

Bonzo's Bombastic Board Bonanza: Expanding a Successful Board Review Program

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AMERICAN ACADEMY OF FAMILY PHYSICIANS

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Objectives

- Identify sources to obtain sample board review questions
- Describe a sample 18-month curriculum that can improve residents' medical knowledge and also prepare them for board exams
- Describe an alternative rotation-based curriculum that residents can utilize to improve exam performance
- Describe how to use active learning to maintain interest in a board review curriculum for residents at different stages of learning

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ACCREDITATION COUNCIL FOR GRADUATE MEDICAL EDUCATION (ACGME)

- determines the minimum requirements for accreditation of residency programs
- 6 core competencies
 1. Patient care
 2. **Medical knowledge**
 3. Practice-based learning & improvement
 4. Interpersonal & communication skills
 5. Professionalism
 6. Systems-based practice

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RESIDENCY REVIEW COMMITTEE (RRC) FAMILY MEDICINE

- At least 95 percent of a program's eligible graduates from the preceding five years must have taken the American Board of Family Medicine (ABFM) certifying examination for family medicine.
- At least 90 percent of a program's graduates from the preceding five years who take the ABFM certifying examination for family medicine for the first time must pass.

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Poll Question

What is the 3 year board passage rate at your program?

- A. 100%
- B. 90-99%
- B. 80-89%
- C. 70-79%
- D. 69% or lower

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Difficulties with RRC Requirements

- Small programs (e.g., 3-4 residents)
- Dually-accredited (M.D.-D.O.) programs

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New Hanover Regional Medical Center Dually Accredited Family Medicine Program

- Recruited residents more likely to pass
- Evaluated them at the beginning
- Tracked them closely
- Make them study and review
- All residents take ABFM boards
- Osteopathic residents take BOTH

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*RRC Suggestions for Improving Board Scores

- Review previous ABFM In-training Exams
- Review topics/articles from *American Family Physician* (AAFP journal)
- Self-assessment Modules (SAMs) from ABFM
- **Conduct board review sessions, led by a faculty member, on a regular basis**
- Challenger Program (<http://www.chall.com/>)

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Poll Question

Which best describes your Board Review process?

- A. We have specific, formal, monitored review process
- B. We include some board review periodically
- C. We tell the residents they should be studying, but no specific review
- D. Uh, what board review?

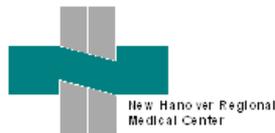
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ABFM In-training Exams (ITE)

- Score ≤ 390 put R3 residents at 12.5% risk of failing actual board exams
- For scores between 400-450, odds were good that residents would pass actual board exam
- *Almost all seniors (99.3%) scoring >490 passed their boards*
- Bayesian score predictor model available through ABFM
- <https://cbas.theabfm.org/BayesianPrediction.aspx>

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New Hanover Regional Medical Center



- Integration of board review program & resident education conference curriculum
- Organ system-based

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NHRMC Integrated Curriculum

- CONFERENCE STRUCTURE
 - 18-month cycles
 - Monthly themes = Organ-system based
 - Predetermined Friday conference topics for each theme/organ system
- EXAMPLE-CARDIOVASCULAR MONTH
 - Week 1: CAD
 - Week 2: PVD, valve disease
 - Week 3: HTN
 - Week 4: Arrhythmias
 - Week 5: CHF

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Board Review Process

- Weekend: in-depth, weekly quiz (open-ended, “fill-in-the-blank” format) goes out
- Mondays: resident-led study sessions (discuss topics in-depth & review answers to quiz)
- Friday: resident education conferences
 - Lectures are on the same topic as the quizzes
 - Practice (multiple choice) questions following lectures

