

Indiana University Dissemination of the Aging Brain Care Program!

Malaz Boustani, MD, MPH
Founding Director, Chief Innovation & Implementation Officer,
Sandra Eskenazi Center For Brain Care Innovation
Indiana University Center for Health Innovation and Implementation Science



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School of Medicine
Department of Medicine
Division of General Internal Medicine and Geriatrics
Center for Aging Research



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IU Team

- Mentors & peers

- Chris Callahan
- Greg Sachs
- Mary Austrom
- Siu Hui
- Daniel Clark
- Su Gao
- Lisa Harris
- Patrick Monahan
- Wanzhu Tu
- Anthony Perkins

- Mentees:

- Noll Campbell
- Babar Khan
- Nicole Fowler
- Michael LaMantia
- Richard Holden
- Daniel Bateman
- Sophia Wong
- Ashley Overlay
- Nadia Adams
- Cathy Alder
- Ben Zarzour



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- Potential Conflict of Interest in the past 12 months
 - Hold equity in a preferred population health management (PPHM), LLC. PPHM is the distributing network for the IU ABC program.
 - Member of the Beacon Advisory Board for Astra-Zneca.



- Source of Funding:
 - For Brain Care Discovery:
 - K23AG026770; R01AG029884; R01AG040220; R01AG034205; P30AG024967; R01HS019818; and R01HS10884.
 - For Brain Care Delivery:
 - R24MH080827; 1C1CMS331000-01-00; 1L1CMS331444-01-00; and Eskenazi Health Foundation.





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Objectives

- Describe the structure, the tools, the staffing models, and effectiveness of the IU Aging Brain Care model.



Aging Brain Care

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Indiana University Reaction

- Developed the Aging Brain Care Model (ABC beta) (2000-2001).
- Evaluated the model in RCT* (2001-2006).
- Translated the model into a local **clinical** program (ABC 1.0) (2007).
- Served 1,000 patients in Indianapolis (2012).
- Developed a **scalable** version (**ABC 2.0**) (2012).
- Served 5,000 patients in Indiana (2015).
- Active distribution of the ABC 2.0 (2015)
- Developing an advanced scalable version (ABC 3.0) (2016)

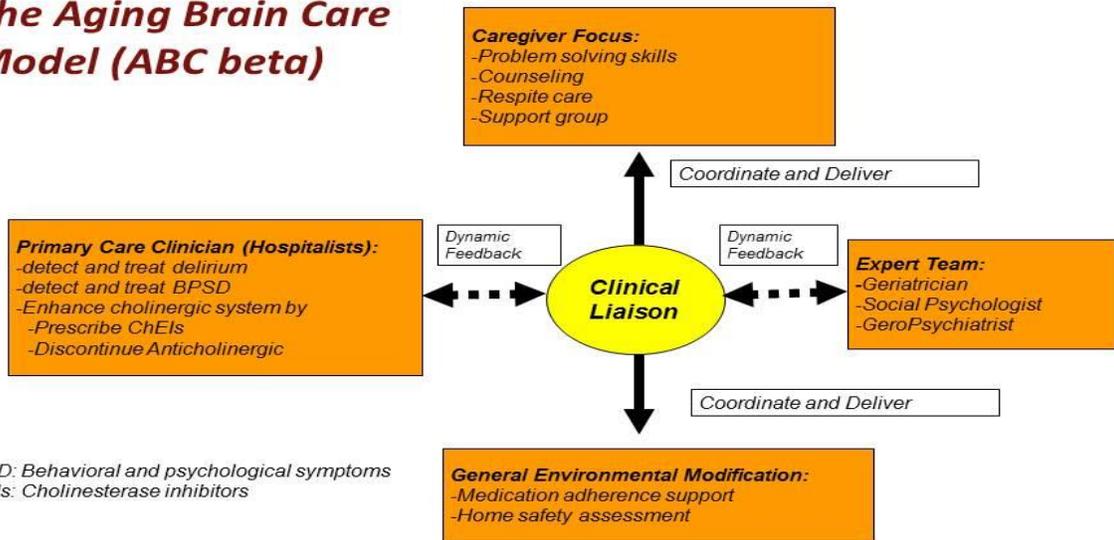


*RCT: Randomized Controlled Trial

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The Aging Brain Care Model (ABC beta)



