

October 15, 2003

Valerie Kaufman
Chair
AAIM CME Committee

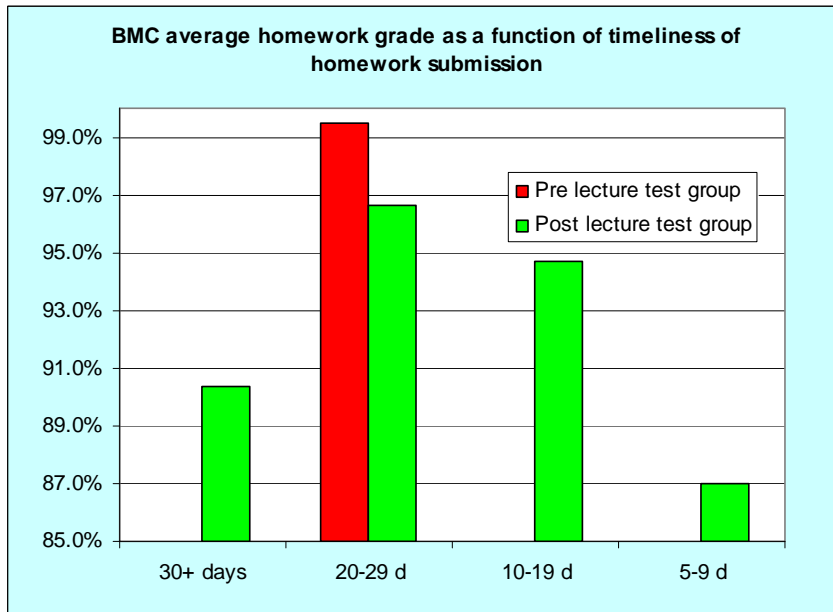
Re: Basic Mortality Course; Oct 11-12, 2003

Dear Valerie,

The Basic Mortality Course was offered at the fall 2003 AAIM meeting in Scottsdale, Arizona. Of 21 students who initially registered, 18 completed the homework assignment and took the final exam. In addition to myself, Marianne Cumming and Ken Krause each presented a lecture on the first day of the course. The following is a summary of student performance and feedback received on the course evaluation forms.

The format of the course was essentially the same as presented in the past several years. Students were required to complete an extensive homework assignment and submit that work prior to the start of the course. This assignment was worth 50% of the student's final grade. There were over 100 separate calculations or short essay responses required for completion of the workbook.

Per the Board of Insurance Medicine guidelines students obtaining a 90% or better on the homework were offered the option to "test out" of the classroom session. The following is a summary of the homework grades as a function of when the homework assignment was returned to me.

