The Future of Pharmacists

- Disease Management in the Workplace: *Pharmacists as Partners*
- The Future Role of Pharmacists & Pharmacies
- Building Communities of Health
Present State

- Challenges & Opportunities
- Patient Safety
- Consumer Needs
- Engagement
- Compliance Adherence
To Err is Human: Latent & Active Failures in Medication Use

- **Prescribing Phase (provider)** Rate 12-1400 / 1000 admissions
  - Patient Information
  - Patient Education
  - Communication Dynamics
  - Wrong Prescription Order

- **Ordering Phase (pharmacist)** Rate .6-51 / 1000 orders
  - Transcription - Prescription Misread / misheard
  - Lack of Knowledge of Drug
  - System error
  - Preparation error

- **Dispensing Phase (pharmacist)** Rate 1.7-24 / 100 scripts
  - Double check of drug and dose
  - Labeling error
  - Lack of Knowledge of drug

- **Drug Administration / Consumption (patient / care giver)**
  - Route error Rate 2.4-11 / 100 opportunities
  - Dosage error
  - Wrong patient
  - Self-prescribing
  - Adherence
To Err is Human: Treatment Options Beyond Memorization

- 10,000 prescription drugs & biological products
- 300,000 OTC products
- Recalls in 2004
  - 215 prescriptions
  - 71 OTC drugs
- Approximately over 50% of all prescription on the market today became available only since 1990.
- An average of 11 prescriptions per person is written in the United States annually.
- Sound-aliases/Look-aliases
  - “Celebrex” (arthritis) - “Cerebyx” (seizures) - “Celexa” (depression)
To Err is Human: Medication Error at Hospital / Ambulatory Level

- 2 of every 100 hospital stays experience preventable adverse drug event
- average increase cost for these admissions is $4700
- $2.8 Million increase cost annually / hospital
- Extrapolated to all U.S. Hospitals implies $2Billion Cost Annually
- ADE costs per 1000 older adults 27-65K in ambulatory setting

What do consumers want from the healthcare system?

- Ease of Access
- Availability
- Caring Provider

Where better to provide this than the workplace through the trusted clinician?
Rating of Relationships

Source: Magee, J., *Relationship Based health Care in the United States, United Kingdom, Canada, Germany, South Africa and Japan*. 2003
The Secret Ingredient

The Trusted Clinician
The Doctor or Nurse or Pharmacist who works in your neighborhood or goes to work with you
Creating Lasting Behavior Change

Only 2 Types!
- Improve lifestyle
- Increase compliance

Maintaining a Good Thing for Life!
Taking Action
Preparing for Action
Thinking about it

Relapses or sliding backwards occasionally is not unusual

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• Workplace Pharmacies

• Workplace Health Centers & Pharmacies

• Integrated Disease Management

Disease Management in the Workplace: *Pharmacists as Partners*
“Mega-trends” Impacting Employer Healthcare Management

- Escalating healthcare costs (medical & pharmacy)
- Increasing interest in on-site pharmacy & health centers
- Migration of occupational health to full service primary care
- Clinical quality and a reduction in medical errors
- Focus on human capital and impact on productivity
- Movement to outsourcing
- Consumer-driven healthcare
- Applying system process optimization to health care
Pharmacy Options at the Workplace

- Pre-Packaged Rx
- Concierge Service (Drop-off/Pick-up)
- On-Site Pharmacy (Stand-Alone)
- Integrated Mail Order Rx
- Integrated PBM (Retail, Mail and Specialty)

Current PBM Pricing (Convenience/Quality)

Clinical Intensity

Human Resource/ Benefits Impact
"Migration & Integration" of Workplace Health Services: Yielding Great Improvements in Productivity

25% of Employer Healthcare Costs

75%
## Our Employer Solutions Range of Services

### PRIMARY SERVICES
- Primary Care
- Acute/ Extended Episodic Care
- Pharmacy
- Prevention/Wellness
- Occupational Health
- Fitness

