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of Medical Specialties  
*Higher standards. Better care.®*

## The ABMS Program for Maintenance of Certification (ABMS MOC®) is Linked to Better Quality Patient Care

### **MOC linked to better diabetes care –**

**Physicians improve hemoglobin A1c and blood pressure control, plus increase foot and eye exams.**

Peterson LE, Blackburn BE, Puffer JC, Phillips RL Jr. Family physicians' quality interventions and performance improvement through the ABFM diabetes performance in practice module. *Ann Fam Med* 2014;12: 17-20.

**Physicians improve process measures and hemoglobin A1 control.**

Phillips RL, Blackburn B, Peterson LE, Puffer JC. Maintenance of Certification, Medicare quality reporting, and quality of diabetes care. *Am J Med Qual* 2015 May;31(3):217-23.

### **MOC linked to better asthma care –**

**Pediatricians improve asthma action plans and control tests, resulting in a decline of asthma exacerbations for patients.**

Vernacchio L, Francis ME, Epstein DM, Santangelo J, Trudell EK, Reynolds ME, Risko W. Effectiveness of an asthma quality improvement program designed for Maintenance of Certification. *Pediatrics* 2014;134(1):e242 -8.

**Physicians improve care for asthma patients.**

Elward K, Blackburn B, Peterson LE, Greenawald M, Hagen MD. Improving quality of care and guideline adherence for asthma through a group self-assessment module. *J Am Board Fam Med* 2014 May-Jun;27(3):391-8.

**Pediatricians improve flu vaccine rates for asthma population.**

Mandel KE, Kotagal UR. Pay for performance alone cannot drive quality. *Arch Pediatr Adolesc Med* 2007;161(7):650-5.

### **MOC linked to better hypertension care –**

**Family doctors improve care of patients with hypertension after completing MOC activity.**

Peterson LE, Blackburn B, Puffer JC, Phillips RL. Family physicians' quality interventions and performance improvement for hypertension through Maintenance of Certification. *J for Healthcare Qual* 2016;38(3):175-86.

**Physicians improve blood pressure control in hypertensive patients.**

Kolasinski VA, Price DW. Maintenance of certification part IV quality-improvement project for hypertension control: A preliminary retrospective analysis. *The Permanente Journal* 2015;19(2):1-5.

## **MOC linked to better care for children –**

### **Pediatricians improve HPV vaccination rates.**

Fiks AG, Luan X, Mayne SL. Improving HPV vaccination rates using Maintenance of Certification requirements. *Pediatrics* 2016 Mar;137(3):e20150675.

### **Pediatricians improve screening for injury prevention.**

Gittelman MA, Denny S, Anzeljc S, FitzGerald M, Arnold MW. A pilot quality improvement program to increase pediatrician injury anticipatory guidance. *J Trauma Acute Care Surg* 2015 Sep;79(3 Suppl 1):S9-14.

### **Pediatricians improve Crohn's disease and ulcerative colitis.**

Crandall WV, Margolis PA, Kappelman MD, King EC, Pratt JM, Boyle BM, et al. Improved outcomes in a quality improvement collaborative for pediatric inflammatory bowel disease. *Pediatrics* 2012;129(4):e1030-41.

### **Pediatricians improve catheter-associated bloodstream infection rates.**

Miller MR, Griswold M, Harris JM II, Yenokyan G, Huskins C, Moss M. Decreasing PICU catheter-associated bloodstream infections: NACHRI's quality transformation efforts. *Pediatrics* 2010;125(2):206-12.

### **Pediatric gastroenterologists improve documentation, processes, and patient outcomes for endoscopic procedures.**

Sheu J, Chun S, O'Day E, Cheung S, Cruz R, Lightdale JR, et al. Outcomes from pediatric gastroenterology Maintenance of Certification using web-based modules. *J Pediatr Gastroenterol Nutr* 2017;64(5):671-8.

### **Pediatricians reduce use of unnecessary CTs for children with head injuries.**

Jennings RM, Burtner JJ, Pellicer JF, Nair DK, Bradford MC, Shaffer M, et al. Reducing head CT use for children with head injuries in a community emergency department. *Pediatrics* 2017;139(4):1349. March 2 [Epub ahead of print]

### **Physicians reduce infant deaths associated with congenital heart disease.**

Anderson JB, Beekman RH, Kugler JD, Rosenthal GL, Jenkins KJ, Klitzner TS, et al. Improvement in interstage survival in a national pediatric cardiology learning network. *Circ Cardiovasc Qual Outcomes* 2015;8:428-36.

