A Nurse-Led Center for Chronic Care Management: Transforming Care in Our Community

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Introduction

- 133 million Americans living in our communities are afflicted by chronic illness
- Compromising comprehensive delivery of patient care leads to poor care coordination, lack of follow up and inadequate education for patient self-management
- In Middlesex County 25% of adults report a diagnosis of one or more chronic conditions
- In Middlesex County 3% of adults utilized the ED compared to 17% in peer counties, 14 % in the state

Today's Discussion

- Chronic Care Model Overview
- Disease Management Description
- History of AIR Middlesex/Little AIR
- AIR Middlesex/Little AIR program components
  - Referrals
  - Community Partners
  - Results

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Program Overview

- In response to care needs, MH Leadership, Quality Improvement Councils, Clinical Nurse Experts, and Physician Teams, developed Nurse Lead DM programs at the Center for Chronic Care Management (CCCM) which:
  - Aim to improve coordination of services and access to care by targeting highly vulnerable populations demonstrating the Collaborative Practice Culture at MH,
  - Act as an adjunct to primary care practices through utilizing evidence based guidelines for the following chronic conditions,
  - Demonstrate improvement in clinical, economic and QOL indicators for enrolled participants.

The Chronic Care Model

- Use of explicit plans and protocols
- Practice Redesign (sick model doesn't work)
- Patient Education (self-management behavior change, on-going support for patients who participate)
- An "expert system" (decision support, provider education, consultation)
- Supportive information systems (registries, outcomes, feedback, care planning)

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Chronic care model places patient at the center

The chronic care model was designed in 1998 by Ed Wagner, MD, director of the MacColl Institute for Healthcare Innovation at the Group Health Cooperative of Puget Sound, Seattle. The Institute for Healthcare Improvement in Boston offers seminars and practice-centered training in the model, which has six components. According to IHI, they are:

Self-management support — Patients manage their own care.

Decision support — Treatment decisions are based on proven guidelines supported by at least one defining study. Health care organizations integrate proven guidelines into day-to-day practice

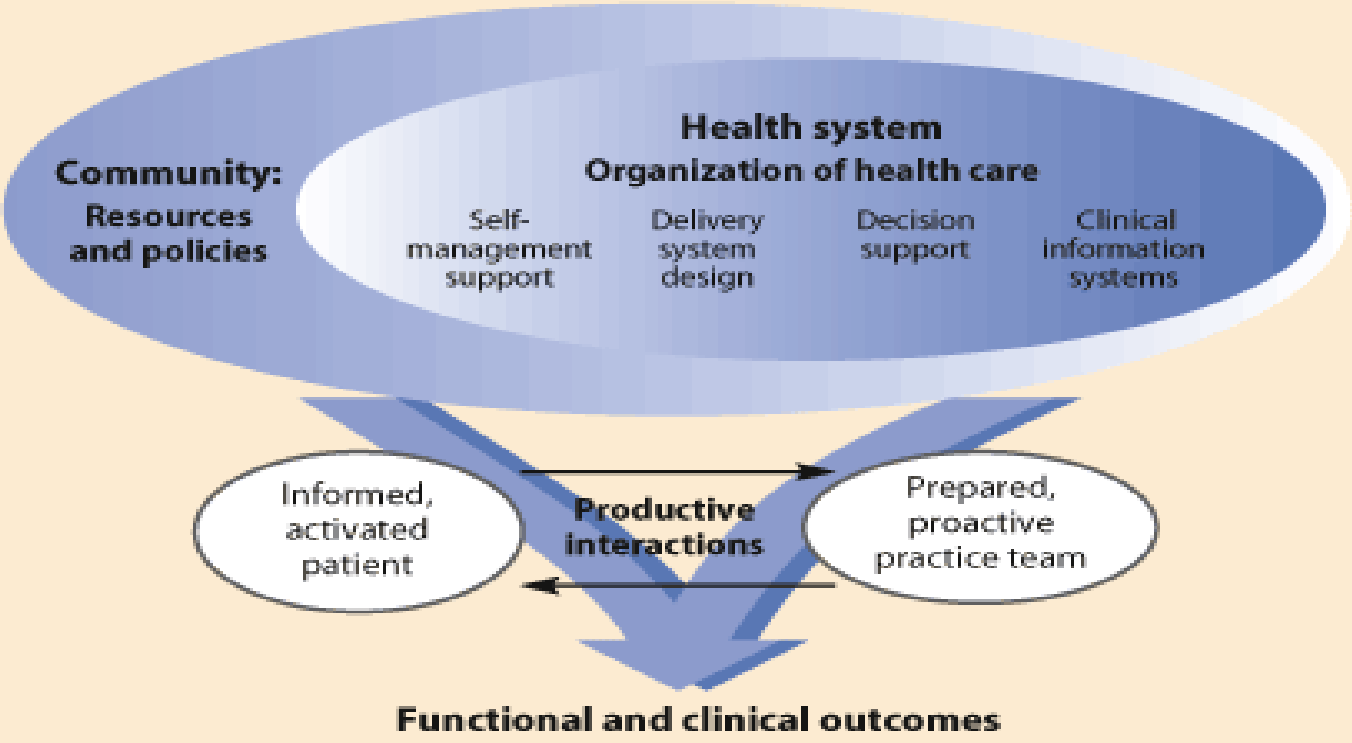
Delivery system design — Delivery requires clear roles and tasks, and all clinicians have current information about patient status. Follow-up is standard.

