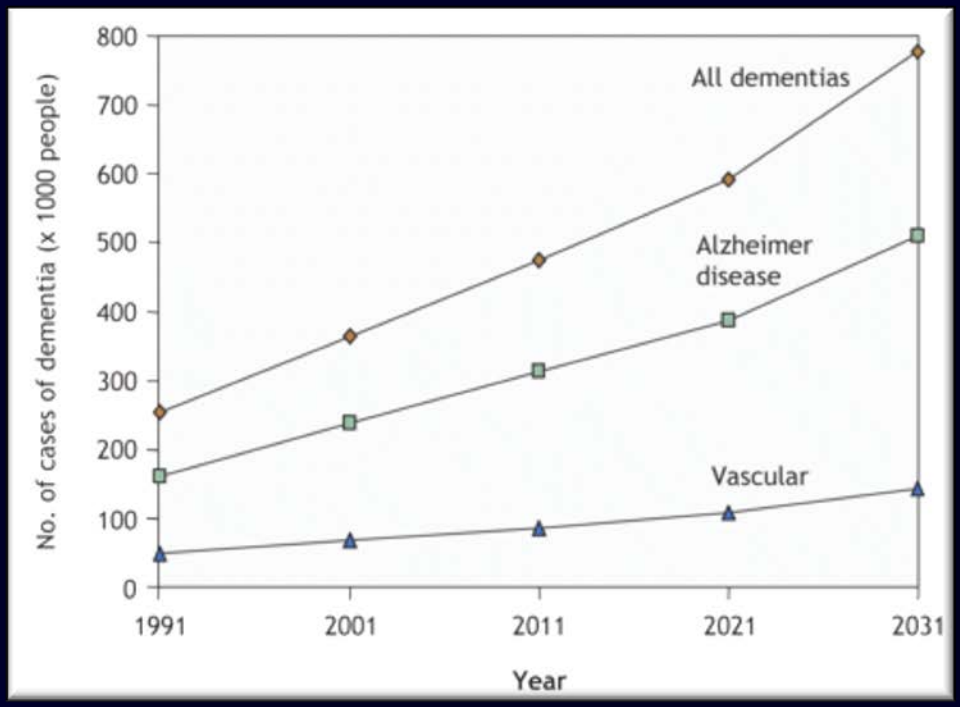
AN INNOVATIVE MODEL OF CARE FOR ENHANCING THE MANAGEMENT OF DEMENTIA IN PRIMARY CARE

L. Lee, MD, MClSc(FM), CCFP, FCFP
L. Hillier, MA
G. Heckman, MD, MMATH, MSc, BASc, FRCPC
M Gagnon, MD, BSc, Med, FRCPC, FACP