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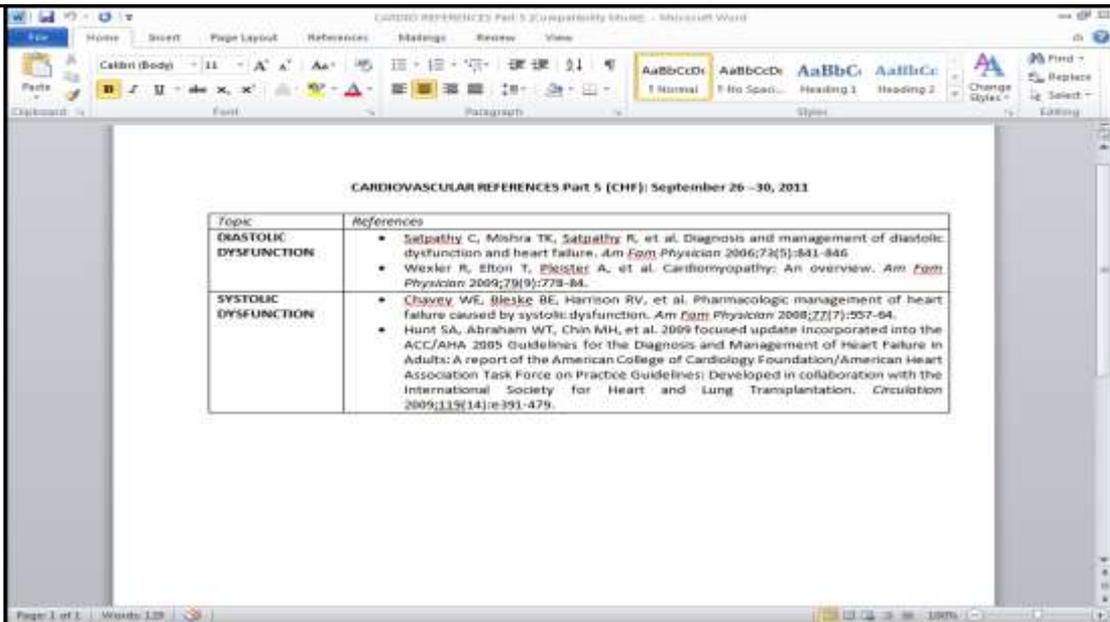
CARDIOVASCULAR QUIZ Part 5: Congestive Heart Failure – September 26 –30, 2011

DIASTOLIC DYSFUNCTION

1. What is a normal ejection fraction (EF)? _____
2. At what EF cutoff does diastolic dysfunction become systolic dysfunction? _____
3. Which 2 types of medications can both improve left ventricular relaxation & regress left ventricular hypertrophy? _____
4. Which 2 medications improve survival in diastolic heart failure? _____

SYSTOLIC DYSFUNCTION

1. Describe the NYHA classification system for heart failure
 - a. Class I _____
 - b. Class II _____
 - c. Class III _____
 - d. Class IV _____
2. List the 5 pharmacologic treatment options that decrease mortality in systolic heart failure. List classes of meds if there is more than one in a class, and list them in the preferred order. *Be specific, especially for the fifth one (list specific scenarios when you would use them)*
 - a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____
3. Which two classically used medications improve symptoms of CHF with no effect on mortality? _____
4. Name 3 types of medications that can exacerbate heart failure & should be avoided in most patients: _____



100. A 72-year-old male with a history of hypertension and a previous myocardial infarction is diagnosed with heart failure. Echocardiography reveals systolic dysfunction, and recent laboratory tests indicated normal renal function, with a serum creatinine level of 1.1 mg/dL (N <1.5), a sodium level of 139 mEq/L (N 136–145), and a potassium level of 3.5 mEq/L (N 3.5–5.0). He is currently asymptomatic. Which one of the following medications would be the best choice for initial management in this patient?

