**Scope of Program**

- **Washington, DC**
  - Pediatric asthma prevalence 20% above the national mean
  - ED visit rates among children <5y is nearly five times the national mean
  - Dramatic disparities in care and outcome

- Translational pediatric asthma care and research program
  - Established 2001 with funding from the Robert Wood Johnson Foundation
  - Staff of ten
  - Annual budget of $600,000
  - Serves a predominately Medicaid (65%), urban, minority and disadvantaged population heavily dependent on EDs for episodic asthma care
  - Core clinical program: IMPACT DC Asthma Clinic

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**Pediatric ED Visit Rates for Asthma**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>National Rate 2000</th>
<th>African American 2000</th>
<th>District 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4y, inclusive</td>
<td>156</td>
<td>380</td>
<td>246</td>
</tr>
</tbody>
</table>

**Healthy People 2010 Target:**
- Rate per 10,000
- 80 per 10,000
Visits by Zip Code, 2002

Lowest Rate = 4/1000

Highest Rate = 45/1000

Nearly 12-fold Difference in Rate!

Visits by Zip Code, 2002

Poverty in DC, 2000

Scope of Program

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Key Drivers of Program Effectiveness

- **Effective Leaders & Champions**
  - Strong Project Director (Deborah Quint, MPH) and committed physicians designed, evaluated, incrementally implemented, and sustained a highly novel model of care

- **Strong Community Ties**
  - Built and validated model at our medical center, then implemented and sustained it in the community

- **High-Performing Collaborations**
  - DC Department of Health, DC Asthma Coalition, Medicaid Managed Care, School Nurses

- **Integrated Health Care Services**
  - Each child and family evaluated in the context of their primary care system, sub-specialist, school/daycare, home, and insurance provider

- **Tailored Environmental Interventions**
  - Assess triggers and then target recommendations

Visits by Zip Code, 2002

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Follow-up Letter to Private Physician, Sub-specialist, School Nurse, & Insurance Case Manager

Dear Dr. Smith,

You referred Jennifer Doe, 7/4/89, has enrolled in a research study entitled, “Improving Pediatric Asthma Care in the District of Columbia (IMPACT DC).” It is a collaborative emergency department demonstration project funded by Robert Woods Johnson Foundation. This clinical trial involves 600 patients and their families recruited from one school served by the IMPACT DC. It is a collaborative emergency department demonstration project funded by Robert Woods Johnson Foundation.

### Medical Action Plan

**Date of Fast Track Asthma Clinic Visit:** 6/13/03

- **Triggers Discussed:**
  - Hospitalizations within last 12 months
  - Wool (sheep)
  - Peanut
  - Dog
  - Cat

- **NHLBI Classification in Clinic:** Moderate Persistent

- **DANGER**
  - Action: Take these medicines until you talk to your doctor:
  - **Yellow Card**: Use preventive medicines.
  - **Red Zone**: Add quick relief medicines.
  - **Stop Zone**: Call your doctor.

- **GO**
  - Action: Use these daily preventive medications:
  - **Yellow Card**: Use preventive medicines.
  - **Red Zone**: Add quick relief medicines.
  - **Stop Zone**: Call your doctor.

- **Correction of Peak Flow Value**
  - **Yellow Card**: Use preventive medicines.
  - **Red Zone**: Add quick relief medicines.
  - **Stop Zone**: Call your doctor.

**Peak Flow**

- **Initial Peak Flow:** 400 L/min
- **Current Peak Flow:** 250 L/min
- **Goal Peak Flow:** 450 L/min

**Night/Weekend Phone Number:**

**Daytime Phone Number:**

**Primary Care Provider Name:**

**Pharmacy Name**

**Pharmacy Phone Number**

- **Asthma Action Plan:**
  - **Date:** 6/13/03
  - **Parents:** Jennifer Doe

- **Community Resources:**
  - American Lung Association of DC
  - Amerigroup Asthma Case Management

- **Medical Home:**
  - John Smith, MD, Medical Director, IMPACT DC

### Referred Community Resources

- **School**
- **School Nurse**
- **Insurance Case Manager**
- **Local Hospital Pediatrician**
- **Physician Referral**

### Process Outcomes

<table>
<thead>
<tr>
<th>Measures &amp; Methods</th>
<th>Health Outcome Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce unscheduled visits for asthma care</td>
<td>Reduce unscheduled visits for asthma care</td>
</tr>
<tr>
<td>Comprehensive initial evaluation of intervention</td>
<td>Reduce unscheduled visits for asthma care</td>
</tr>
<tr>
<td>Ongoing surveillance</td>
<td>Reduce unscheduled visits for asthma care</td>
</tr>
<tr>
<td>Process Outcomes</td>
<td>Reduce unscheduled visits for asthma care</td>
</tr>
</tbody>
</table>

### The System for Asthma Control

**Building the System**
- Identified a problem and an initial funding source (Robert Wood Johnson Foundation)
- Designed a novel intervention to address the problem
- Recruited and trained dedicated staff
- Made a commitment to being data driven

**Rourcing the System**
- Built a diverse portfolio of funding
  - Fee-for-service
  - Grants and contracts
  - Philanthropy
  - In-kind support from hospital and community health centers
  - Ongoing relationship with funders

**Key Drivers of Program Effectiveness**
- Leaders & Champions
- Community Task Force
- Collaborators
- Integration of Health Care Services
- Tailored Environmental Interventions

**Getting Results – Evaluating the System**
- Health Outcome Goals
- Reduce unscheduled visits for asthma care
- Measures & Methods
  - Comprehensive initial evaluation of intervention
  - Ongoing surveillance
  - Process Outcomes
  - Deliver more care every year
Building the System

- Identified a problem and an initial funding source (Robert Wood Johnson Foundation)
  - Developed as a research project
- Designed a novel intervention to address the problem
  - Focus on ED recidivism
- Recruited and trained dedicated staff
  - Young, motivated, mostly recent college grads
- Made a commitment to being data driven
  - Makes arguments for funding much easier!

Getting Results – Evaluating the System

- Health Outcome Goals and Results
  - Reduce unscheduled visits for asthma care
- Measures & Methods
  - Comprehensive initial evaluation of intervention
  - Ongoing surveillance
- Process Outcomes
  - Deliver more care every year

Effect on ED and Urgent Care Visits

Over Six Months Following Intervention

<table>
<thead>
<tr>
<th></th>
<th>ED Visits</th>
<th>Urgent Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>RR=0.54</td>
<td>0.40, 0.72</td>
</tr>
<tr>
<td>Intervention</td>
<td>RR=0.60</td>
<td>0.44, 0.84</td>
</tr>
</tbody>
</table>

RR= Risk Ratio
**ED Visits per Month for Asthma**

*DC Zip Codes, 12m-17y*

- **2002 (n=3830)** mean=319
- **2003 (n=4776)** mean=398
- **2004 (n=4100)**
- **2005 (n=4382)** mean=365

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**Delivering More Care**

*IMPACT DC: New Patients by Month*

- **FY06**
- **FY07**

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**Resourcing the System**

- Built a Diverse Portfolio of Funding
  - Fee-for-service
  - Grants and contracts
  - Philanthropy
  - In kind support from hospital and community health centers
- This job is never done…build relationships with funders and know what they’re looking for
Epiphanies – Making it Last

Building the System
• Build incrementally and never promise what you cannot deliver

Key Drivers of Program Effectiveness
• Success comes from the dedication and persistence of a few key individuals – leaders and champions really matter

Getting Results - Evaluating the System
• Data is power

Resourcing the System
• Develop a diverse portfolio