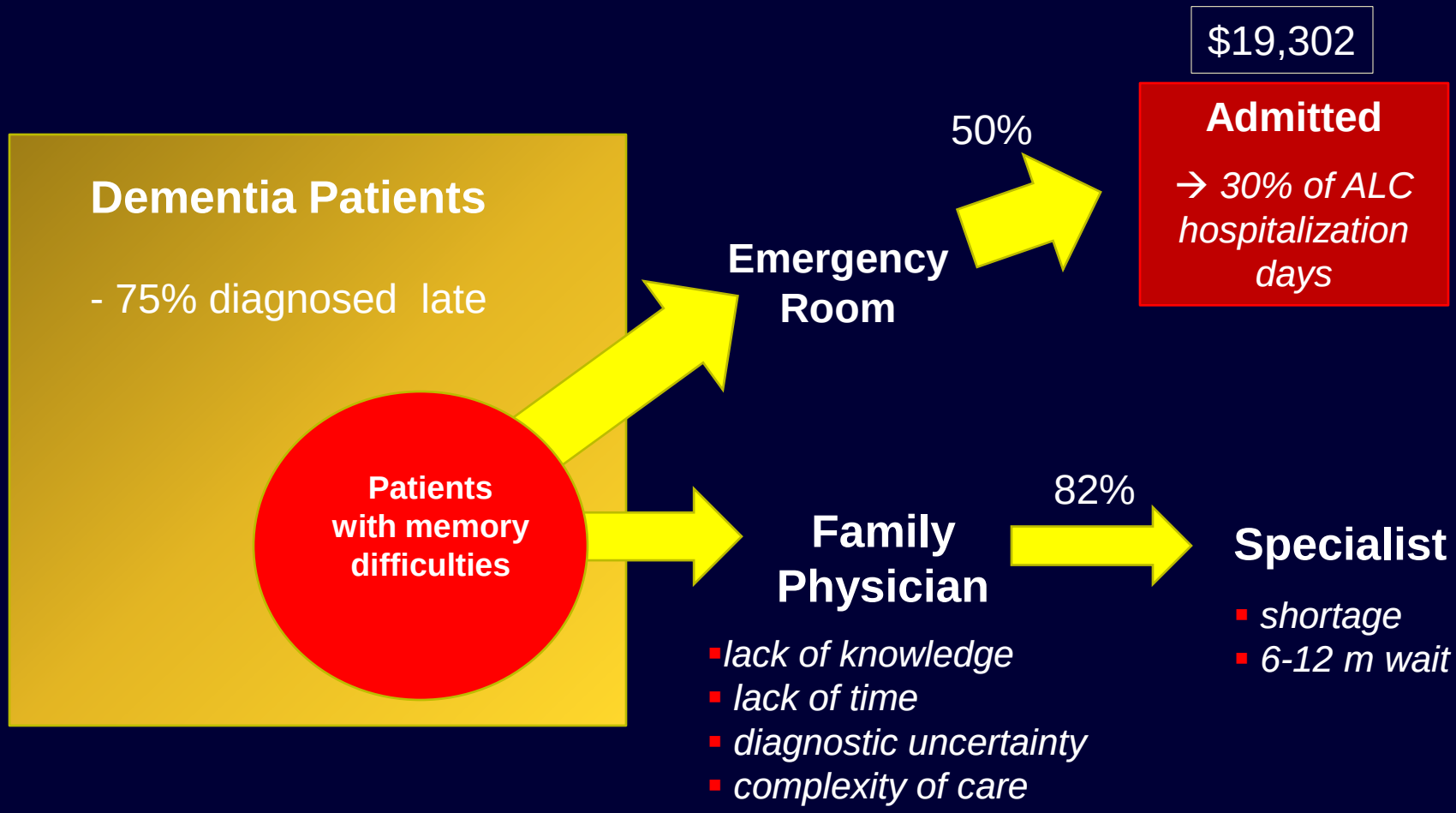
Projected prevalence of dementias in Canada



Chertkow H. *CMAJ* 2008

- By 2041, nearly ¼ of the Canadian population will be 65+
- ¼ of persons 65+ have a memory disorder (mild cognitive impairment or dementia)

A System Problem.



Pimlott NJG, et al. Can Fam Physician 2006
Massoud F, et al. J Nutr Health Aging 2010