- A) Furosemide (Lasix)
- B) Isosorbide dinitrate (Isordil)
- C) Spironolactone (Aldactone)
- D) Digoxin
- E) Lisinopril (Prinivil, Zestril)

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- C) Spironolactone (Aldactone)
- D) Digoxin
- **E) Lisinopril (Prinivil, Zestril)**

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- ACE inhibitors such as lisinopril are indicated for all patients with heart failure due to systolic dysfunction, regardless of severity. ACE inhibitors have been shown to reduce both morbidity and mortality, in both asymptomatic and symptomatic patients, in randomized, controlled trials. Unless absolutely contraindicated, ACE inhibitors should be used in all heart failure patients. No ACE inhibitor has been shown to be superior to another, and no study has failed to show benefit from an ACE inhibitor (SOR A).
- Direct-acting vasodilators such as isosorbide dinitrate also could be used in this patient, but ACE inhibitors have been shown to be superior in randomized, controlled trials (SOR B). β -Blockers are also recommended in heart failure patients with systolic dysfunction (SOR A), except those who have dyspnea at rest or who are hemodynamically unstable. These agents have been shown to reduce mortality from heart failure.
- A diuretic such as furosemide may be indicated to relieve congestion in symptomatic patients. Aldosterone antagonists such as spironolactone are also indicated in patients with symptomatic heart failure. In addition, they can be used in patients with a recent myocardial infarction who develop symptomatic systolic dysfunction and in those with diabetes mellitus (SOR B). Digoxin currently is recommended for patients with heart failure and atrial fibrillation, and can be considered in patients who continue to have symptoms despite maximal therapy with other agents.
- Ref: Chavey WE, Bleske BE, Harrison RV, et al: Pharmacologic management of heart failure caused by systolic dysfunction. *Am Fam Physician* 2008;77(7):957-964

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Poll Question

Do you have a structured study plan for residents at risk for board failure?

- A. Yes
- B. No

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“At Risk” Residents

- Based on ABFM Bayesian Score Predictor
- Current system based on ITE scores: R1 ≤ 390 , R2 ≤ 410 , R3 ≤ 430
- For “at risk” residents, *mandatory* monthly study plan:
 - 1 ABFM SAM every 2 months
 - 60 board questions per month
 - R1 must attend 50% of weekly study sessions (75% for all other residents)

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INITIAL ABFM ITE RESULTS

- Average In-training Examination (ITE) score increased by 73 points (**National average 422**)
 - 2010 average score: 383
 - 2011 average score: 456
- Percentage of residents scoring ≥ 470 on ITE
 - 2010: 8%
 - 2011: 50%
- Percentage of residents scoring ≤ 390 on ITE
 - 2010: 50%
 - 2011: 21%

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ACTUAL ABFM RESULTS

In 2012: 100% of graduates passed all eligible board exams for the 1st time in our residency (6/6 exams passed)