BPSD: Behavioral and psychological symptoms
ChEIs: Cholinesterase inhibitors

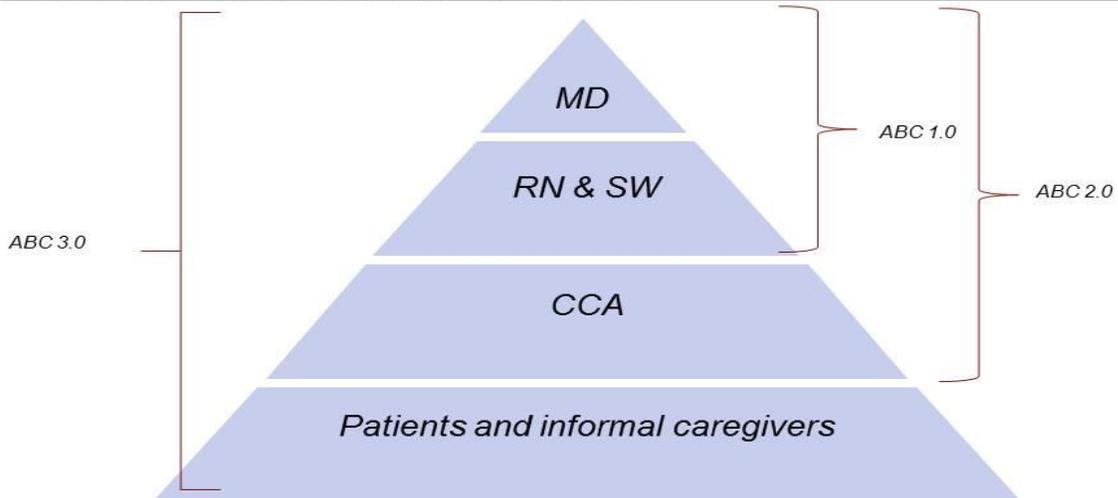
Callahan et al, JAMA 2006; Austrom et al, Gerontologist 2004; Boustani et al, JGIA 2006



Work Force for ABC Model from 1.0 to 3.0

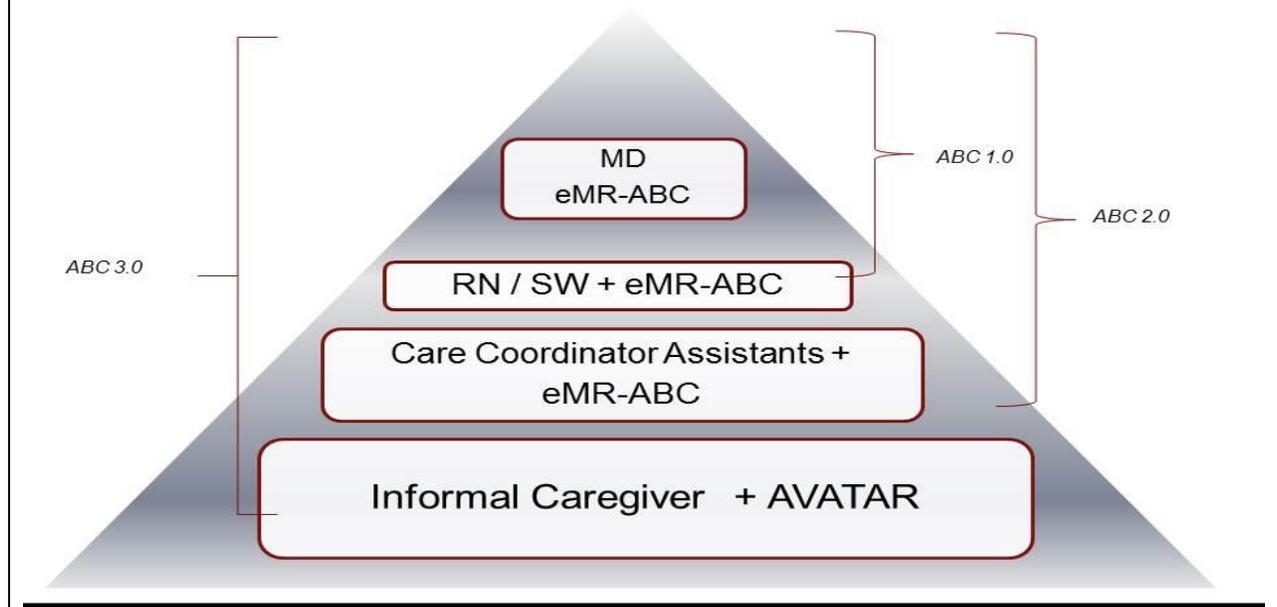
Today ABC 2.0 : M-F 8-5 p.m. about \$ 100 p.m.p.m., focusing on dementia / depression