Feldman HH, et al. CMAJ 2008
CIHI 2007; CIHI Alternate Level of Care 2008

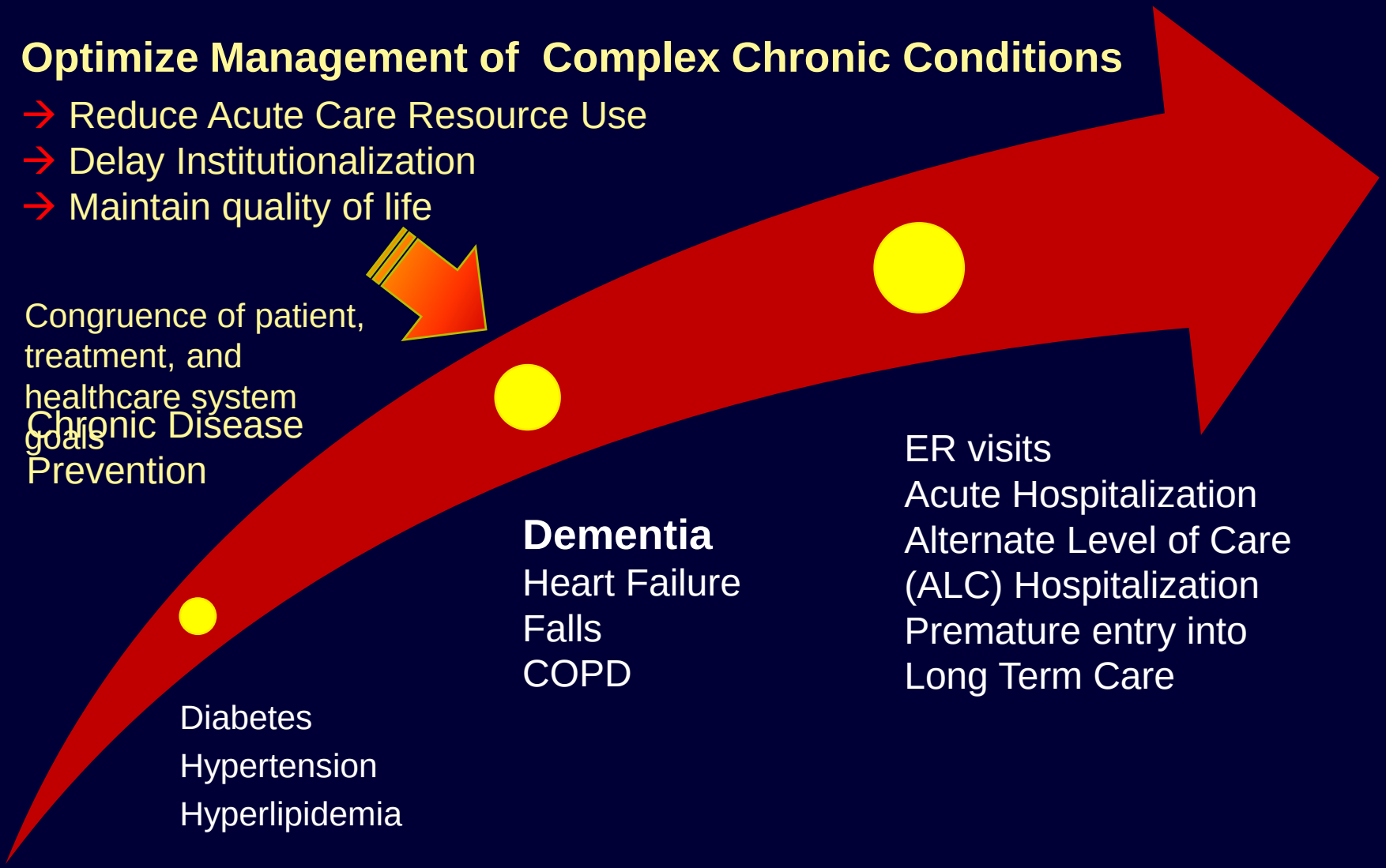
CIHI Patient Cost Estimator, Ontario 2008-2009

Estimated average cost of inpatient hospital services provided to the average patient (CIHI 2008-2009, Ontario)

Condition	Average cost per hospitalization	Number of inpatient cases (age 60-79)	Number of inpatient cases (age 80+)
Dementia	$ 19,302	865	1,673
Heart failure	$ 6,633	6,477	7,553
Fractured femur	$ 6,219	154	360
COPD	$ 6,561	10,813	6,350
Asthma	$ 2,470	476	220
Essential HT	$ 3,419	553	348
Diabetes mellitus	$ 5,306	1,901	942

Optimize Management of Complex Chronic Conditions

- → Reduce Acute Care Resource Use
- → Delay Institutionalization
- → Maintain quality of life



Warsch JRL, Wright CB . JAGS 2010

Safford MM, et. al. J Gen Intern Med 2007

System change is required.

- Dementia is the “keystone” disease.

  In the elderly, optimum chronic disease management begins with identification of cognitive impairment.

