagnosis, maintains ongoing supervision of patient care, and refers the patient to a pharmacist to provide patient care functions as authorized by the provider
- These functions can include any or all of the pharmacists’ patient care services described above

*Note: CPAs are not required for pharmacists to perform many patient care services (e.g., medication reviews, patient education and counseling, disease screening, referral).*
Consensus Recommendations

1. Utilize readily understandable, consistent terminology
2. Participating providers define the CPA details
3. Infrastructure embeds pharmacists’ patient care services and CPAs into care
4. Incentivize and facilitate the adoption of EHRs
5. Pharmacists maintain strong, trusting, mutually beneficial relationships with patients, physicians, and other providers
6. Properly align incentives based on meaningful process and outcome measures for patients, payers, providers, and the health care system
7. Examine and redesign health professionals’ practice acts, education curriculums, and operational policies to create synergy, promote collaboration and optimize support staff

Compelling Evidence

• Systematic review and meta-analysis\(^1\):
  • Pharmacist engagement in interdisciplinary health care with physicians and other providers can improve patients’ health considerably

• Surgeon General 9-Jan-12 Report\(^2\):
  • Recognition of pharmacists as health care providers, clinicians and an essential part of the health care team
  • Provides the evidence health leaders and policy makers need to support evidence-based models of cost-effective patient care that utilizes…our nation’s pharmacists…

• Access to U.S. Population\(^2\):
  • More than 60,000 community-based pharmacies employ greater than 175,000 pharmacists across the United States.

\(^1\) Med Care. 2010;48(10):923-33.
Consensus Conclusions

- Pharmacists deliver many patient care services to sustain and improve health.

- In an era of health care reform, advancing the level and scope of pharmacy practice holds promise to improve health and reduce costs for care.

- Published evidence supports the role of pharmacists as essential members of the interdisciplinary health care team and emphasizes that pharmacists are well positioned to perform medication- and wellness-related interventions that improve patient outcomes.

- The consortium participants’ seven recommendations provide methods and infrastructure for empowering collaborative, interdisciplinary care.

Translational Tools from the CDC

• The APhA Foundation worked in partnership with representatives from the CDC Division of Heart Disease and Stroke Prevention to take the key recommendations from and develop an easy-to-understand tool kit for four target audiences (published by the CDC):
  • Resources for Pharmacists
  • Resources for Physicians, Nurses, PAs, and Other Providers
  • Resources for Government and Private Payers
  • Resources for Decision Makers
Inventing a Preferred Future
Collaborate Your Way to Success
Medication Therapy Management

• MTM Definition
  • A distinct service or group of services that optimize therapeutic outcomes for individual patients

• MTM Core Elements
  • Medication Therapy Review (MTR)
  • Personal Medication Record (PMR)
  • Medication-related Action Plan (MAP)
  • Intervention and/or referral
  • Documentation and follow-up

• Payment for MTM Services
  • CPT Codes: 99605, 99606, 99607
Advancing Service Delivery in Pharmacy Practice…

Health Promotion
- Health Risk Assessment
- Immunizations
- Oral Health
- Wellness Programs

Health Management
- Asthma
- Cardiovascular Disease (Dyslipidemia, Hypertension)
- Coagulation Disorders
- Congestive Heart Failure
- Depression
- Diabetes
- Osteoporosis

Selection Criteria:
- High prevalence
- High risk
- High cost
- Problem prone

…all with MTM
Inventing a Preferred Future…

Align the Incentives, Improve the Outcomes, Control the Costs™
Truly Accountable Care with Properly Aligned Incentives…

• Modeling that works = Processes + Outcomes
  • Process Measures
    • Keeping credentialing visits with health care providers
    • A1c, BP, Lipid profile monitoring
    • Foot and eye exams
    • Influenza and pneumonia vaccines
  • Outcome Measures
    • Minimum achievement of proficient (ideally advanced)
      • Self-Management Knowledge, Skills, and Performance
    • A1c, BP, Lipid clinical goal achievement
  • Economic Outcome Measures
    • Reductions in total cost for care compared to baseline

Scoring:
- Just passing
- Up to a B+
- Can get an A
Health Care Delivery Collaborations

Common Goals to...

• Improve patient care
• Increase communication between and among patients / providers
• Increase availability of objective measures
• Reduce total cost for care over time

“Collaborate with your pharmacist to invent a preferred future.”

- Benjamin Bluml, R.Ph.  bbluml@aphanet.org
Post-Assessment Question 1

- Patient self-management, patient engagement, and patient empowerment include:
  a) Putting the patient first
  b) Conducting assessments
  c) Customizing care
  d) Shared goal setting
  e) All of the above
Post-Assessment Question 2

• Patient-centered, team-based care includes the following participants:

  a) Patients
  b) Pharmacists
  c) Physicians
  d) Other health care providers
  e) A & B only
  f) All of the above
Post-Assessment Question 3

• There is evidence-based support for interdisciplinary processes of care for patients with Diabetes in the following outcome categories:
  
  a) Economic  
  b) Clinical  
  c) Humanistic  
  d) Process measures  
  e) All of the above  
  f) A & C only
Health Care Delivery Collaborations
Common Goals to...

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