Future ABC 3.0: 24/7 about \$ 50 p.m.p.m., almost all brain conditions



p.m.p.m.=per member per month; MD=medical doctor; RN=registered nurse; SW=social worker; CCA=care coordinator assistant; eMR ABC=electronic medical record ageing brain care (a specialized software application for the model)

IT Support of ABC Model from 1.0 to 3.0



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Standardized Minimum ABC 2.0 Care

1. Check Hospital & ER Alerts every day
2. Coordinate with Inpatient services
 - a) Alert hospital team of presence of cognitive or mood problems
 - b) Medications conciliation
 - c) Connect with family caregiver
 - d) Request Geriatric consult (If available)
 - e) Coordinate post discharge transition
3. Post discharge care
 - a) Home visit within 72 hours of discharge
 - b) Medication reconciliation
 - c) Coordinate Home Care visit
 - d) Coordinate post hospital orders
 - e) Deliver Delirium protocol and handout
4. Ongoing Aging Brain Care
 - a) Manage Depression
 - i. Problem Solving Therapy
 - ii. Pharmacotherapy
 - iii. Cognitive behavioral Therapy
 - b) Manage Cognitive Impairment
 - i. Cholinesterase inhibitors (if needed)
 - ii. D/C medications with adverse cognitive effects (Anticholinergics, Histamine 2 antagonists, Benzodiazepines)
 - iii. Caregiver problem solving coaching
 - iv. Medication adherence support



Callahan et al, *Aging & Mental Health* 2011; Boustani et al, *Aging & Mental Health* 2011; LaMantia et al, *JAGS* 2015

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The Current Tools of ABC 2.0

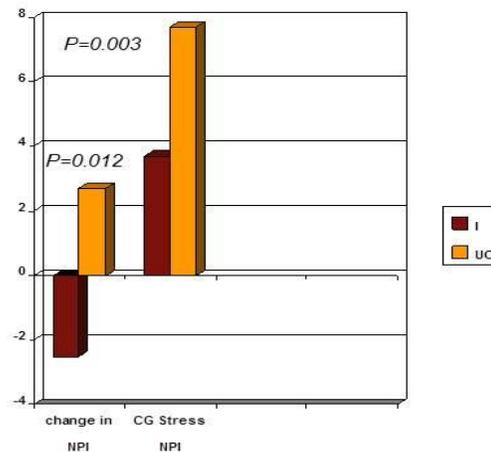
- Mobile office
- HABC Monitor for both self and Caregiver report
- eMR-ABC population management software
- Mobile HABC App for Informal Caregiver
- ABC Replication Manual
- ABC Caregiver Booklet
- Anticholinergic Cognitive Burden Scale