- 2008-2038: projected cumulative cost of dementia will be $872 billion

Alzheimer Society of Canada, 2010

Patients with dementia had 3.3 X total medicare expenditures than non-dementia patients, 54% of adjusted costs due to hospitalization

Bynum JPL, et. al. *JAGS* 2004

Reduced health care cost, hospitalization, and delayed nursing home placement with early diagnosis and outpatient care

- Study demonstrates 54% decline in health care costs in the year following diagnosis in primary care

  McCarten JR, et al. ICAD July 2010

- Study demonstrates less hospitalization in patients with cognitive impairment who had greater outpatient physician contact

  Caspi E, et al. *Alzheimers& Dementia* 2009

- Support and counseling for spouse-caregivers of patients with AD delays nursing home placement (2.7 years vs 4 years)

  Mittleman MS, et al. J*AMA* 1996

2006 - Primary Care Memory Clinic established to support 17 CFFM FHT family doctors - 21,000 current patient base

2008 - MOHLTC grant

- expansion includes Social work
  Pharmacy
  Nursing
  Medicine
  Occupational Therapy

- development of an accredited interprofessional Training Program in partnership with the Ontario College of Family Physicians, with guidance from geriatricians

Primary Care Memory Clinics trained through our program

- Upper Grand FHT (Fergus)
- Dorval Medical Associates FHT (Oakville)
- New Vision FHT (Kitchener)
- Langs Farm Village CHC (Cambridge)

- Two Rivers FHT (Cambridge)
- Brockton and Area FHT
- Minto-Mapleton FHT

- SE Toronto FHT
- Upper Grand FHT (Fergus)
- Summerville FHT (Mississauga)
- Owen Sound FHT
- Thames Valley FHT (Byron Clinic, London)

- Cochrane FHT
- Upper Canada FHT (Brockville)
- City of Kawartha Lakes FHT (Lindsay)
- Leamington FHT

- Garden City FHT (St. Catharines)
- Delhi Community FHT
- Portage Medical FHT (Niagara Falls)
- Welland McMaster FHT (Welland)
- Niagara Medical Group FHT (Niagara Falls)

- Grandview FHT (Cambridge)
- East Wellington FHT (Erin/Rockwood)
- Freeport Memory Clinic for 3 FHOs:
  - Kitchener-Waterloo FHO
  - Waterloo Region FHO
  - Grand River FHO
- Winston Park Retirement Home

- Hanover FHT
- Loyalist FHT (Amherstview)
- Stratford FHT
- Strathroy FHT

- Port Colborne

Principles of the Memory Clinic

- Increase capacity and quality of care for patients with memory disorders
- Proactive, holistic interprofessional care and support of patients and caregivers → aim to reduce ER visits, hospitalization, and premature institutionalization,
- Balance diagnostic accuracy and effective interventions with efficient, sustainable utilization of resources.
- Reduce referrals to specialists and community resources to only the most necessary

Primary Care Memory Clinic

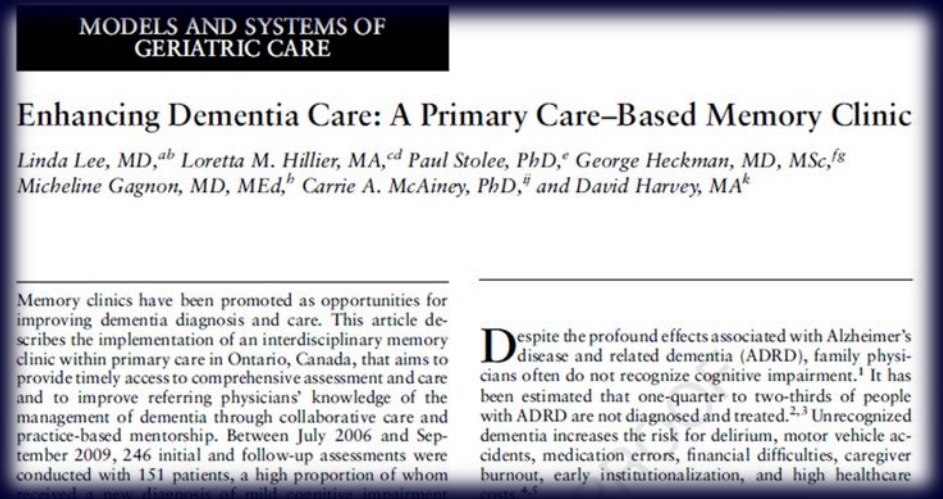
- Possible Team members:
  - 1-3 family physician leads
  - 2 nurses/nurse practitioners
  - Social worker
  - Pharmacist
  - Alzheimer Society member
  - Specialist e-mail or telephone support
- Function as an intermediary, to assist the family physician in accurate diagnosis and management, and to streamline use of limited geriatric resources

A highly efficient model!