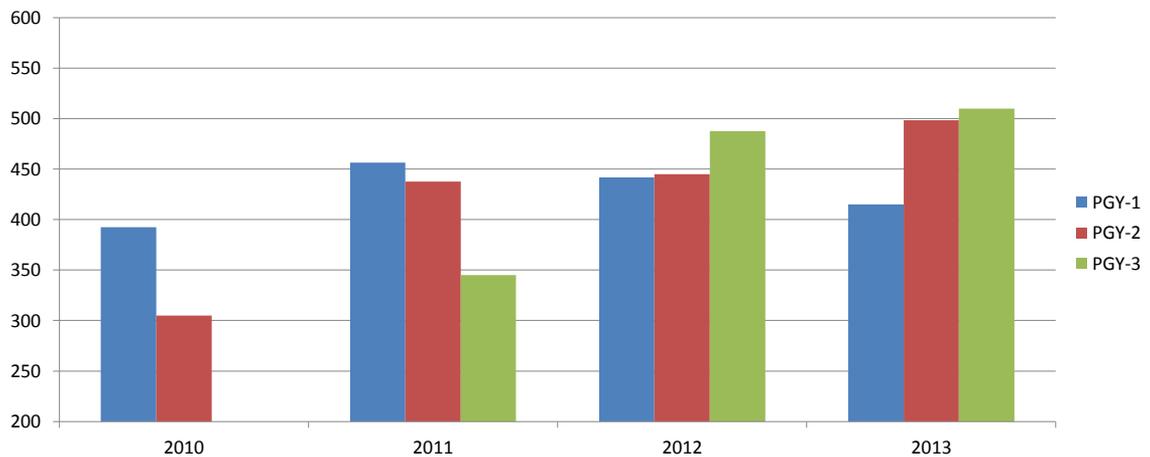
In 2013: 100% board passage rate again

In 2014: 100% board passage rate again

In 2015: 100% board passage rate again (including PD!)

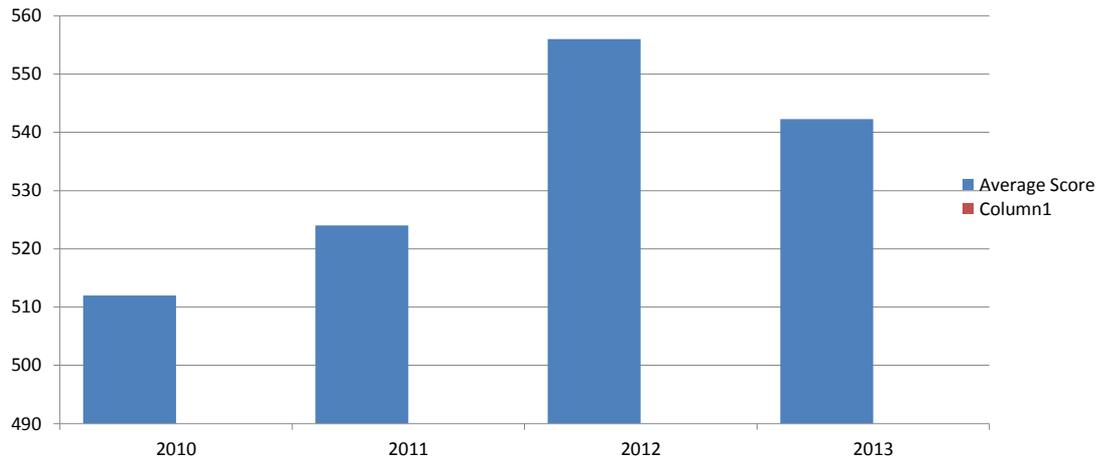
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M.D. In-training Exam Results



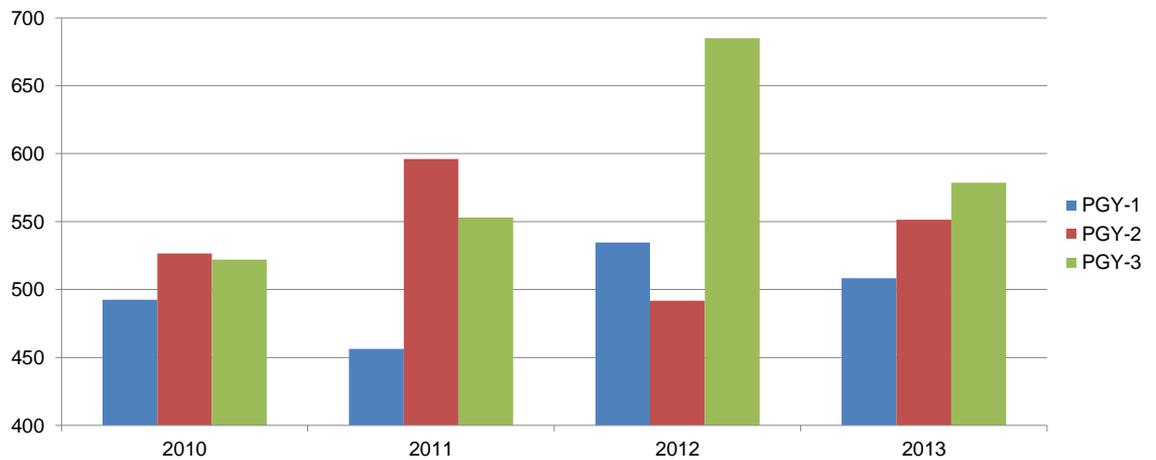
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D.O. In-training Exam Results