### ADDITIONAL SERVICES
- Disability Management, Including STD, LTD & FMLA
- Physical Therapy
- Laboratory Services
- Specialty Services Rotations
- Woman’s Health
- Medical Emergency Services
- Substance Abuse Testing
- Global Medical Leadership/ Direction
- Compliance: OSHA, AED, CLIA and VIS
- Medical Surveillance
- Workplace Safety
- Physicals Examinations
- Return to Work Program
- Ergonomics
- Pharmacy Concierge Services
- Specialty Pharmacy Services
- Integrated PBM/ Mail Order Services
- Physician Referral Network
- Disaster Management
- Travel Medicine
- Disease Management/ Wellness Coordination
- Health Screening/ Fairs
- HRAs/ Biometric Testing
- Health Coaching
- Health Advocacy
The Integration of Primary Care & Pharmacy: 
The Power is in the Prescribing – Dispensing Collaboration

Medical Pharmacy Management

Prescribing Goals
Prescribing Feedback
Scorecard
Incentives

Medical Pharmacy Interface

Drug to Drug
Drug to Disease

Clinical Pharmacy

Step Therapy
Split Pill

Pharmacy Administration

OTC
Generics
Formulary

Cost Savings & Clinical Intensity

Human Capital / Benefits Impact

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We started the analysis by ranking the generic prescription utilization percentage for all pharmacies in the CHDM chain. Generic utilization is defined as the generic percentage of total prescriptions dispensed regardless if the brand dispensed had a generic drug available.

Next, we categorized sites by our ability to influence patient prescriptions written by an onsite prescribing clinician (PCRX). We found that on average the generic utilization percentage is 11% higher in our sites with a CHDM onsite prescriber.

Part of the reason for higher generic utilization with primary care is the higher percentage of acute medications, which have more generics available, filled in our pharmacies with acute care attached.

Then, we benchmarked the generic prescribing percentage of CHDM doctors versus the community doctors where applicable. CHDM doctors had 15% higher generic prescribing habits than the community doctors for the scripts filled in CHDM pharmacies.

Next, we analyzed the percent of maintenance medications (90 day) filled at each site because they have fewer generic substitutes available than acute medications.

The top 10 ranked sites in maintenance medication % utilization had a 52% average generic utilization versus a 57% generic utilization from the remaining sites.

Our next area of focus was the benefit plan, specifically the number of drug class tiers in the design of the plan.

The bottom nine pharmacies in generic percentage utilization have only two tiers, with the highest ranking two tier plan having a 55% generic utilization, ranking 18th in CHDM's chain.

Next, we looked at the structure and value of monetary incentives extended to the employee through the benefit plans copay structure.

High copay differential is categorized as a difference of $10 or higher between brand and generic copays, whether that be a fixed difference or a difference calculated on current drug utilization.

All but 4 locations with a "Low" copay differential (<$10) were in the bottom 8 locations in generic utilization.