- 1 clinic day per month supporting 10,000 patient base
- Referrals to specialists streamlined to only the most complex (<10%)
- Builds capacity for caring for an aging population in face of limited specialist resources
- Highly-functioning interprofessional team collaboration
- Proactive, designed to reduce ER and hospital use, emphasis on system navigation
- Unique

Evaluation of the CFFM Memory Clinic

- *Journal of the American Geriatric Society,* Nov 2010



MODELS AND SYSTEMS OF GERIATRIC CARE

Enhancing Dementia Care: A Primary Care–Based Memory Clinic

Linda Lee, MD,[ab] Loretta M. Hillier, MA,[cd] Paul Stolee, PhD,[e] George Heckman, MD, MSc,[fg] Micheline Gagnon, MD, MEd,[b] Carrie A. McAiney, PhD,[ii] and David Harvey, MA[k]

Memory clinics have been promoted as opportunities for improving dementia diagnosis and care. This article describes the implementation of an interdisciplinary memory clinic within primary care in Ontario, Canada, that aims to provide timely access to comprehensive assessment and care and to improve referring physicians' knowledge of the management of dementia through collaborative care and practice-based mentorship. Between July 2006 and September 2009, 246 initial and follow-up assessments were conducted with 151 patients, a high proportion of whom

Despite the profound effects associated with Alzheimer's disease and related dementia (ADRD), family physicians often do not recognize cognitive impairment.[1] It has been estimated that one-quarter to two-thirds of people with ADRD are not diagnosed and treated.[2,3] Unrecognized dementia increases the risk for delirium, motor vehicle accidents, medication errors, financial difficulties, caregiver burnout, early institutionalization, and high healthcare

- 3 years of data

- 256 patient assessments (151 different patients)

- 8% referral rate to specialists over 3 years

- Quality of care: Independent 30 chart audit by 2 geriatricians demonstrated appropriate diagnosis, management, and decision to refer/not refer to specialist

Evaluation of trained Memory Clinics

This study was funded by

- CIHR
- McMaster University Dept. of Family Medicine
- Centre for Family Medicine FHT

Participants

- Family Physicians and Interprofessional Health Care Providers (n=124) from 21 Family Health Teams and 1 Community Health Centre in Ontario
- Patient base for each FHT: 4,149-118,000
- Varied composition of Primary Care Memory Clinics (minimum 1 MD, 1 RN)
- All participated in a 5 day interprofessional training program involving 2 day Workshop, 1 day Observership, and 2 day Mentorship

Key Outcomes

- Establishment of independent clinics
- Wait time to assessment
- Referrals to specialists
- Patient and caregiver satisfaction
- Referring physician satisfaction
- Practice improvements/ changes (knowledge, skills, confidence, use of tools)
- Quality of care

Sources of Information

- Pre and 6 month post training surveys
  - N=114 pre; N=83 post, completed across 22 clinics
- Wait time and specialist referral tracking
  - N=488 patients, completed across 15 clinics
- Patient & Caregiver Satisfaction Surveys:
  - N=95, completed across 4 clinics
- Survey of Referring Physicians:
  - N=16 completed across 5 clinics
- Memory Clinic Team member interviews
  - N=40 across 13 clinics
- Chart Audits:
  - 50 charts audited across 5 clinics