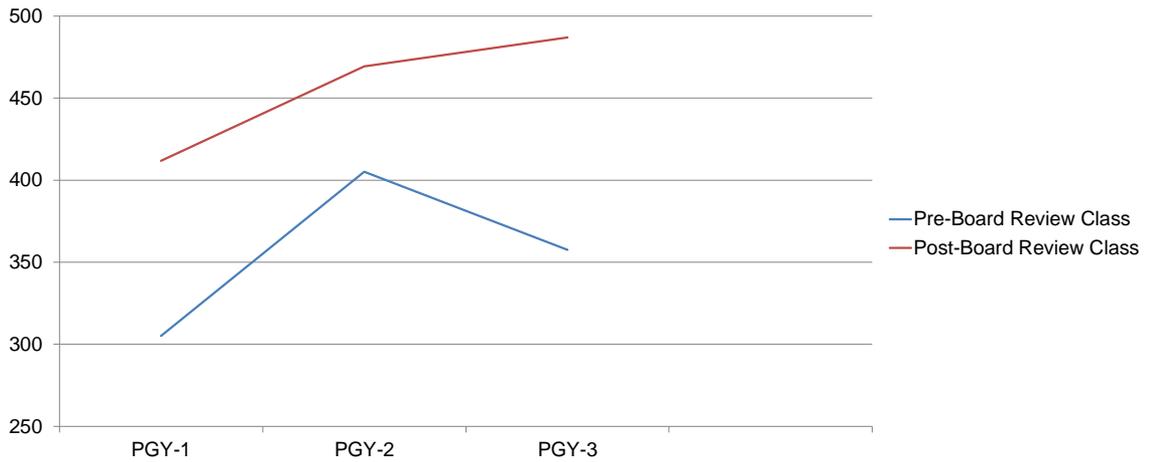
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D.O. In-training Exam Results



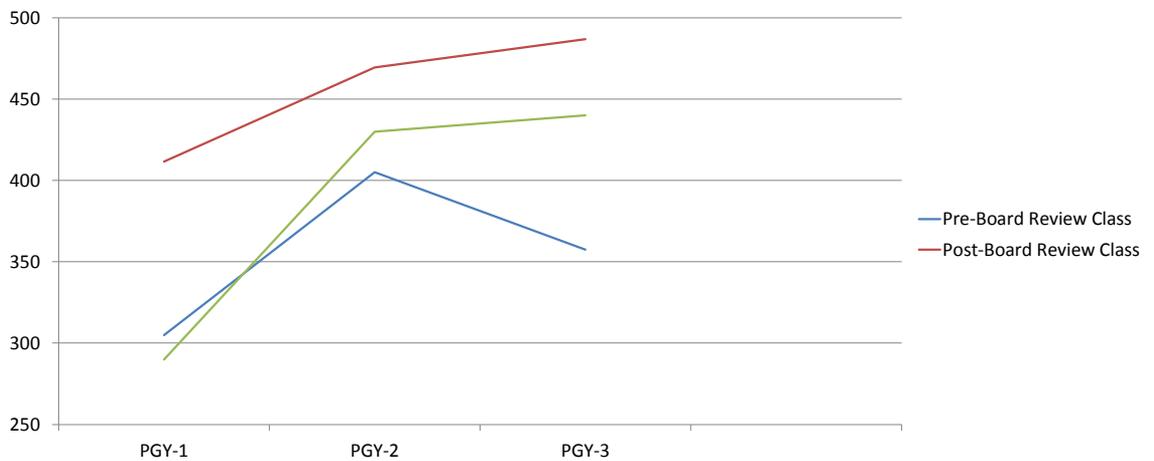
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Comparison: Pre- and Post-Board Review



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Comparison: Pre- and Post-Board Review



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Poll Question

Who is “in charge” of Board Review at your program?