Clinical information system — A registry or an information system that can track individual patients as well as populations is a necessity.

Organization of health care — Health care systems create an environment in which organized efforts improve care.

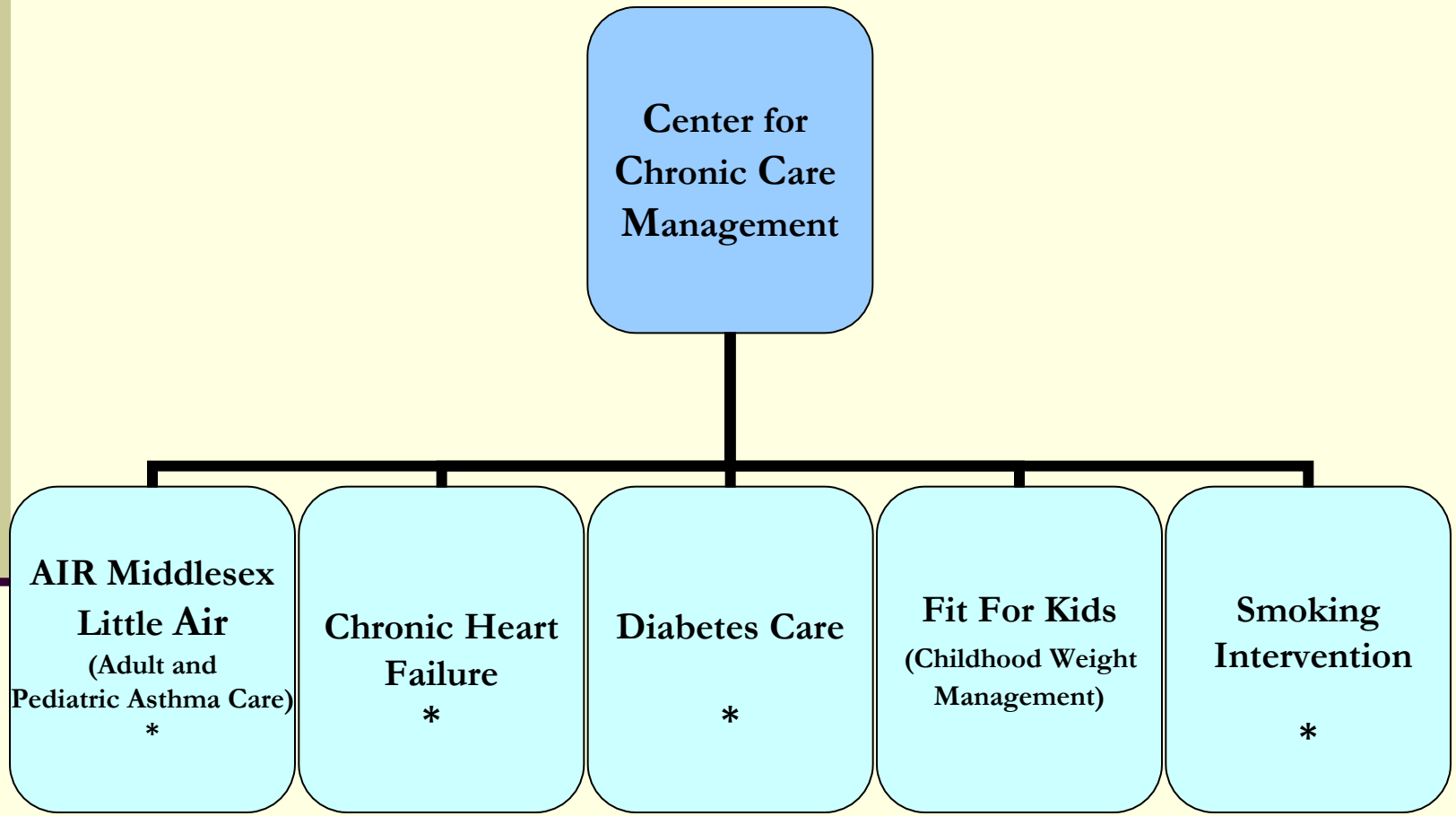
Community — Health care organizations make an effort to form powerful alliances and partnerships.