Wait times and specialist referrals

582 patients assessed /12 months

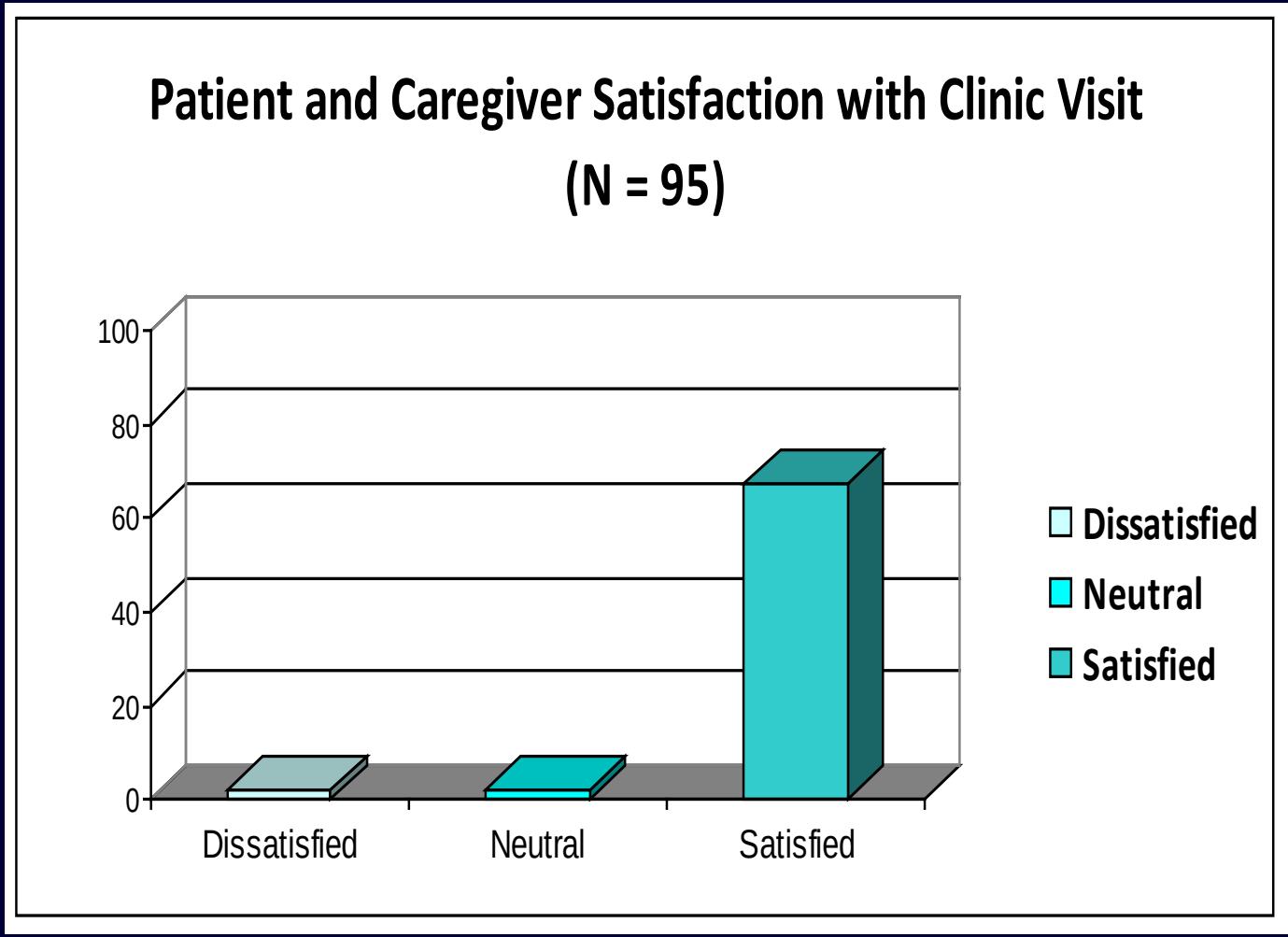
- 70.1% (N = 408) initial assessment only
- 29.9% (N = 174) initial assessment and 1+ follow-up visits

- Wait time:
  - Average = 1.4 months (SD = 1.7)
  - 35% (N = 174) within a month of referral

- Referrals to specialists:
  - 8.9% (N = 52)

➢ Data from 13 of 15 sites

Patient and caregiver satisfaction surveys



- Response rate: 47.3% (4 of 5 CIHR funded sites)
- 67% rated “very” or “extremely” satisfied ; mean rating 6.2 on a 7 point scale

Patient and Caregiver Perceptions N = 95	**Disagree**	**Neutral**	**Agree**
Able to get appointment in good time	2.1% (2)	5.3% (5)	**91.5% (87)**
Concerns and questions were adequately addressed	1.1% (1)	2.1% (2)	**95.8% (91)**
Would recommend clinic to others	1.1% (1)	4.2% (4)	**94.7% (90)**
Clinic visit was a valuable addition to care provided by family physician	1.1% (1)	4.2% (4)	**93.6% (89)**

