Tips for Studying to Take the MWC Exam

TABLE F-34
Friday, November 8, 2019: 7:15-8:45 am
Nautilus Ballroom—Room 2
Sheraton San Diego Hotel and Marina

Brian Bass, MWC
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Study Suggestions from the MWC Candidate Study Guide

The MWC Examination Candidate Study Guide is designed and organized to facilitate preparation for the MWC Exam. In it you will find:

- Examination Preparation Recommendations
- Examination Content Outline
- Example Topic and Subtopic Categories
- Example Examination-Preparation Sequence
- Representative Example Questions
- Suggested Preparation Resources (categorized according to the core competencies that are assessed by the examination)

Examination Preparation Recommendations

- Become familiar with the approximate percentage of each content area tested.
- Know the topics and medical writing tasks that are associated with each content area and accordingly may be tested for on the exam.
- Inventory their current knowledge related to each content area.
- Build a study plan based on their knowledge inventory; for example, candidates unfamiliar with regulatory writing probably should study materials in that area.

The following is an example of an examination-preparation sequence that a candidate may find helpful:

- Use the Examination Content Outline and the Example Topic and Subtopic Categories available in this Study Guide to help identify the various areas of medical writing.
- Identify competencies and related topics that are unfamiliar.
- Study material about the identified unfamiliar topics. The Selected Examination Preparation Resources section of this guide lists some materials that may be helpful.

NOTE: Candidates are not expected to have detailed knowledge of all topics. For example, there are many document-specific guidelines. Knowing every guideline in detail is not necessary. However, being aware that such guidelines exist, knowing the names of core industry guidelines, and knowing major points of these guidelines, would be reasonable to expect.

Examination Content Outline

The Examination Content Outline delineates the core competencies—ie, knowledge, skills, and abilities (KSAs)—of professional medical writers. Carefully studying this outline will allow MWC candidates to:

- Become familiar with the approximate percentage of each content area tested.
Know the topics and medical writing tasks that are associated with each content area and accordingly may be tested for on the exam.

Inventory their current knowledge related to each content area.

Build a study plan based on their knowledge inventory; for example, candidates unfamiliar with regulatory writing probably should study materials in that area.

**Examination Content Outline**

The knowledge, skills, and abilities (KSAs) of the Examination Content Outline are divided into 5 domains associated with the definition of a medical writer:

- **Gathering**
- **Evaluating**
- **Organizing**
- **Interpreting**
- **Presenting**

The examination questions address all 5 domains, with the approximate percentage of questions per domain weighted as shown below.

Whether an MWC candidate passes the examination, however, is based only on the total score; a specified score need not be achieved in each domain.

Candidates should use the Examination Content Outline to guide examination preparation and thus help ensure the appropriate knowledge and critical thinking skills necessary to earn the MWC credential.

The MWC® Examination Study Guide outline lists KSAs according to domain and thereby delineates the 5 domains.

All areas of the outline are represented on the examination, and all examination questions relate directly to the items within each of these 5 domains.

However, not every item will (or could) be covered on an individual exam form. The Examination Content Outline follows:

1. **Gathering** (16% of content)
   - A. Determine purpose of document
   - B. Identify context for document
   - C. Identify target audience
     1) Assess needs
     2) Identify knowledge gaps
   - D. Select appropriate output type (eg, publications, regulatory documents, continuing medical education materials, patient education)
   - E. Identify appropriate outlet (eg, target journal, other print media, web)
   - F. Apply effective processes to gather information
     1) Conduct a literature search (eg, PubMed/MEDLINE)
     2) Elicit information from collaborators and stakeholders (eg, interview researchers, statisticians, clinicians, patients, regulators, thought leaders)
     3) Identify other relevant sources (eg, websites, databases, data outputs, clinical guidelines)
4) Identify relevant writing guidelines, instructions, and ethical standards (eg, journal instructions for authors, grant application instructions, regulatory requirements)

5) Identify relevant document models and templates

6) Identify necessary forms and supporting materials (eg, permission to reprint, disclosures, copyright)

