

Medical Assistant Professional Development

Enhance the roles of front-line staff, and improve your practice culture, workflow and team dynamics.



AMA IN PARTNERSHIP WITH 



AMA 

&  MGMA
Medical Group Management Association

PRACTICE INNOVATION
CHALLENGE WINNER

CME
CREDITS:
0.5

Janet Duni, RN, MPA
Vanguard Medical Group, Verona, NJ

How will this module help me create, implement and evaluate a medical assistant (MA) professional development program?

- 1 Four STEPS for beginning an MA professional development program
- 2 Answers to commonly asked questions
- 3 Examples of practices that have provided professional development for their MAs

Increasing administrative responsibilities—due to regulatory pressures and evolving payment and care delivery models—reduce the amount of time physicians spend delivering direct patient care. Medical assistants (MAs) are often one of the largest groups of personnel and the front line of care in a practice, often serving as the outward-facing representatives who interface most with patients and families. MAs are on a care team with physicians, nurses and other professionals who are engaged in life-long learning. Providing consistent, accurate professional development tools in a monthly module format supports MAs in increasing knowledge and their ability to contribute to the team in a meaningful way. MA in-service education demonstrates that the practice values their MAs and also charges them with the responsibility to also be a life-long learner accountable to improve their performance.

Medical assistant professional development series

Release Date: March 2016

End Date: March 2019

Objectives

At the end of this activity, participants will be able to:

1. Prioritize training topics for your medical assistant professional development program
2. Select a program leader for your program
3. Assemble the curriculum and educational materials
4. Evaluate the effectiveness of the training

Target Audience

This activity is designed to meet the educational needs of practicing physicians.

Statement of Need

Medical assistants are in the front lines of care in practices; they serve as the outward-facing representatives who interface with patients and families. Medical assistants are an untapped source of potential to contribute to the medical team with a larger amount of training. Particularly in this era of higher medical costs, using resources that already exist in practices is more important than ever before; it is imperative, therefore, to have a module on this topic to educate practices on how to use medical assistants to improve their practices.

Statement of Competency

This activity is designed to address the following ABMS/ACGME competencies: practice-based learning and improvement, interpersonal and communications skills, professionalism, systems-based practice and also address interdisciplinary teamwork and quality improvement.

Accreditation Statement

The American Medical Association is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

Credit Designation Statement

The American Medical Association designates this enduring material for a maximum of 0.5 *AMA PRA Category 1 Credit™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Claiming Your CME Credit

To claim *AMA PRA Category 1 Credit™*, you must 1) view the module content in its entirety, 2) successfully complete the quiz answering 4 out of 5 questions correctly and 3) complete the evaluation.

Planning Committee

Alejandro Aparicio, MD, Director, Medical Education Programs, AMA

Rita LePard, CME Program Committee, AMA

Becca Moran, MPH, Program Administrator, Professional Satisfaction and Practice Sustainability, AMA

Ellie Rajceвич, MPA – Practice Development Advisor, Professional Satisfaction and Practice Sustainability, AMA

Sam Reynolds, MBA, Director, Professional Satisfaction and Practice Sustainability, AMA

Christine Sinsky, MD – Vice President, Professional Satisfaction, American Medical Association and Internist, Medical Associates Clinic and Health Plans, Dubuque, IA

Author(s)

Janet Duni, RN, BSN, CCM, MPA, Director of Care Coordination, Vanguard Medical Group, Verona, NJ

Faculty

Cathryn B. Heath, MD, FAAFP, Clinical Associate Professor of Family Medicine, Department of Family Medicine and Community Health, Rutgers - Robert Wood Johnson Medical School

Steven Peskin, MD, MBA, FACP, Executive Medical Director, Population Health, Horizon BCBSNJ

Ellie Rajceвич, MPA – Practice Development Advisor, Professional Satisfaction and Practice Sustainability, AMA

Becca Moran, MPH, Program Administrator, Professional Satisfaction and Practice Sustainability, AMA

Christine Sinsky, MD – Vice President, Professional Satisfaction, American Medical Association and Internist, Medical Associates Clinic and Health Plans, Dubuque, IA

About the Professional Satisfaction, Practice Sustainability Group

The AMA Professional Satisfaction and Practice Sustainability group has been tasked with developing and promoting innovative strategies that create sustainable practices. Leveraging findings from the 2013 AMA/RAND Health study, “Factors affecting physician professional satisfaction and their implications for patient care, health systems and health policy,” and other research sources, the group developed a series of practice transformation strategies. Each has the potential to reduce or eliminate inefficiency in broader office-based physician practices and improve health outcomes, increase operational productivity and reduce health care costs.