- N=95, 4 clinic sites

Pre- and post-training engagement in various practice activities	Percentage (#)			
	Pre-Program** (N = 114)	Follow-up (N = 83)		
		Less now	Same	More now
Use of a Clinical Reasoning Model.	7.0% (8)	0	15.7% (13)	**75.9% (63)**
Standardized tools for assessing cognitive impairment.	55.3% (63)	0	3.6% (3)	**88.0% (73)**
Standardized tools for assessing executive functioning.	29.8% (34)	0	3.6% (3)	**88.0% (73)**
Screening for fitness to drive	25.4% (29)	0	12.0% (10)	**79.5% (66)**
Use of an interprofessional approach	30.7% (35)	0	6.0% (5)	**85.5% (71)**

- Self-reported practice change 6 months post program.. Data from 22 sites.

Chart Audits (N = 40)

>90% agreement on the appropriateness of:

- ✓ Diagnosis
- ✓ Investigations
- ✓ Requested lab tests
- ✓ Treatment plan
- ✓ Medications

- Quality indicators based on College of Physicians and Surgeons of Ontario chart audit template
- 10 charts audited per site, 4 of 5 sites completed
- Audits completed independently by 2 geriatricians

Clinic Member Interviews: Patient/ caregiver related impacts

- Timely and increased access
- Early diagnosis and intervention
- Enhanced management of crisis situations
- Expert care in a familiar and local environment
- Increased access to community supports
- Reduced caregiver burden and isolation
- High patient and caregiver satisfaction with care

Study conclusions

- Results suggest that interprofessional primary care memory clinics trained through our program can provide timely high-quality care for patients with memory disorders with highly efficient use of specialist resources

- This model of care may offer a feasible, sustainable means of increasing capacity for care of seniors with memory disorders.

* Tailoring intervention to risk *

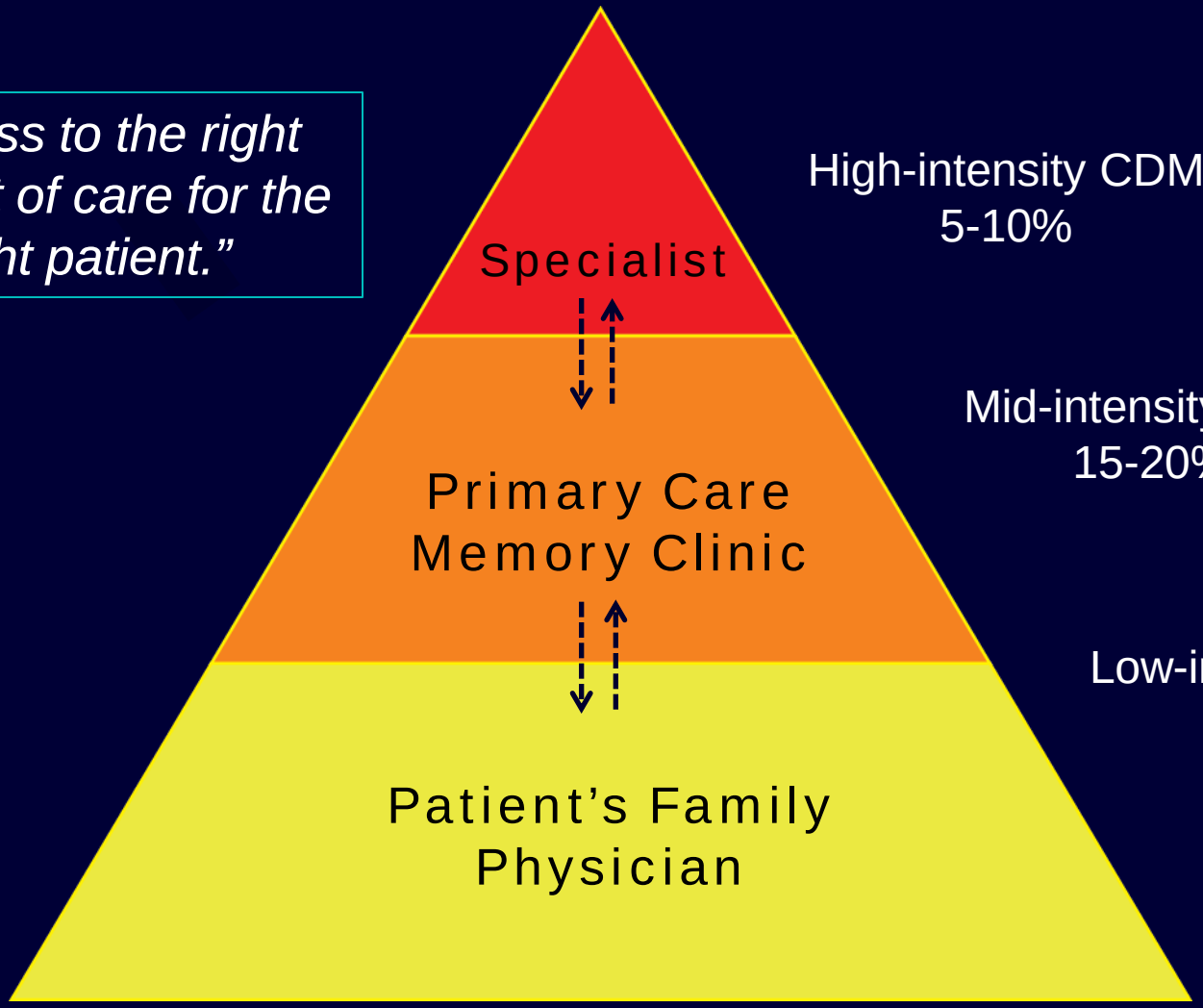
- Stratify patients according to risk of poor outcomes and tailor intensity of Chronic Disease Management (CDM) intervention accordingly
  - Low intensity CDM – 75% with chronic disease
  - Mid intensity CDM – 15-20% with chronic disease
  - High intensity CDM – 5-10% with chronic disease