2. Evaluating (19% of content)
   
   A. Evaluate collected information with regard to
      1) Content (ie, quality and relevance, level of evidence)
      2) Audience (ie, appropriate and relevant to needs)
      3) Context (ie, credibility of sources and suitability for purpose)
   
   B. Perform fact or data check
   
   C. Identify inconsistencies in data or other content presented
   
   D. Conduct critical review of a draft
      1) Assess quality of writing (eg, clarity, readability, usability, logic, organization, consistency)
      2) Provide constructive criticism
         a) Provide options for solutions
         b) Craft appropriate queries
      3) Evaluate representation and description of data
      4) Recognize ethical considerations with respect to self and others (eg, conflict of interest, disclosure, authorship, plagiarism, duplicate publications)
   
   E. Evaluate for completeness, fair balance, and absence of bias
   
   F. Determine appropriate level(s) of editing (eg, proofreading, microediting, macroediting)
   
   G. Implement best approach to resolve issues (eg, author disagreements, scope change, unexpected delays)

3. Organizing (19% of content)
   
   A. Determine correct organization of a document (eg, IMRAD)
   
   B. Identify and prioritize key elements of content MWC® Examination Study Guide
   
   C. Structure content to communicate message
   
   D. Develop an outline
   
   E. Apply templates and guidelines to documents (eg, CONSORT, ICMJE, FDA, ICH, PRISMA, ACCME, HIPAA, health literacy)
   
   F. Determine structure of tables and figures to best communicate data
   
   G. Determine which references to cite in a document
   
   H. Comprehend processes of developing and disseminating documents (eg, news releases, publications, grant and regulatory submissions)
   
   I. Design project work plan
      1) Determine deliverables
      2) Develop timeline
      3) Recognize roles, responsibilities, and processes
J. Track progress and status of project
K. Determine process for tracking changes and version control
L. Recognize and apply appropriate software and technology to use in developing the document

4. **Interpreting** (19% of content)
   A. Comprehend relevant medical and scientific content
      1) Understand terminology
      2) Understand concepts (eg, cellular and molecular level, organism level, and population level)
      3) Understand study design (eg, clinical trial, case control, longitudinal study)
      4) Understand statistical concepts (eg, \( P \) value, confidence interval, power)
   B. Interpret clinical and numerical data
   C. Derive key message(s)
   D. Determine inferences, implications, or clinical relevance
   E. Synthesize and integrate information
   F. Revise or repurpose existing content
   G. Comprehend review processes (eg, peer review, grant review, regulatory review)
   H. Respond to reviewers' comments
      1) Interpret feedback from reviewers
      2) Determine appropriate responses

5. **Presenting** (27% of content) [communicating via an output, usually a written document]
   A. Present the message logically and coherently (ie, tell the story)
   B. Retain the intended meaning of source materials or original document
   C. Communicate scientific content appropriately
   D. Communicate statistical content appropriately
   E. Develop clear, concise prose
   F. Write an abstract (eg, for presentation or publication) or executive summary
   G. Tailor prose to the audience
   H. Build logical and science-based arguments
   I. Apply proper mechanics
      1) Apply rules of grammar, spelling, and punctuation
      2) Apply proper word usage (general and medical), correct nomenclature, and nondiscriminatory language
      3) Construct effective sentences
      4) Construct effective paragraphs (eg, topic sentences, transitions, repetition of key terms)
      5) Apply techniques for cohesion between paragraphs and sections
   J. Apply principles of proofreading
   K. Apply basic principles of design and layout (eg, document, slide, poster, web)
   L. Apply principles of visual presentation of data (eg, tables, figures)
M. Write document to adhere to standardized formats, guidelines, instructions, and ethical standards
N. Maintain confidentiality of information (eg, patient, proprietary)

Suggested Preparation Resources

Work experience should provide much of the knowledge needed to successfully complete the examination. However, the examination will cover many aspects of medical writing. Thus, MWC candidates should assess their knowledge base related to the Examination Content Outline and focus preparation efforts on areas of perceived gaps. Below are examples of types of study materials that may aid candidates in examination preparation. A MWC candidate will not need to study all resources listed, nor study references in their entirety; instead, the focus should be on addressing perceived gaps in knowledge or experience.