The chronic care model



Source: E.H. Wagner, C. Davis, J. Schaefer, M. Von Korff, B. Austin, "A survey of leading chronic disease management programs: are they consistent with the literature," *Managed Care Quarterly* 7 (1999): (3) 56–66.

CCCM-Five Programs Strong!



* Indicates NCQA Full DM Accreditation

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What is Disease Management?

- "Knowledge-based [evidence-based] process intended to improve continuously the value of health care delivery from the perspectives of those who receive, purchase, provide, supply, and evaluate it." (J. Couch, 1997)

Center for Chronic Care Management Disease Management

- "Connect the Dots"- reinforce and sustain partnership of patient, practitioner, care manager
- Optimal use of community resources
- Provide patient education and ongoing self management support
- Improve clinical, economic and quality of life outcomes
- Community Benefit provided by the hospital

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Enrollment and Payers

Source: MIDAS

- 2008 Adult Asthma Program
  - 50 Enrollees
    - 22.45% Medicare (11)
    - 6.12% Medicaid/SAGA (3)
    - 51.02% Commercial (25)
    - 16.33% Uninsured (8)
- 2009 Adult Asthma Program
  - 51 Enrollees
    - 17.65% Medicare (9)
    - 7.84% Medicaid/SAGA (4)
    - 47.06% Commercial (24)
    - 9.80% Uninsured (5)
- 2008 Pediatric Asthma Program
  - 40 Enrollees
    - 55.00% Husky (22)
    - 42.50% Commercial (17)
    - 2.50% Uninsured (1)
- 2009 Pediatric Asthma Program
  - 49 Enrollees
    - 55.10% Husky (27)
    - 40.82% Commercial (20)
    - 4.08% Uninsured (2)