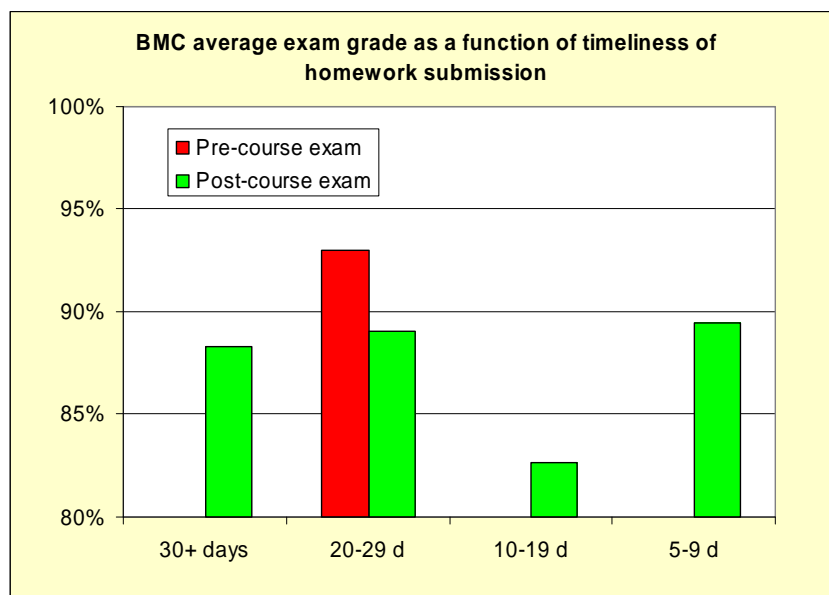


Homework was due 2 weeks prior to the course. Three students did not turn in homework on time. Of the 18 students submitting homework 13 obtained a score that would allow them to "test-out". However, out of this group only 1 elected the test-out option. The remaining students elected to attend the class session. As can be seen in the above graph there was a mild correlation between lower homework scores and later submission of homework for the group attending class and taking the final exam. Only one student submitted homework greater than 30 days in advance limiting the ability to assess homework grade in this category. The single student electing test out did very well on his homework assignment.

A continued area of weakness in the homework relates to in-appropriate application of the complement rule to solve for values that I provide in partially filled in life tables. I had made some changes in the workbook to address this problem but additional changes would seem necessary. Generally, this is a problem I see in individuals who have not spent enough time reviewing the course materials before starting the homework assignment.

Data regarding the number of hours spent in preparation for the course was collected anomalously and preparation time vs exam grade is therefore not possible to present this year. The average time spent in preparation was reported by 16 of 18 students and was 41.8 hours (range 16 – 75 hours).

The format for the final exam remained the same as was used last year. The exam was 50 questions in length and was closed book. Students were required to answer multiple choice or fill-in the bank questions. Below is a summary of exam grades stratified by how early they submitted the homework assignment. Results are further stratified by pre and post course test groups.



Final exam grades did not appear to correlate to homework submission time nor can any inferences be made between final exam performance and classroom attendance given the single individual taking the pre-course exam.

The average grade on the final exam for the students attending lecture was 85.6%. I noted that several of the international students did not do well compared to the rest of the group. I've occasionally noted similar findings in the past with international students. As a group the international students exam grades were about 10% lower (@79% vs 87%). One student from SE Asia specifically had requested to use an electronic language translator during the final exam, which I allowed after consultation with the Board of Insurance Medicine. Another student fairing poorly on the final exam was from a country in Europe where English is not the primary language. One of these students did fairly on the homework but the other received the highest homework score (100%). Both of these students passed the course because their homework grades were high enough to result in an overall passing grade.

The final exam requires a good command of the English language and I suspect a part of the problem here is that some international students may not be as well versed in English as others taking the exam. As we are offering certification to individuals from non-English speaking countries these findings may be replicated in the future as similar individuals sit for this course and for other insurance certification exams. I refer this matter to the Board for additional consideration. At minimum, it may be prudent to add a

statement to the BMC course registration form about the course being taught and assessed in English and that fluency in hearing and reading English is very helpful in successful completion of the course. The following table summarizes overall class performance on the exam stratified by major topical areas in the course. Each topical area was assessed by three or more questions.

Grades by major topic area	Pre-course	Post-course
	Mean	Mean
Choosing appropriate articles for a mortality analysis (1,2,3)	100.0%	98.0%
Mortality analysis using exposure data (4, 10,11,12,13)	60.0%	96.1%
Mortality analysis derived from a cumulative survival curve (5,6,7,8,9)	91.7%	96.1%
Choosing an appropriate comparison population (14,15,16,17,18,19,20)	100.0%	94.1%
Working with published life tables (21,22,23,24,25,26,28,29)	100.0%	88.2%
Mortality ratio and excess death rate (32,34,35,36,37)	80.0%	76.5%
Probability and confidence intervals (40,41,45,46,47)	100.0%	96.1%
Calculating select mortality (27,30,31,33,39)	100.0%	88.2%
Rating methods (38,42,43,44)	75.0%	88.2%
Life expectancy (48,49,50)	100.0%	90.2%

Performance of the class compared to last year's class is lower. In addition to the language issue I think overall preparation by the class was not as complete as I have seen in prior years. I received limited questions during the lecture, which was also a sign to me that these folks in aggregate were not "switched-on." The weakest area of performance this year was on questions dealing with mortality ratios and excess death rates. No changes had been made to this section of the course curriculum compared to prior years so I do not have a good explanation for this finding.