It is important to understand that—
- It is likely that not all examination content is specifically covered in the listed resources.
- The number of resources listed under a topic is not linked to the amount of examination content related to that topic; rather, the amount of examination content for each topic is based upon the weighting in the Examination Content Outline.
- MWC® Examination Study Guide
- The content domains tested on the MWC examination—Gathering, Evaluating, Organizing, Interpreting, and Presenting—are italicized and in brackets after each numbered category.
- Resources were last tabulated/updated and Website resources were last accessed on February 8, 2018.
- For resources with multiple editions, it is best to consult the most recent edition.

Resource Categories Include:
- General references applicable to all areas of medical writing
  - Epidemiology/research [Evaluating, Interpreting]
  - Ethical principles [Organizing]
  - Mechanics of writing [Presenting]
  - Medical writing competency [Gathering, Evaluating, Organizing, Interpreting, Presenting]
  - Project management [organizing]
  - References and literature searching [Gathering, Evaluating]
  - Statistical concepts and analysis reporting [Evaluating, Interpreting, Presenting]
  - Terms and their usage [Presenting]
- Resources for specific areas of medical writing
  - Continuing medical education
Helpful Free Video

Earning the MWC: What You Need to Know

Hear from Marianne Mallia, Medical Writing Certification Commission Chair, in this 20 minute video that focuses on earning the MWC™ credential. Marianne reviews eligibility, preparation, and exam content, including some sample exam questions. She also answers frequently asked questions about the program. Take advantage of this opportunity learn more about the credential.

At the conclusion of this webinar, attendees will be able to:
- Determine whether they are eligible for certification
- Apply for certification
- Describe what the examination tests
- Use the Content Outline and Resources
- Study for the examination

Available at AMWA Online Learning (Complimentary for members and non-members): http://amwa.mycrowdwisdom.com/diweb/catalog/item/id/1099440/q/f2=1&q=MWC&c=184

Qualifying to Sit for the MWC Exam

To qualify for the MWC medical writing certification examination, an applicant must have at least 2 years of full-time, paid work experience in medical writing, or the equivalent (eg, 4 years of documented part-time work at 20 hours/week) within the past 5 years.
Study Tips from People Who Have Earned the MWC

“If you’re an experienced writer, you probably don’t need to study much as you’ve likely learned what you need to know on the job. Review the 5 domains covered by the exam and the example questions to help identify any potential knowledge gaps, and study accordingly. For example, I used the book How to Report Statistics in Medicine by Tom Lang and Michelle Secic to brush up on statistical concepts. I also reviewed the ICH guidelines and components of the Common Technical Document because I am not a regulatory writer and knew I needed to familiarize myself with regulatory content and terminology. If you’re new to the profession, use the MWC examination domains and Candidate Study Guide as a framework to guide your professional development activities as you gain the required experience to meet the exam eligibility criteria.”
—Dana Randall, MS, PharmD, RD, RPh, MWC

“I gave myself several months to prepare for the MWC exam, so I could keep my study schedule without compromising my job and personal responsibilities. I started with the topics I knew well as it took less time to review them, and I felt a huge sense of reward crossing them off my list. I included practice exercises, with longer sessions as I approached the exam. Each practice session would include all previously reviewed topics so that I could continue to retain the information.”
—Nola Clarke, PhD, MWC, RAC

“There were excellent resources on the AMWA website to give me an idea of what I was in for and to help me prepare for the MWC exam. The Candidate Study Guide provided advice, the exam content outline, and an excellent set of sample questions along with an answer key that clearly explained the choices. I set up a 12 week self-study syllabus based on the content outline.”
—Liza Ovington, MWC

“Obtain all the recommended books/sources suggested by the commission; study with a buddy, create a study plan and meet regularly; and develop practice multiple choice questions—this was the hardest part for me. It’s not just enough to know the content. A person who takes the exam has to respond to multiple choice questions.”
—Nancy Katz, PhD, MWC

“I was familiar with CME, having worked in the industry for 25+ years, so I studied the regulatory information more thoroughly. The example questions were very helpful. Also, it appears that there are now more references and resources available via hyperlink, which would be very helpful to those unable to purchase these sources.”
—Nancy Lucas, MWC

