

Does clinical performance on
third year required clerkships
reliably identify students with
serious deficiencies in clinical
skills?

Casey B. White, Ph.D., Mary Ellen
Hernandez, M.D., Joel Purkiss,
Ph.D., Joseph Fantone, M.D.

University of Michigan Medical
School



Ann Arbor, Michigan

Problem

- **The summative OSCE often detects students with serious deficiencies.**
- **Remediation is difficult during the M4 year.**
- **Earlier identification of these students desirable – but is it possible??**



Research Questions

1. **Is there a relationship between overall third year clinical performance and performance on the summative OSCE?**
2. **Is there a relationship between performance on individual clerkships and OSCE stations?**
3. **Does third year clinical performance reliably identify students with serious deficiencies as measured by the OSCE?**



Methods

- **Study Sample: N = 500 (2007-2009)**
- **Variables examined:**
 - Clerkship performance**
 - measured using the standard clerkship assessment: 12 items (9 point scale)
 - ratings averaged across 6 required clerkships



Methods

OSCE Performance

- **Clinical Exam**
 - 9 Standardized Patient encounters; several with post-encounter notes or probes
 - Communication scored across stations
- **Computer Based Exam**
 - ECG
 - Imaging
 - Critical Values
 - EBM



Methods

Students with serious deficiencies:

Students failing 3+ stations

Students failing a station on re-take



University of Michigan
Medical School

Analysis

- Correlations were examined between the mean overall clerkship and mean overall OSCE performance.
- Based on mean clinical performance, students were stratified into quintiles and the correlations re-examined.
- Correlations between each clerkship and each OSCE station were also examined.

Analysis

- **Students with serious deficiencies were further examined by comparing their mean clerkship performance to students without serious deficiencies (t-test).**

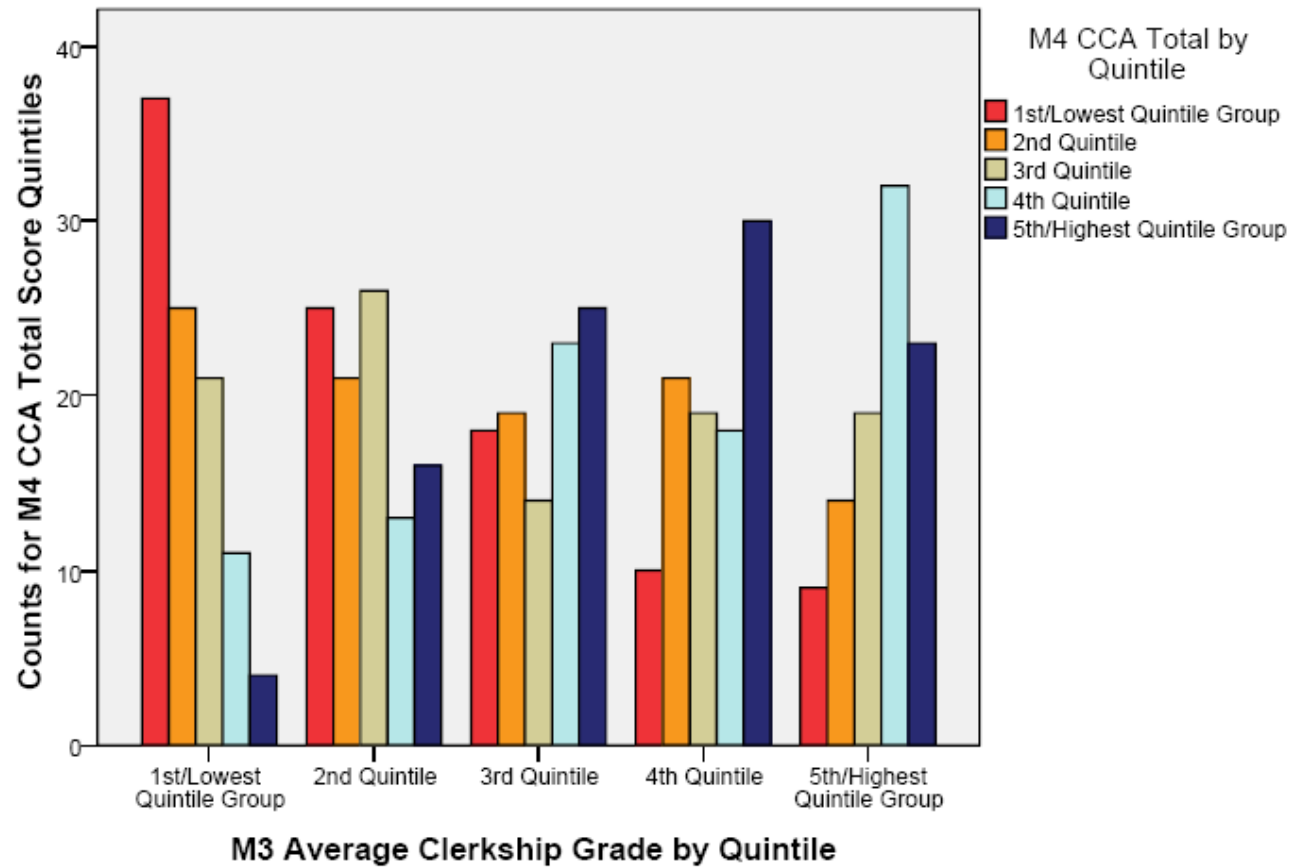


Results

- Overall Clerkship and OSCE performance were moderately correlated ($R=0.368$, $p<0.001$, $R\text{-squared} = 0.135$).
- When stratified by quintile, the correlation persisted ($R=0.386$, $p<0.001$; $R\text{-squared} = 0.149$) for students in the highest quintile.
- There were no significant correlations for the other quintiles.



M3 Average Clerkship Grade Quintiles by M4 CCA Total Score Quintiles (2007-2009, N=500)



Results

- **Most correlations between individual clerkships and stations were weak; especially ECG, Imaging, and EBM.**



Results

- **Students with serious deficiencies (n=15) did not differ from students without serious deficiencies (n=159) in their overall third year clinical performance:**

**6.81 (0.31) vs. 6.9 (0.35), $t(172) = -1.01$,
 $p=0.315$**



Conclusions

- **Clerkship grades are associated with but do not reliably predict poor performance on the summative OSCE.**



Take Home Message

- Overall clinical performance, as measured by clerkship evaluations, is unlikely to reliably identify students at risk for poor performance on the summative OSCE.



Exploration of Other Predictors

- M1 Exam Performance - $R=0.342$, $p=0.001$
- M2 Exam Performance - $R= 0.339$, $p=0.001$
- Step I - $R= 0.332$, $p= 0.001$
- M 2 CCA (Clinical) - $R= 0.270$, $p=0.001$