### Missed Generic Opportunities

<table>
<thead>
<tr>
<th>Site</th>
<th>Overall Generic %</th>
<th>Site Type</th>
<th>CHD Doctors</th>
<th>Community Doctors</th>
<th>Missed Generic Conversion Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site A</td>
<td>69% PCRX</td>
<td>84%</td>
<td>58%</td>
<td></td>
<td>0.53%</td>
</tr>
<tr>
<td>Site B</td>
<td>67% PCRX</td>
<td>71%</td>
<td>61%</td>
<td></td>
<td>0.21%</td>
</tr>
<tr>
<td>Site C</td>
<td>66% PCRX</td>
<td>75%</td>
<td>62%</td>
<td></td>
<td>0.53%</td>
</tr>
<tr>
<td>Site D</td>
<td>65% PCRX</td>
<td>69%</td>
<td>58%</td>
<td></td>
<td>0.53%</td>
</tr>
<tr>
<td>Site E</td>
<td>63% PCRX</td>
<td>71%</td>
<td>60%</td>
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<td>0.45%</td>
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<tr>
<td>Site F</td>
<td>62% PCRX</td>
<td>73%</td>
<td>60%</td>
<td></td>
<td>0.32%</td>
</tr>
<tr>
<td>Site G</td>
<td>61% PCRX</td>
<td>67%</td>
<td>56%</td>
<td></td>
<td>0.26%</td>
</tr>
<tr>
<td>Site H</td>
<td>61% PCRX</td>
<td>70%</td>
<td>58%</td>
<td></td>
<td>0.47%</td>
</tr>
<tr>
<td>Site I</td>
<td>61% PCRX</td>
<td>74%</td>
<td>53%</td>
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<td>0.41%</td>
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<td>59% PCRX</td>
<td>70%</td>
<td>51%</td>
<td></td>
<td>0.32%</td>
</tr>
<tr>
<td>Site K</td>
<td>59% PCRX</td>
<td>68%</td>
<td>56%</td>
<td></td>
<td>0.24%</td>
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<tr>
<td>Site L</td>
<td>58% PCRX</td>
<td>68%</td>
<td>53%</td>
<td></td>
<td>0.43%</td>
</tr>
<tr>
<td>Site M</td>
<td>57% PCRX</td>
<td>62%</td>
<td>51%</td>
<td></td>
<td>0.96%</td>
</tr>
<tr>
<td>Site N</td>
<td>56% PCRX</td>
<td>79%</td>
<td>47%</td>
<td></td>
<td>0.55%</td>
</tr>
<tr>
<td>Site O</td>
<td>56% PCRX</td>
<td>61%</td>
<td>51%</td>
<td></td>
<td>0.64%</td>
</tr>
<tr>
<td>Site P</td>
<td>56% RX Only</td>
<td>NA</td>
<td>56%</td>
<td></td>
<td>0.60%</td>
</tr>
<tr>
<td>Site Q</td>
<td>56% PCRX</td>
<td>65%</td>
<td>51%</td>
<td></td>
<td>0.88%</td>
</tr>
<tr>
<td>Site R</td>
<td>55% PCRX</td>
<td>59%</td>
<td>48%</td>
<td></td>
<td>0.62%</td>
</tr>
<tr>
<td>Site S</td>
<td>54% RX Only</td>
<td>NA</td>
<td>54%</td>
<td></td>
<td>0.93%</td>
</tr>
<tr>
<td>Site T</td>
<td>54% RX Only</td>
<td>NA</td>
<td>54%</td>
<td></td>
<td>0.60%</td>
</tr>
<tr>
<td>Site U</td>
<td>51% RX Only</td>
<td>NA</td>
<td>51%</td>
<td></td>
<td>0.72%</td>
</tr>
<tr>
<td>Site V</td>
<td>50% RX Only</td>
<td>NA</td>
<td>50%</td>
<td></td>
<td>0.97%</td>
</tr>
<tr>
<td>Site W</td>
<td>48% RX Only</td>
<td>NA</td>
<td>48%</td>
<td></td>
<td>1.00%</td>
</tr>
<tr>
<td>Site X</td>
<td>48% RX Only</td>
<td>NA</td>
<td>48%</td>
<td></td>
<td>1.01%</td>
</tr>
<tr>
<td>Site Y</td>
<td>48% RX Only</td>
<td>NA</td>
<td>48%</td>
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<td>1.18%</td>
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<tr>
<td>Site Z</td>
<td>44% RX Only</td>
<td>NA</td>
<td>44%</td>
<td></td>
<td>0.80%</td>
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<tr>
<td>Site AA</td>
<td>43% RX Only</td>
<td>NA</td>
<td>43%</td>
<td></td>
<td>1.47%</td>
</tr>
<tr>
<td>Site BB</td>
<td>38% RX Only</td>
<td>NA</td>
<td>38%</td>
<td></td>
<td>0.79%</td>
</tr>
<tr>
<td>Site CC</td>
<td>37% RX Only</td>
<td>NA</td>
<td>37%</td>
<td></td>
<td>2.35%</td>
</tr>
</tbody>
</table>

**Average** 0.72%
Evidence-based prescribing practices generate value
(recently published article in Journal of Health & Productivity – March 2007)

Better Care – and a Potential Savings of $1.5 Million for Antibiotics Alone
10%-12% Greater medication adherence
Integrated primary care & pharmacy users versus community

Increased Compliance with Blood Pressure medications for Patients who use CHD Primary Care and Pharmacy

Increased Compliance with Diabetes medications for Patients using CHD Primary Care and Pharmacy

Increased compliance with Heart Disease medications for Patients Using CHD Primary Care and Pharmacy

Community Only Patients
Medication patient safety: 
Significantly better than Community

- With a community error rate recently reported in USA Today of 1/1000
  - Expect 1000 errors
    - At $2000 per ADE (IOM) = $2 Million
    - 4 Hospitalizations at 10,375 each (IOM)
    - 24 ER visits at $1444 each (IOM)