LaMantia et al JAGS 2015; Frame et al eGEMS 2013; Monahan et al, JGIM 2010; Monahan et al JGIM 2012; Boustani et al, JGIM 2009



The ABC beta version Efficacy

- *NNT = 3.7*
- *7 NPI point improvement*
- *Each 1 point decline in NPI = \$250-\$400 in health care expenses*
- *Potential saving 1750-\$2800 per patient*
- *Improvement in family stress*



NNT: Number Need to Treat; NPI: Neuropsychiatric Inventory; CG: Caregiver

Callahan, Boustani et al, JAMA 2006





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ABC 1.0 Performance

The Acute Care Service Utility Domain	ABC	PCC
% patients with at least one ER visit	28%	49%
Total number of ER visits	124	1143
% patients with at least one hospitalization	13%	26%
Total number of hospitalizations	45	438
Mean/Median length of hospital stay	5 / 4	7 / 4

ABC; Aging Brain Care patients; PCC: primary care center patients

Boustani et al., Aging & Mental Health 2011



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ABC 1.0 Performance

The Quality of Care Indicator Domain	ABC	PCC
% seen at ER again within one week	14%	15%
% re-hospitalized within 30 days of discharge	11%	20%
% with at least one order of definite anticholinergics	19%	40%
% with at least one order of neuroleptics	5%	5%
% with at least one order of anti-dementia drugs	55%	13%
% with at least one order of antidepressant drugs	68%	48%
% with at least one order of definite anticholinergics and anti-dementia drugs	16%	32%
% with at least one LDL order	82%	72%
% of patients with LDL < 130	45%	23%
% with at least one HbA1c order	78%	62%
% of patients with HbA1c < 8	78%	51%
% with last systolic BP < 160	27%	24%

ABC; Aging Brain Care patients; PCC: primary care center patients

Boustani et al., Aging & Mental Health 2011

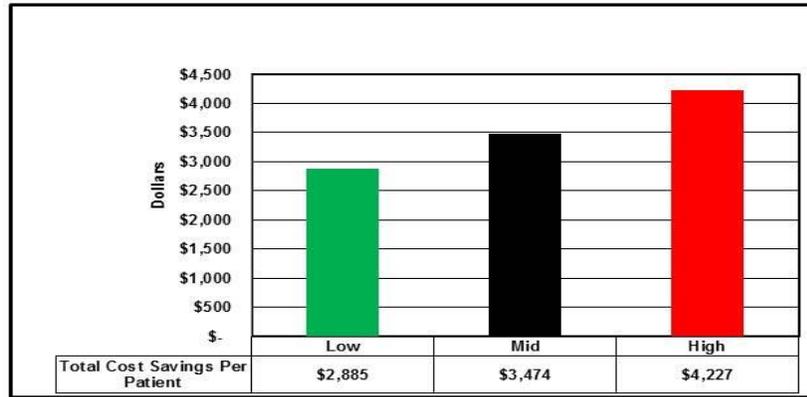


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ABC 1.0 Annual Cost Savings Per Patient



French et al., Health Affairs 204 (In Press)

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ABC 2.0 Performance

Health Outcomes

Full Dementia Care Giver Responders at 12 months 66%

Full Major Depression Patients Responders at 12 months 51%

LaMantia et al., JAGS 2015



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ABC Distribution Preferred Population Health Management, LLC

- On-boarding of scalable and existing workforce within the AAAs. (multiple Mini Interview)
- Training and ongoing management and support of the scalable workforce (combined experiential adult learning based coaching)
- Ongoing Zoom-in & Zoom-out monitoring of the performance of the entire population to allow both complex case management and comprehensive resource allocation for the entire population at Risk (Population Health Logistic software)
- Evidence-based clinical pathway to manage the complex cognitive, functional, behavioral and psychological needs of both the client (member suffering from the disease) and their family caregiver.