Disclosure Statement

The content of this activity does not relate to any product of a commercial interest as defined by the ACCME; therefore, neither the planners nor the faculty have relevant financial relationships to disclose.

Media Types

This activity is available to learners through Internet and Print.

Hardware/software Requirements

Adobe Flash 9.0.115 or above

Audio speakers or headphones

Screen resolution of 800X600 or higher

MS Internet Explorer 8.0 or higher, Firefox, Opera, Safari, etc.

Adobe Reader 5.0 or higher

References

1. American Medical Association. AMA Activities: Health disparities toolkit. <http://www.ama-assn.org/ama/pub/physician-resources/public-health/eliminating-health-disparities/ama-activities.page>. Accessed November 19, 2015.
2. The American Medical Association Foundation. Health literacy and patient safety: help patients understand [video]. https://www.youtube.com/watch?v=cGtTZ_vxjyA. Published August 27, 2010. Accessed November 19, 2015.

3. Agency for Healthcare Research and Quality. Health literacy universal precautions toolkit. <http://www.ahrq.gov/sites/default/files/wysiwyg/professionals/quality-patient-safety/quality-resources/tools/literacy-toolkit/healthliteracytoolkit.pdf>. Published April 2010. Accessed November 20, 2015.
4. Centers for Disease Control and Prevention. Health literacy. <http://www.cdc.gov/healthliteracy/> Updated October 8, 2015. Accessed November 19, 2015.
5. Harvard University, T.H. Chan School of Public Health. Health literacy studies. <http://www.hsph.harvard.edu/healthliteracy/resources/>. Accessed November 19, 2015.
6. Merriman B. Health literacy in the information age: communicating cancer information to patients and families. *CA Cancer J Clin*. 2002;52(3):130-133. <http://onlinelibrary.wiley.com/doi/10.3322/canjclin.52.3.130/abstract;jsessionid=8A1250680B6919B89F27A7DD4EC20AE4.f02t03>.
7. Glassman P. National Network of Libraries of Medicine. Health literacy. <http://nnlm.gov/outreach/consumer/hlthlit.html>. Published June 2013. Accessed November 19, 2015.
8. US Dept. of Health and Human Services, Office of Disease Prevention and Health Promotion. Health communication activities. www.health.gov/communication/literacy. Updated July 24, 2008. Accessed November 19, 2015.
9. Vanguard Medical Group. Health library. <http://www.vanguardmedgroup.com/index.php?p=health-library>. Accessed November 19, 2015.
10. National Kidney Foundation. Understanding your lab values. <https://www.kidney.org/kidneydisease/understandinglabvalues>. Accessed November 19, 2015.
11. Mayo Clinic. Chronic kidney disease. <http://www.mayoclinic.org/diseases-conditions/kidney-disease/basics/definition/con-20026778>. Updated January 30, 2015. Accessed November 19, 2015.
12. National Institutes of Health, U.S. National Library of Medicine. Chronic kidney disease. <https://www.nlm.nih.gov/medlineplus/chronickidneydisease.html>. Accessed November 19, 2015.



Introduction

Medical assistants (MAs) are at the front line of patient care and play an integral role in achieving practice goals such as increased patient satisfaction, improved quality and enhanced team-based care. You can enable MAs to contribute in a more meaningful way to the practice team through professional development training.



“

I never realized that when a patient says ‘I left my glasses at home – can you help me with this form’ she may be covering for the fact she can’t read or understand the paperwork. I’ll be more aware of this in the future.

”

An MA after completion of the Health Literacy training session

Four STEPS for beginning an MA professional development program in your practice

1. Poll the team and prioritize training topics
2. Select a program leader
3. Assemble the curriculum and educational materials
4. Execute and evaluate the training



1 Poll the team and prioritize training topics

Gather your practice team and ensure that you have their full support for a monthly MA professional development series. [Survey](#) the team to understand where they see gaps in care, breakdowns in practice workflow and other opportunities for training or development. From this comprehensive list, select approximately ten training topics to be covered during the first year of your program. Prioritize the topics that are most important to your team.