- With our error rate of 3/10000 (prior to implementation of new IT platform)
  - Expect less than 300 = $600K
  - 1 Hospitalization

PATIENT SAFETY COST SAVINGS = 1.4 Million
(Based on 1 million prescriptions)
2% of all hospitalizations are due to medication misadventures
Integrated Disease Management Process

Step 1: Search Database

Step 2: Identity people to help

Step 3: Notify Health Center Pharmacy

Step 4: Patient Visit to Health Center Flow Algorithm

Step 5: Notify Telephonic Call Center

Step 6: Care Assessment

Step 7: Patient Action Plan

Step 8: ID & loading of new members

Health Informatics

Telephonic Care Support

Electronic Platform
• Peer – reviewed publication
• DMAA best article of 2007
• Improved engagement & retention rates with integrated program

• Engagement rate related to depth of relationship
• Proven research influencing the marketplace
• Retention rate article will be in October issue of JPHM

The Power of The Trusted Clinician
Higher rates of engagement & retention
Clinical Outcomes for Health Center Users with Diabetes

Process Indicators Correlate with Outcomes (N = 336)

<table>
<thead>
<tr>
<th>LAB Value</th>
<th>2003 Year 1</th>
<th>2005 Year 3</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>HbA1C</td>
<td>9.1</td>
<td>7.8</td>
<td>-14.0%</td>
</tr>
<tr>
<td>HDL Cholesterol</td>
<td>43</td>
<td>47</td>
<td>+9.3%</td>
</tr>
<tr>
<td>LDL Cholesterol</td>
<td>138</td>
<td>108</td>
<td>-21.7%</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>288</td>
<td>201</td>
<td>-30.0%</td>
</tr>
<tr>
<td>Systolic BP</td>
<td>131</td>
<td>126</td>
<td>-3.8%</td>
</tr>
</tbody>
</table>

Achieving the Promise of Disease Management: Preventing Complications, Reducing Costs, & Improving Productivity
Analysis of risk factors
predictive modeling indicate a significant reduction in risk of diabetes complications over the 2003-2005 period for diabetics under care

Prevented:
- 3 Amputations
- 2 Episodes of Blindness
- 6 Dialysis Patients
- 44 Heart Attacks & Strokes

Potential future economic impact
- Reduced patient morbidity has been estimated at an average of $1,800 of avoided medical costs per patient per year (before inflation adjustment)
- Saved over 6 Million Dollars in direct medical costs alone by preventing these complications*

*Economic impact does not include impact on productivity or disability outcomes

<table>
<thead>
<tr>
<th></th>
<th>Projected Cases Per 336 Patients with Diabetes (10 Year Period)</th>
<th>Avoided Costs (10 Years)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk Year 1</td>
<td>Risk Year 3</td>
</tr>
<tr>
<td>Lower extremity amputation</td>
<td>10.7</td>
<td>7.0</td>
</tr>
<tr>
<td>Blindness</td>
<td>4.7</td>
<td>3.0</td>
</tr>
<tr>
<td>End stage renal disease</td>
<td>7.0</td>
<td>1.3</td>
</tr>
<tr>
<td>MI or stroke</td>
<td>84</td>
<td>40</td>
</tr>
<tr>
<td><strong>Total Medical</strong>*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Future Role of Pharmacists & Pharmacies
• Pilot project to explore the role and value of pharmacists as care managers
• Started in Asheville NC in 1997
  ◦ NC Association of Pharmacists (NCAP) approached City of Asheville
  ◦ NCAP committed to recruit and train community pharmacists
  ◦ City of Asheville agreed to offer wellness program to city employees
  ◦ Mission St. Joseph would coordinate the program
Each Player Does What They Are Good At:

- Physicians **diagnose** and initiate **treatment plans**
- Educators **educate**
- Patients **self-manage** 24-7
- Pharmacists **coach patients to adhere with treatment plan, regularly assess, monitor, and recommend changes when the treatment plan isn’t working.**
- Pharmacies provide convenient **access/expert service.**
- PBM/TPAs **facilitate billing & provide data for outcomes.**
- Payers **encourage participation and provide incentives.**
The Asheville Project at a glance