- A. One superstar faculty member
- B. Residents (chief or otherwise)
- C. Divided up among faculty
- D. Program director
- E. Yeah, still working on that...

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New Plan

- Continued with the selection and evaluation process
- Continued to email weekly quizzes
- Continued with board questions in Friday conference
- Still had structured study plan for those below cut-off

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What Changed?

- Did not have someone to do individual board review with strugglers
- Did not have a point person in charge of all board review
- All faculty agreed to divide it up
- PD was made “the heavy” to make sure residents completed required review with admin tracking

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Unexpected Benefits

- Residents took ownership and pride in scores, as well as ownership of the review
- We bragged a LOT to applicants
- Those at risk were terrified that they wouldn't measure up and begged to be on study plan
- Most other residents were following study plan as well
- Faculty had to work to keep up!

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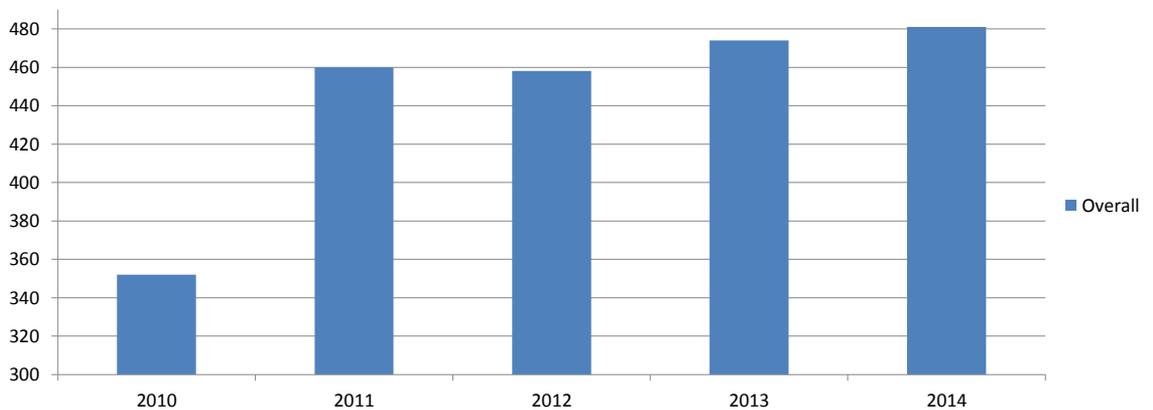
M.D. In-training Exam Results



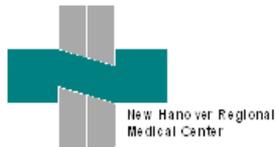
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M.D. In-training Exam Results

Overall



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New Hanover Regional Medical Center Dually Accredited Family Medicine Program

- Recruited residents more likely to pass
- Evaluated them at the beginning
- Tracked them closely
- Make them study and review
- All residents take ABFM boards
- Osteopathic residents take BOTH

Memorial Health University Medical Center Family Medicine Program

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- Make them study and review
- All residents take ABFM boards
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Memorial Health University Medical Center Family Medicine Program

- **Change in recruiting strategies (USMLE Fails)**
- Evaluated them at the beginning
- Tracked them closely
- Make them study and review
- All residents take ABFM boards
- Osteopathic residents take BOTH

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Memorial Health University Medical Center Family Medicine Program

- **Change in recruiting strategies (USMLE Fails)**
- **Mock In-training exam (intern + others)**
- Tracked them closely
- Make them study and review
- All residents take ABFM boards
- Osteopathic residents take BOTH

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Memorial Health University Medical Center Family Medicine Program

- **Change in recruiting strategies (USMLE Fails)**
- **Mock In-training exam (intern + others)**
- **Track *all* resident participation (IEP/ILPs)**
- Make them study and review
- All residents take ABFM boards
- Osteopathic residents take BOTH

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Memorial Health University Medical Center Family Medicine Program

- **Change in recruiting strategies (USMLE Fails)**
- **Mock In-training exam (intern + others)**
- **Track *all* resident participation (IEP/ILPs)**
- **Make them study and review (Bonzo)**
- All residents take ABFM boards
- Osteopathic residents take BOTH

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Poll Question

Do you require your residents to take boards before graduation and pay for it?