I also performed an analysis of the percentage of students correctly answering each individual question. This analysis revealed 2 questions that were problematic for over 50% of the students. They will be reviewed and re-worded for next year's class.

Course evaluation form

As done in previous years students were asked to evaluate the course. Seventeen of 18 students completed a course evaluation form. Test out students received an evaluation form that did not include questions on the lectures presented during the course, as they would not be able to evaluate the lectures. Students were asked to evaluate all instructional materials (Dr. Pokorski's Mortality Methodology Article, Homework assignment workbook) and the lectures (if attended) that were presented. A Likert scale was used to evaluate various course parameters. In addition to mean values for the pre and posttest groups and overall mean and standard deviation class response (with values close to 1 representing strong agreement) are presented below.

Basic Mortality Methodology Course: evaluation results
Student evaluation of course: Fall 2003 Scottsdale

Note: Range of scores 1 to 5 with a score of 1 representing strong agreement with the statement.

		Pre Mean	Post Mean	Overall Mean	SD
1 Course content					
a	Quantity of topics covered appropriate	1.0	1.5	1.5	0.8
b	Important to teach:				
	1) l,w,d mortality analysis	1.0	1.5	1.4	0.8
	2) cumulative survival curve mortality analysis	1.0	1.4	1.4	0.8
	3) select mortality	1.0	1.4	1.4	0.5
	4) probability	1.0	1.4	1.4	0.5
	5) survival curves	1.0	1.5	1.4	0.9
	6) life table construction	1.0	1.4	1.4	0.7
	7) rating methods	1.0	1.5	1.4	0.6
	8) confidence intervals	1.0	1.4	1.4	0.6
	9) life expectancy	1.0	1.5	1.4	0.6
2 In-class session					
a	Enough class time		1.8	1.8	0.9
b	Appropriate level of teaching		2.1	2.1	1.1
c	Understandable figures and tables in presentation		1.9	1.9	0.9
d	Sufficient time to ask questions		1.4	1.4	0.8
3 Teaching materials					
a	Helpful teaching materials:				
	1) Dr. Pokorski's handout	1.0	1.6	1.6	0.9
	2) Dr. Ivanovic's workbook	1.0	1.4	1.4	0.8
	3) Workbook references	3.0	2.1	2.2	1.3
4 Learning objectives					
a	Stated objective appropriate for intro course	1.0	1.3	1.3	0.6
b	I better understand mortality analysis / life tables	1.0	1.2	1.2	0.5
5 Utility of course					
a	Course will help me in my job	1.0	1.7	1.6	0.8
b	Course will help me utilize clinical studies	2.0	1.4	1.5	0.7
6 Additional questions					
a	Time spent preparing	40.0	41.9	41.8	17.2
b	% believing course could course be exclusively "home-study"		18.8%		

In contrast to last year, this year's course was delivered with 3 instructors. Most evaluation points represented moderately strong to strong agreement with the statements on the evaluation form. The level of teaching was assessed with less agreement this year compared to last year. More neutral responses were obtained for the workbook references and I am not sure how many students attempted to access these.

Discussion

This year's class of 18 students represents one of the largest groups offered the BMC course in the past 10 years. Most students did not take advantage of the end-of-lecture Q&A sessions. I had intentionally expanded these times anticipating more questions given the larger size of the class.