Self-insured employers

- Waive patient copays
- Pay pharmacist about $40/patient per visit

Patient

- Meets monthly

Pharmacist

- Communicates summary of sessions and makes recommendations

Physician

- Schedules routine visits

Source: Watch interview, 9/10/02.
Employer Recruitment

Patient Education Program

Assignment to Certified Pharmacist Care Manager

Face to Face Visits with Pharmacist who Receives Reimbursement

Patient Receives Reduced Co-pays on Meds & Supplies

Communication with PCP

Employer Approves Aggregate Data Collection & Analysis

Ashville Model Components
## Ashville Project Results – Asthma, Diabetes, & CV

<table>
<thead>
<tr>
<th></th>
<th>Before</th>
<th>After 1 Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma Action Plans</td>
<td>63%</td>
<td>99%</td>
</tr>
<tr>
<td>PT c Asthma ER visits</td>
<td>9.9%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Missed / Unproductive Workdays</td>
<td>10.8</td>
<td>2.6</td>
</tr>
<tr>
<td>A1c</td>
<td>8</td>
<td>6.6</td>
</tr>
<tr>
<td>LDL</td>
<td>123</td>
<td>108</td>
</tr>
<tr>
<td>Diabetic Pt Savings</td>
<td></td>
<td>$1200-1872 / year</td>
</tr>
<tr>
<td>Systolic BP</td>
<td>137</td>
<td>126</td>
</tr>
<tr>
<td>Diastolic BP</td>
<td>83</td>
<td>78</td>
</tr>
<tr>
<td>CV events / 1000</td>
<td>77</td>
<td>38</td>
</tr>
<tr>
<td>CV event risk</td>
<td></td>
<td>Down 53%</td>
</tr>
<tr>
<td>CV related costs</td>
<td></td>
<td>Down 48%</td>
</tr>
<tr>
<td>Number in Study</td>
<td></td>
<td>207/187/423</td>
</tr>
</tbody>
</table>

2 Employers – 12 pharmacies
Outcomes: % Patients Meeting Goals

 PATIENT RESPONSE TO QUESTIONS ABOUT THEIR DIABETES/BEHAVIOR BEFORE AND AFTER PARTICIPATION IN PROGRAM

A1c in last 6 mo.  | Foot exam in last 6 mo.  | On ACE Inhibitor  | Self-testing blood sugar at home  | Smoke

75% | 36% | 27% | 40% | 10%

93% | 79% | 65% | 70% | 23%

30% | 50% | 100% | 99% | 10%

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PharmacistCARE

- University of Kentucky Owned & Operated
- Free Standing Pharmacist Clinic
  - Within ambulatory care facility
  - 2.2 FTE Pharmacists / 1.6 FTE Adm
  - 417 square feet
- Comprehensive DM & MTM
  - DiabetesCARE (Remote & Distant)
  - CardioCARE
- Promotion – letters, brochures, newsletter, champions, word of mouth
- Referral – physician, pharmacist, CDE, UK H&W
- Communication
  - Standard visit report to PCP – developed by PCP – SOAP format
  - Quarterly visits to HR – annual program report
- Incentives – co-pay, co-insurance reduction
- IT Platform
  - Home grown, documents / standardizes each visit
  - Integrates with claims, labs, Rx data
- March 2003 to present
  - 322 patients as of 9/2007

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PharmacistCARE – Patient Process

Promotional activities
Fax, Phone, or email
Intake Survey Q 6 months

Initial assessment with pharmacist (1 hour)
Three 2 hour sessions on self management
Take home Binder

Q 1-3 monthly visits with pharmacist (30 minutes) – review against established goals & MTM
Limited exam – BP, foot exam, weight
Blood tests – A1c, lipids
PharmacistCARE – Contents of Patient Survey

- Demographics
- Pharmacy use
- Referral source
- Learning barriers
- Diabetes history
- Social history
- Past medication history
- Present medication history
- Medication adherence
- Vaccination history
- Perception of diabetes knowledge and control
- SF – 12
- Diabetes Knowledge test

- Attainment of various ADA standards of care
- Nutritional history
- Physical activity
- Perception of stress & coping skills
- Perception of support services
- Self care behaviors
- Health resource use
- Patient satisfaction with education program
- Diabetes-specific quality of life
- Progress against goals
- Changes in diet and exercise
- Changes with social history
- Medication changes & adherence
- Medical updates
- Vitals including weight
- Foot exam including monofilament sensory
- Attainment of ADA standard activities – eye exam, vaccines
- Document any Hypo or hyper glycemic symptoms
- Download and review glucose monitor readings
- Perform and review relevant labs
- Referral to other providers
- Goal setting for next visit
- Documentation of clinical issues for report to PCP