- A. Yes and we pay if they pass
- B. Yes and we pay regardless if they pass
- C. Yes and the resident pays for it themselves
- D. No but we pay for it if they do take it
- E. No but the resident pays for it if they do take it

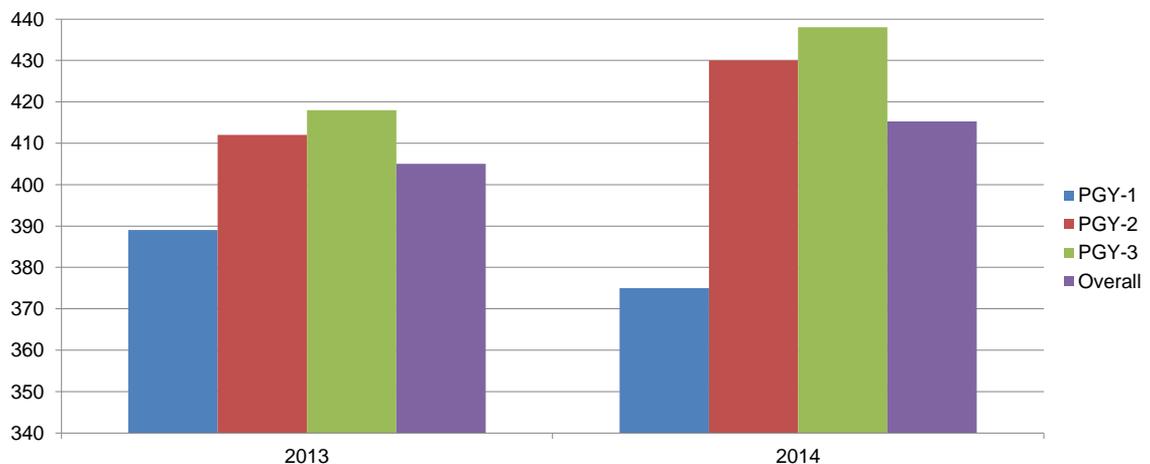
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Memorial Health University Medical Center Family Medicine Program

- **Change in recruiting strategies (USMLE Fails)**
- **Mock In-training exam (intern + others)**
- **Track *all* resident participation (IEP/ILPs)**
- **Make them study and review (Bonzo)**
- **All residents take ABFM boards**
- (Not dually accredited program)

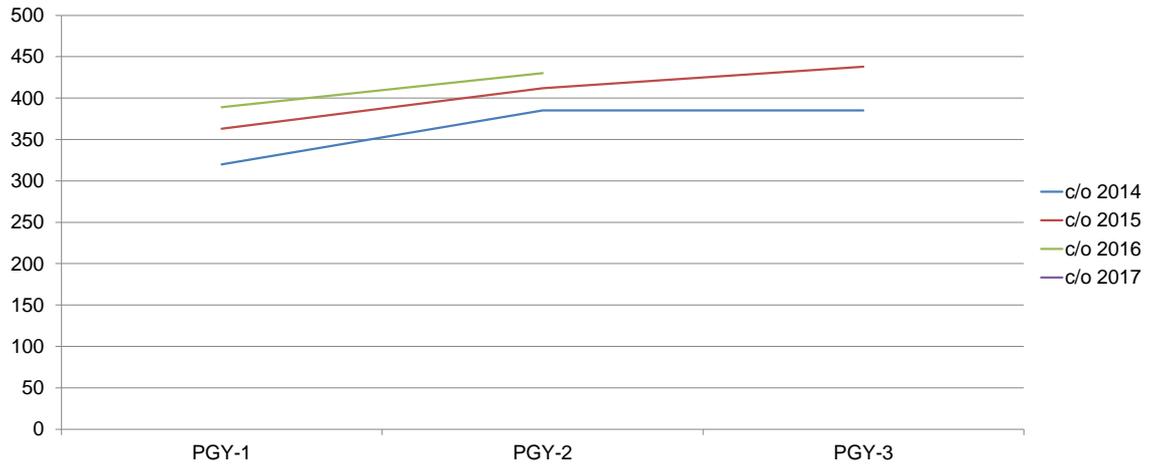
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Memorial FM Residency ITE Scores