Scott IA. Chronic disease management: a primer for physicians. Internal Medicine Journal 2008;38

Heckman GA. Integrated care for the frail elderly. Healthcare Papers 2011;11

Sustainable, Efficient Care

"Access to the right amount of care for the right patient."



High-intensity CDM
5-10%

Mid-intensity CDM
15-20%

Low-intensity CDM
75%

Courtesy : Dr. George Heckman

Scott IA. Medicine Journal 2008;38
Heckman GA.. Healthcare Papers 2011;11

Successful elements

- Highly efficient; referrals to specialists streamlined to only the most complex (<10%) making best use of limited existing resources
- Sustainable means of building capacity to care for an aging population
- Standardized training program fosters highly-functioning Interprofessional team collaboration
- Proactive, designed to reduce ER and hospital use and delay institutionalization
- Emphasis on holistic, patient-centered care and system navigation throughout the course of illness, and defragmented care

Limitations and Challenges

- Study limited to results in FHTs and CHC; evaluative study of Memory Clinics in non-FHT models of primary care currently underway
- Additional challenges in non-FHT settings, eg. recruitment and support for interprofessional health care providers from the community and in retirement home settings
- Need for greater engagement of specialists
- Sustainable source of funding required for expansion of memory clinics provincially and continued evaluation

Potential policy implications

- A successful model that ***changes the system of care*** , building capacity to manage an aging population using existing resources efficiently and sustainably

- Primary care Memory Clinics can act as a platform to manage other complex chronic conditions of seniors that result in excessive ER and hospital use and premature institutionalization, eg. COPD, Heart Failure, Falls, and address multimorbidity

- Next step research: evaluative study of impacts of Memory Clinics on use of ER, hospitalization, and delayed institutionalization

Potential policy implications

- Findings relevant to:
  - Policy makers at the MOHLTC and LHIN levels
  - Community partners (Alzheimer's Society, CCAC, geriatric assessment teams)
  - Leaders in Chronic Disease Management in seniors
  - Family physicians in FHT and non-FHT models of primary care
  - Specialists (geriatricians, neurologists, geriatric psychiatrists)
  - Persons with dementia and their family members

- Relevant provincially and nationally