PharmacistCARE Maintenance Visit
## PharmacistCARE

<table>
<thead>
<tr>
<th></th>
<th>Before</th>
<th>After 1 Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1c screening</td>
<td>78%</td>
<td>100%</td>
</tr>
<tr>
<td>A1c &gt; 9</td>
<td>26%</td>
<td>10%</td>
</tr>
<tr>
<td>Microalbumin screen</td>
<td>13%</td>
<td>39%</td>
</tr>
<tr>
<td>Flu Vac</td>
<td>55%</td>
<td>71%</td>
</tr>
<tr>
<td>LDL &lt; 130</td>
<td>52%</td>
<td>81%</td>
</tr>
<tr>
<td>Pneumo Vac</td>
<td>28%</td>
<td>46%</td>
</tr>
<tr>
<td>Total Satisfaction</td>
<td></td>
<td>83%</td>
</tr>
<tr>
<td>PCP Satisfaction</td>
<td></td>
<td>75%</td>
</tr>
</tbody>
</table>
• 2002 in San Antonio / Corpus Christi TX
• Diabetes Program
  ◦ Humana identifies patients and pitches RX based program to PCP’s
  ◦ Pharmacists deliver MTM and DM
    • Visits include abbreviated physical exam including foot exams
  ◦ XL Health provides CM
• Results demonstrated ROI based largely on 50% reduction in amputation
• XL Health was unable to replicate results with other partners in another location

XL Health / Humana / Walgreens’ IDM Pilot
# Multi-site Ashville like Project - Diabetes

<table>
<thead>
<tr>
<th></th>
<th>Before</th>
<th>After 1 Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1c</td>
<td>7.9</td>
<td>7.1</td>
</tr>
<tr>
<td>LDL</td>
<td>113</td>
<td>104</td>
</tr>
<tr>
<td>Systolic BP</td>
<td>136</td>
<td>131</td>
</tr>
<tr>
<td>Flu Vac</td>
<td>52%</td>
<td>77%</td>
</tr>
<tr>
<td>Foot Exam</td>
<td>38%</td>
<td>80%</td>
</tr>
<tr>
<td>Care Good to Excellent</td>
<td>57%</td>
<td>87%</td>
</tr>
<tr>
<td>Satisfaction</td>
<td></td>
<td>95.7%</td>
</tr>
<tr>
<td>Annual Costs</td>
<td></td>
<td>$918 lower than projected</td>
</tr>
</tbody>
</table>

Several Employers – 256 patients - Greensboro NC, Wilson NC, Dublin GA, Manitowoc County WS, Columbus OH,
# Diabetes Ten City Challenge

<table>
<thead>
<tr>
<th></th>
<th>Before</th>
<th>After 1 Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1c</td>
<td>7.6</td>
<td>7.2</td>
</tr>
<tr>
<td>LDL</td>
<td>96</td>
<td>93</td>
</tr>
<tr>
<td>Systolic BP</td>
<td>131</td>
<td>129</td>
</tr>
<tr>
<td>Flu Vac</td>
<td>43%</td>
<td>61%</td>
</tr>
<tr>
<td>Foot Exam</td>
<td>38%</td>
<td>68%</td>
</tr>
<tr>
<td>Care Good to Excellent</td>
<td>39%</td>
<td>87%</td>
</tr>
<tr>
<td>Satisfaction</td>
<td></td>
<td>97.5%</td>
</tr>
<tr>
<td>Number in Study</td>
<td></td>
<td>914</td>
</tr>
</tbody>
</table>

28 Employers – 10 cities – Charleston, Chicago, Colorado Springs, Cumberland, Honolulu, Milwaukee, Northwest GA, Pittsburgh, Los Angeles, Tampa Bay
Pharmacist Interfaces with Retail Clinics

• Provide Vaccines
• Medication Therapeutic Management
• Disease Management Coaching
Inventing a Whole New Patient Experience
• Open seven days a week, including evenings and weekends
• No appointments necessary
• Staffed by Nurse Practitioners who are licensed to write prescriptions
  – Physician Assistants in Texas and Nevada
• Most insurance plans accepted
  – Cost of visit is co-payment
  – If uninsured, visits average $59-74
• Services provided to patients 18 months and older
• Paperless registration and electronic medical record