## **MOC linked to better care for elderly –**

### **Physicians improve processes of care for diabetes and mammography screening in Medicare patients.**

Holmboe ES, Wang Y, Meehan TP, Tate JP, Ho SY, Starkey KS, et al. Association between Maintenance of Certification examination scores and quality of care for Medicare beneficiaries. *Arch Intern Med* 2008;168(13):1396-403.

### **Physicians boost screening for fall risk in vulnerable elderly population.**

Holmboe ES, Hess BJ, Conforti LN, Lynn LA. Comparative trial of a web-based tool to improve the quality of care provided to older adults in residency clinics: modest success and a tough road ahead. *Acad Med* 2012 May;87(5):627-34.

## **MOC linked to better practice of medicine – MOC facilitates physicians making practice improvements –**

### **Family physicians find MOC activities highly relevant, useful for treating patients.**

Peterson LE, Eden A, Cochrane A, Hagen M. Physician satisfaction with and practice changes resulting from American Board of Family Medicine Maintenance of Certification performance in practice modules. *J Contin Educ Health Prof* 2016 Winter;36(1):55-60.

### **Anesthesiologists change practice based on MOC activity.**

Steadman, Randolph H.; Burden, Amanda R.; Huang, Yue Ming; Gaba, David M.; Cooper, Jeffrey B. Practice improvements based on participation in simulation for the Maintenance of Certification in anesthesiology program. *Anesthesiology* 5 2015, Vol.122, 1154-69.

### **Emergency physicians find MOC activity relevant, likely to change practice.**

Jones JH, Smith-Coggins R, Meredith JM, Korte RC, Reisdorff EJ, Russ CM. Lifelong learning and self-assessment is relevant to emergency physicians. *J Emerg Med* 2013;45(6):935-41.

### **Emergency physicians find MOC exam improves knowledge, see tangible benefits in maintaining certification.**

Marco CA, Wahl RP, Counselman FL, Heller BN, Harvey AL, Joldersma KB, et al. The American Board of Emergency Medicine ConCert examination: Emergency physicians' perceptions of learning and career benefits. *Acad Emerg Med* 2016;23(9):1082-5.

## **MOC increases adherence to clinical guidelines –**

### **MOC exam promotes use of diabetes guidelines.**

Holmboe ES, Wang Y, Meehan TP, Tate JP, Ho SY, Starkey KS, Lipner RS. Association between Maintenance of Certification examination scores and quality of care for Medicare beneficiaries. *Arch Intern Med* 2008; 168(13):1396-403

### **MOC activity encourages use of hypertension guidelines.**

Hagen MD, Sumner W, Fu H. Diuretic of choice in ABFM hypertension self-assessment module simulations. *J Am Board Fam Med* 2012;25(6):805-9.

### **Physicians boost compliance with pediatric obesity guidelines after completing MOC activity.**

Huang JS, Chun S, Sandhu A, Terrones L. Quality improvement in childhood obesity management through the Maintenance of Certification process. *J Pediatr* 2013;163:1313-6.e1

### **Family physicians improve asthma diagnosis by using action plans and guidelines after completing MOC activity.**

Elward K, Blackburn B, Peterson LE, Greenawald M, Hagen MD. Improving the quality of asthma care and adherence to guidelines through a group self-assessment module. *J Am Board Fam Med* 2014;27:391-8.

## **MOC identifies knowledge gaps –**

### **MOC activity helps neurosurgeons identify knowledge gaps.**

Sheehan J, Starke RM, Pouratian N, Litvack Z. Identification of knowledge gaps in neurosurgery using a validated self-assessment examination: differences between general and spinal neurosurgeons. *World Neurosurg* 2013;80(5):e27-31.

**MOC is associated with fewer state medical board disciplinary actions – Physicians who pass MOC exam less likely to face disciplinary actions than those who don't pass exam.**

McDonald FS, Duhigg LM, Arnold GK, Hafer RM, Lipner RS. The American Board of Internal Medicine Maintenance of Certification Examination and State Medical Board Disciplinary Actions: a Population Cohort Study. *J Gen Intern Med* (2018) (Accessed March 7, 2018)

Sun H, Culley DJ, Lien CA, Kitchener DL, Harman AE, Warner DO. Predictors of performance on the Maintenance of Certification in Anesthesiology Program® (MOCA®) examination. *J Clin Anesth* 2015;27(1):1-6.