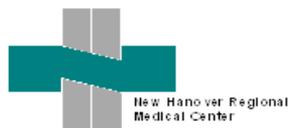
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Cohort View



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New Hanover Regional Medical Center



- Integration of board review program & resident education conference curriculum
- Organ system-based

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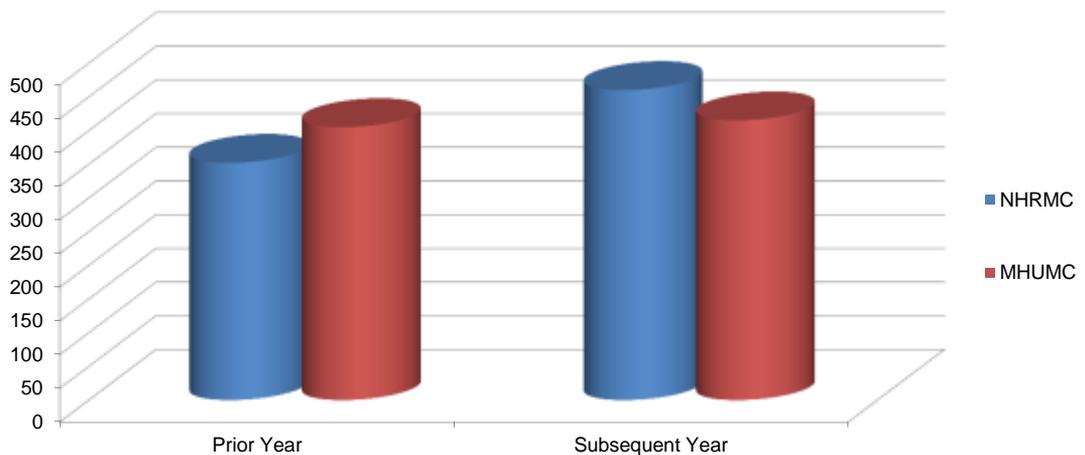
Memorial Health University Medical Center



- Integration of board review program & resident education conference curriculum
- Organ system-based
 - 4 week blocks

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Pre- and Post- Comparisons NHRMC vs. MHUMC



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Memorial Health University Medical Center



- Integration of board review program & resident education conference curriculum
- Organ system-based
 - 4 week blocks
- **Development of rotation-based quizzes**

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Rotation-Based Quizzes

- Portions of organ-based quizzes compiled into rotation-specific quizzes
 - ICU, FM inpatient service, GYN, etc.
- Some new topics arose that may not be prevalent on exams (e.g., additional Urology quiz)

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DISCUSSION...

- Buy-in?...
- Lead-time?...
- Other topics?...

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REFERENCES

1. Grow G. Teaching learners to be self-directed. *Adult Education Quarterly* 1991; 41(3): 125-49.
2. O'Neill TR, Royal KD, Puffer JC. Performance on the American Board of Family Medicine (ABFM) Certification Examination: Are Superior Test-Taking Skills Alone Sufficient to Pass? *J Am Board Fam Med* 2011; 24: 175-80.

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During the break...

- Discuss / think about how you might implement the information you just heard.
- Fill out a session evaluation.



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STRONG MEDICINE FOR AMERICA