“Attend AMWA workshops and review the notes from the workshops.”
—Deborah Sommerville, MWC, ELS

“The MWC is not a “regulatory” exam. Don’t be afraid to take it if you are not a regulatory writer. Review basic biostatistics!”
—Kathy Spiegel, PhD, MWC

“While my daily work as a writer of patient education materials prepared me well for parts of the MWC exam (eg, writing mechanics, medical terminology, plain language), I had to branch out to learn more about other areas, such as regulatory writing, publication management, and CME. I found AMWA’s Candidate Study Guide hugely helpful in providing an outline of the topics to be covered in the exam, and the example questions were a great way to get a sense of how the exam would be structured. The list of resources provided was also very helpful in that it gave me an idea of where to begin in areas with which I was least familiar (eg, regulatory submissions).”
—Kelly Crowley, MWC
“About 6 months before the MWC exam, I printed out and reviewed the Candidate Study Guide. I used highlighters to create three categories in the guide based on my level of knowledge: topics I knew well (knowledge and experience); topics I had some idea about (knowledge and no experience or limited practical exposure); and topics I knew nothing about (no knowledge or experience). I reviewed the recommended resources provided in the Candidate Study Guide and purchased some of the resources for the topics that I knew nothing about. I also identified online resources to “brush up” on some topics.”

—Nola Clarke, PhD, MWC, RAC

“First, leave yourself plenty of study time…more than you think you will need. Even if you are an expert medical writer, you may find the test covers unfamiliar content that is outside your area of specialization. Second, take the practice test offered in the Candidate Study Guide. Mark the questions where you had to guess or got the question wrong, then find the related study references in the answer key. Third, do a quick scan of the other references on the list. If there are content areas that you think may be challenging, explore them. If you have taken AMWA courses covering these content areas, use the exams to review the topic.”

—Kim Rowe, MWC
Table 1: Medical Writing Experience: Examples*

<table>
<thead>
<tr>
<th>Qualifies Toward 2-Year Experience **</th>
<th>Does Not Qualify Toward 2-Year Experience</th>
</tr>
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<tbody>
<tr>
<td>Pharmaceutical, clinical research organization, or freelance medical writer who writes drug development publications (eg, abstracts, posters, and manuscripts), regulatory documents (eg, clinical study reports, and Common Technical Document clinical summaries and overviews), medical information documents (eg, medical letters), or continuing medical education materials (eg, medical education slide decks)</td>
<td>Physician who writes patient notes or insurance claim reports</td>
</tr>
<tr>
<td>Medical writer who writes clinical research manuscripts at a medical communication company</td>
<td>Physician, pharmacist, pharmaceutical clinical researcher, or university faculty member who writes research publications as only a part of his or her role</td>
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<tr>
<td>Medical education content developer who writes continuing medical education content for a medical communications company or agency</td>
<td>Physician who assembles lecture materials to teach a medical course</td>
</tr>
<tr>
<td>Medical writer who writes journal articles for a research institution</td>
<td>Physician, scientist, or statistician who writes articles as a product of his or her scientific or medical research</td>
</tr>
<tr>
<td>Medical editor who contributes substantive, macro-level reworking of journal articles, clinical research grant proposals, or protocol text to aid authors in document refinement</td>
<td>Researcher who helps colleagues or students refine manuscripts or other clinical research documents as part of his or her research role</td>
</tr>
<tr>
<td>Medical journalist, public health information writer, medical marketing content developer / writer, or freelance writer who prepares medical information documents to inform lay audiences about medical topics</td>
<td>Health professional whose clinical work includes preparing materials informing patients about medical topics</td>
</tr>
<tr>
<td>Writer of online medical content for a medical information company providing comprehensive clinical information to physicians and other health professionals</td>
<td>Educator who, as part of his or her teaching role, prepares materials for students about medical topics</td>
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<tr>
<td>Health outcomes writer who prepares clinical content for health economic/outcome journal articles or health technology assessments</td>
<td>Physician or medical consultant who works for a payer organization (eg, insurance or government) and as part of his or her role writes claimant medical record case reports</td>
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</table>

*This table is not all-inclusive.

** Qualified experience must be core to the individual’s job description and daily tasks.