Take Care Health Clinics
## Quality: Progress against HEDIS Measures

<table>
<thead>
<tr>
<th>Take Care Average</th>
<th>HEDIS</th>
<th>HEDIS</th>
<th>HEDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>95.4%</td>
<td>94.2%</td>
<td>91.5%</td>
</tr>
<tr>
<td></td>
<td>71.3%</td>
<td>82.8%</td>
<td>72.0%</td>
</tr>
<tr>
<td>National Goal</td>
<td>Avoidance of Antibiotic Treatment in Adults (18-64) with Acute Bronchitis</td>
<td>Appropriate Treatment for Children (&lt;14) diagnosed with URI</td>
<td>Appropriate Testing for Children (&lt;17) with Pharyngitis</td>
</tr>
</tbody>
</table>
• Have opened over 300 clinics in 30 markets in first couple of years
  ◦ Will have over 400 in next several months
• Have seen over **600,000 patients in 2 years**
  ◦ More mature sites averaging almost 30 patients per day
• Over 1/3 of Take Care visits would have been in an ER/Urgent Care setting
  ◦ 10% would not have sought care
  ◦ 55% could not get into see physician

• **Over 40% of patients cannot name a regular primary care provider**

• 10-20% of patients referred to other providers
  ◦ Over 90% to primary care

• 5-10% of Take Care patients being driven by referrals from physicians

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*Early Results of Retail Model*
Hospital Pharmacist

- Member of Rounding Team
  - Advises prescribers / patients
- Assisting in Therapeutic Management
  - Drug to drug
  - Drug to disease
- Monitoring Drug Regiments
  - Heparin
  - Chemotherapy
  - Renal Failure Adjustments
- Preparation of Infusion Therapy
Pharmacist as Clinical Partner

- Partnership with Prescribing Clinician
  - Family Physician
  - Internal Medicine

- Medication Therapeutic Management
  - Medication optimization
    - Poly-pharmacy
    - Medication Safety
  - Prevention
    - Lipid control
    - Osteoporosis
    - Vaccination
  - Key conditions
    - Chronic illness - adherence
    - Allergic rhinitis
    - Smoking cessation
Future Shock: Enabling Personalized Medicine

• Early disease detection / risk stratification techniques ... genomics, proteomics, biomarkers, targeted imaging

• Personalized Medication – moving beyond “one size fits all”

• “Late therapy” to “early health” will require reimbursement / insurance / enterprise re-engineering to work with us to define this
Building Communities of Health
### Population Health Management Approach

<table>
<thead>
<tr>
<th>Healthy (Unknown)</th>
<th>At Risk</th>
<th>Acute / Episodic</th>
<th>Chronically Ill</th>
<th>Catastrophic</th>
</tr>
</thead>
</table>
| • HRA/ Biometric Testing and Administration
• Lunch and Learns
• Immunizations
• Screenings | • Health Coaching
• Patient Education
• Program Management
• Health Advocacy | • Scheduled/ Walk-in Visits
• Emergency Responses
• Referral Management
• Pharmacy Care Management | • On-Site Disease Management
• Integrated DM
• Health Coaching
• Patient Education
• Referral Management
• Pharmacy Care Management | • Emergency Response
• Case Management
• Pharmacy Care Management
• Rehabilitation Management |

#### Face to Face with Trusted Clinicians

- Telephonic Coaching & Care Management
- Provider / Member Portal Content & Tools

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The Promise of a Medical Home: Integrating Care by “Trusted Clinicians”

Wellness
- Screenings
- Immunizations
- Health Coaching
- Health Assessment

Fitness
- Work Readiness
- Ergonomics
- Work Hardening
- Return to Work

Illness
- Drug Management
- Behavioral Health
- Disease/Case Management

Managing the Medical Community
- Specialists
- Tests
- Hospitals
- Treatment Options

Environment
- Smoking Ban
- Traditional Occ Health
- Safe Workplace
- Cafeteria
Multiple Trusted Clinicians Working in Concert on Behalf of the Consumer
• Disease Management in the Workplace: Pharmacists as Partners

• The Future Role of Pharmacists & Pharmacies

• Building Communities of Health

The Future of Pharmacists