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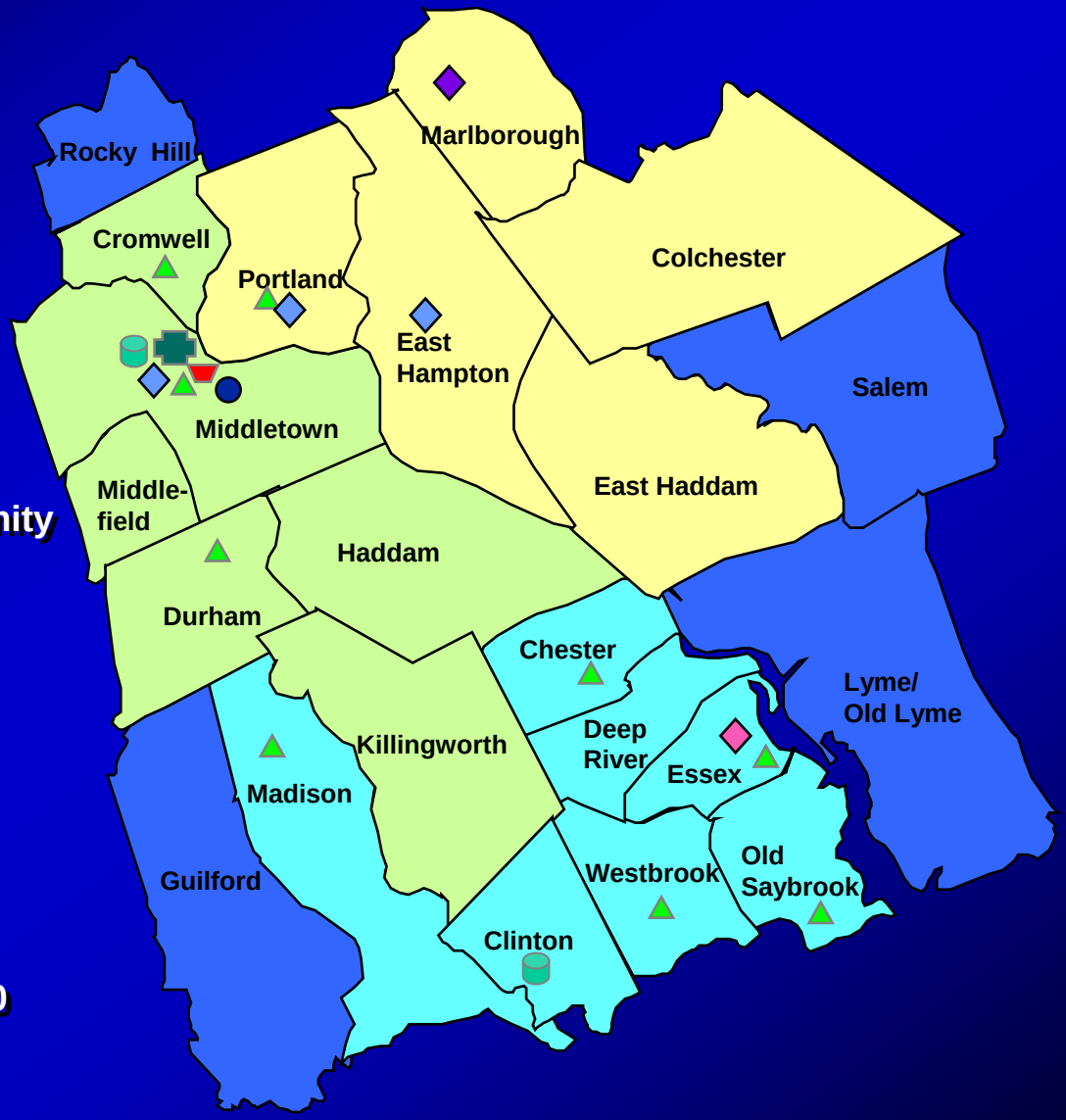
Middlesex Health System Service Area

- Middlesex Hospital
- Outpatient Center
- MMC, Shoreline
- MMC, Marlborough
- MHS Primary Care
- Assisted Living Community
- Family Practice Group
- Homecare



22 Towns

Total Population @ 248,000

Total Square Miles @ 623

AIR Middlesex History

- Asthma identified in 1998 as a chronic illness with frequent ED and Inpatient Utilization at Middlesex Hospital

- Middlesex Health System convened a group of physicians, nurses, pharmacists, community members for its first disease management team

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Three Phased Initial Case Finding

- **Phase I**

  Patient's identified through ED and hospitalization data

- **Phase II**

  Referral from physician practices

- **Phase III**

  Implementation of Little AIR with the Middletown Public Schools

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Current Referral Sources

- Physician Referral (PCP, specialist)
- Emergency Department (pathway)
- Inpatient (hospitalists, staff nurses, respiratory therapy)
- CCCM Patients (multiple dx)
- Community (schools, self referrals, other agencies)