The two methodologies used in assessing learning in the course that were first introduced in 2000 appear to again be useful in assessing the learning of students. As with last year scores on the closed book final exam were lower than homework scores but still acceptable on an aggregate basis. Students continue to be able to demonstrate comprehension of challenging mortality methodology material. We again had the majority of students qualifying to test out of lecture choosing to stay for the entire course.

As in the past the course evaluation continues to validate the current course content and teaching methodology. In addition to completing a series of specific feedback questions I also ask students for their personal comments about the course.

Included here is a synopsis of the comments.

“Enjoyed working through the problems”

“Lectures give an opportunity to review and ask questions”

“Excellent preparation and presentation by the instructors. Thank you!!”

“Course could be done by some without lecture, but lecture certainly helped”

“For those unfamiliar with statistical methods, the lecture presentations added an additional level of understanding.”

“(Lectures) help to explain overall concepts and how to use skills learned in calculations to analyze literature data”

These comments echo similar ones voiced over the past several years. Many students who chose to attend lecture felt their time was well spent. The instructors also received the following additional feedback on things to consider for future courses:

“Move a little slower through slides depicting spreadsheets”

“A take home page showing the steps in completion of a (life) table similar to the step-by-step process Brian used in class”

“The speed moving from one slide to the next is a bit too fast”

“I’d like to see interactive exercises with the lectures”

In self-assessing this year’s course I would say that it was quite helpful to have more than one instructor available to share the presentation workload. With regard to speed of delivery I used a radiofrequency laser-pointer/slide advancer this year, which eliminated the need for me to walk back to the computer or be in even near it (I move around as I talk). This probably cut the presentation time by at least 5 min in a 50 min lecture. For some students I suspect the additional time that I previously spent going back to the computer to advance through the presentation was useful for “mental catch up” time. Next year I’ll need to build in a pause after finishing my comments on each slide and attempt to coax more answers out of the crowd to set a slower pace. If I were asked to provide the course again next year I would foresee utilizing the current course materials and presentation. The two exam questions causing the most trouble for this year’s students will be revised and I will look at providing more direct hints about avoiding inappropriate use of the complement rule in the homework assignment.

I am again interested in sharing with you in this report how students will be able to apply the information they have learned. I identified several insurance medical director job functions where life expectancy calculations and mortality analyses would likely be employed. To assess reporting validity I also included underwriting case consultation in the job function list. Included below are a listing of the job functions and the proportion of time class participants spend in those functions.

Underwriting consultations	49.1%
Underwriting manual development	13.1%
Other work related to mortality quantification	8.2%
Educational programs dealing with mortality risk	5.9%
Justifications	5.6%
Life expectancy calculations	2.3%

As was found last year the most common job function listed was underwriting case consultation. Underwriting manual development was the next most common job function listed. The proportion of underwriters in this year’s class (5) was higher than in previous years, which may account for the higher time commitment to manual development activities reported above.

In a BMC-related matter, I presented two 1-hour Mortality Methodology Intro workshops at this year's AHOU meeting in San Francisco. The purpose of providing these sessions was to assess the level of interest in a BMC course in AHOU attendees. Approximately 50 individuals attended the 2 workshops I presented. There were a good number of questions asked after each session. I have recommended to this year's AHOU planners to assess the level of interest in Mortality Methodology subjects via my workshop evaluation forms and provide that feedback to me so that I can share it with the M&M committee. It is my understanding that AAIM's Executive Council has expressed a willingness to allow the BMC course to be taught outside of AAIM sponsored events, providing reimbursement for AAIM copyrighted course materials and instructor expenses are covered/agreed upon.

There are two issues that I would request clarification on pertaining to an "off-site" offering of the BMC course. With regards to CME, would it be granted to physicians attending the lecture sessions? Secondly, for medical directors pursuing certification and successfully completing the "off-site" course, would this satisfy the Board of Insurance Medicine's BMC course attendance requirement?

Let me know if I can provide any additional information.

Brian Ivanovic, DO, MS
Chief Instructor, Basic Mortality Course