Partners

Hospital	*Community*	*State*	*National*
Physicians	Primary Care Providers	DSS	Pharmaceutical Sales
Nurses	Schools	DCF	Pharmaceutical Patient Assistance
Respiratory Therapy	Health Department	DPH	CMSA
Opportunity Knocks	Housing Authority		
Philanthropy	Payers		

CCCM Disease Management Program Outcomes

- Profiled as national "best practice" for community hospital*
- Supports physicians
- Improved quality of life
- Reduction of unnecessary visits to hospital
- Excellent patient and provider satisfaction

*www. AHRQ.org-2008

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Clinical Outcomes

Source: MIDAS

Little AIR	2006 %	2007 %	2008 %
PRE Pt has an ACTION PLAN	32.69	12.5	16.22
POST Pt has an ACTION PLAN	91.18	86.67	88.89
PRE Uses PEAK FLOW Meter	21.15	5	13.51
POST Uses PEAK FLOW Meter	67.65	60	77.78
PRE Uses SPACER	75	65	62.16
POST Uses SPACER	94.12	90	100
PRE Daytime Symptoms (<2/wk)	5.77	12.5	18.92
POST Daytime Symptoms (<2/wk)	52.94	76.67	61.11
PRE Nighttime Symptoms(<1/wk)	13.46	22.5	29.73
POST Nighttime Symptoms(<1/wk)	62.91	76.67	77.78
PRE Missed School Days (avg)		1.3 day/mo	1.8 day/mo
POST Missed School Days (avg)		0.13 day/mo	0.17 day/mo
PRE ANTI INFLAM Use	63	58	68
POST ANTI INFLAM Use	88	83	89.65

Clinical Outcomes

Source: MIDAS

AIR MIDDLESEX	2006 %	2007 %	2008 %
PRE Pt has an ACTION PLAN	6	9.52	2.22
POST Pt has an ACTION PLAN	80	79.17	69.23
PRE Uses PEAK FLOW Meter	30	38.1	42.22
POST Uses PEAK FLOW Meter	87	79.17	100
PRE Uses SPACER	42	42.86	51.11
POST Uses SPACER	100	91.67	100
PRE Daytime Symptoms (<2/wk)	13	4.76	13.33
POST Daytime Symptoms (<2/wk)	43	41.67	57.69
PRE Nighttime Symptoms(<1/wk)	4	19.05	17.77
POST Nighttime Symptoms(<1/wk)	37	58.33	79.92
PRE MISSED WORK Days (avg)		61%	61%
POST MISSED WORK Days (avg)		21%	25%
PRE ANTI INFLAM Use	87	86	78
POST ANTI INFLAM Use	94	92	96

Economic Impact

- AIR Middlesex
  - 50 new patients enrolled in 2008
    - 24 patients utilized either the MH emergency department or required hospitalization 365 days prior to enrollment
    - 11 patients utilized either the MH emergency department or required hospitalization 365 days post enrollment
    - Implied cost reduction 64.60%

Source: MIDAS DATA

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Economic Impact

- Little Air (Pediatric) Middlesex
  - 40 new patients enrolled in 2008
    - 14 patients utilized either the MH emergency department or required hospitalization 365 days prior to enrollment
    - 5 patients utilized either the MH emergency department or required hospitalization 365 days post enrollment
    - Implied cost reduction 64.62%

Source: MIDAS DATA

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Next Steps in our State Asthma Plan

- Insurance reimbursement for patient asthma education by a Certified Asthma Educator(AE-C)

- Insurance reimbursement for an environmental home assessment by trained professionals for patients identified as high-risk, having frequent exacerbations

- Possible reimbursement pilot for AE-Cs and trained environmental professionals

DPH Data References

- Behavioral Risk Factor Surveillance System (BRFSS) (2000-2006)
- Hospitalization data (1996-2005) (OHCA & Chime, Inc.)
- Emergency department visit data (1996-2004) (Chime, Inc.)
- Mortality data (1996-2005) (DPH Vital Records)
- School-based asthma surveillance data (2004-2006) (DPH)
- Medicaid managed care data (2005) (CT Voices for Children)
- Work-related asthma data (1992-2006) (DPH)