DOWNLOAD [MA inservice education survey](#)

Q&A

Who should fill out the survey to identify training opportunities?

Combining the unique perspectives of individual practice team members will help provide a more comprehensive set of information to identify and prioritize MA professional development topics. Involve physicians, MAs, nurses, registration staff and other members of the team. Ask patients to complete the survey, or use their feedback from satisfaction surveys as a way to include their input. Consider involving practice or system leadership as well.

How much of a time commitment is the training?

Make the commitment to provide MA professional development monthly for at least one year. Each session should be 45 minutes to one hour. Before starting the program, prepare to spend time on content development and creating space in the schedule for the hour-long lunchtime or pre-clinic sessions.

How can providing education to MAs improve the experience of physicians, other staff and patients in our practice?

Shifting some of the physicians' administrative and clinical tasks to well-trained MAs gives physicians more time to concentrate on the patient during visits. For example, a patient who has been properly roomed by a well-trained MA will have the following:

- Updated patient, family and social history
- Updated screening information
- Completed medication reconciliation with questions or concerns about medications identified
- Records from specialists or other facilities scanned into the chart
- Accurate vital signs
- Standing orders placed

What are some examples of MA professional development topics that other practices have selected?

Examples of training categories include practice improvement, enhanced work flows, chronic disease management and healthy staff goals.

The following topics are covered by materials in this module:

- Professionalism in the MA role
- Diabetes management and prevention
- Health literacy
- Hypertension, obesity and hyperlipidemia
- **Hospice**
- Chronic kidney disease

You may also want to consider developing your own materials on:

- Panel/population health management
- Cancer screening criteria
- Conducting behavioral health screens
- Delivering normal laboratory results
- Community resources for patients

DOWNLOAD [Complete medical assistant professional development toolkit](#)

2

Select a program leader

The MA professional development program leader should have an interest in continuing education and strong clinical skills. In many practices, the leader will be a nurse. In others, it may be a physician assistant, nurse practitioner, nurse care coordinator or MA supervisor.



Q&A

What will the program leader's role entail?

The program leader will work with other practice stakeholders, such as physicians and the MA supervisor, to assemble the curriculum and materials for each session. The program leader's responsibilities may include:

- Scheduling sessions during dedicated times
- Facilitating and leading trainings
- Adapting content and materials to fit your practice's needs
- Coordinating with guest presenters

3

Assemble the curriculum and educational materials

The educational materials you use during the MA professional development sessions should be concise and straightforward. Flashcards that define the topic and contain essential information or an outline of the content that will be covered, make excellent pre-session learning tools. Handouts, activities and teaching aids are ideal to use for the session itself. All of these materials and tactics will enable the MAs to grasp, retain and revisit the information covered in the session.

At the end of each session, share tools to help the MAs apply their new knowledge. For example, if the MAs learned about diabetes management, consider practicing with a sample script for having conversations with patients about diabetes management or instructions on when to involve the diabetes educator.

DOWNLOAD [Supplemental flashcards - basic medical knowledge](#)

Q&A

Should my training materials be developed from scratch or are there prepackaged materials I can use?

You can start with the handouts and activities included in this module. If you need to update materials, use vetted health education resources, peer-reviewed journal articles and the guidelines from your specialty's professional society. You may also consider gathering information from groups such as the [American Diabetes Association](#), which often have dedicated training materials available on their websites.*

*Always obtain appropriate usage rights for training materials.

The STEPS Forward™ site includes modules that address various clinical topics, such as [medication adherence](#), [prediabetes](#), [hypertension](#), and [panel management](#). You can also find workflow design and optimization resources, including modules on [team huddles](#), [pre-visit planning](#), starting [Lean health care](#) and [implementing team-based care](#).

[Is it important to use pre-session learning tools for each session?](#)

Yes. Try to provide similar tools for each session to develop a consistent framework so the MAs can acclimate to the training style and feel prepared for each session. The tools should be lean, consistent and scalable as the program continues to grow.

4

Execute and evaluate the training

Communicate to your MAs about the new professional development program, what they can expect from the sessions and what will be expected of them. The rest of the practice team should also be aware of when the professional development sessions will occur. The sessions should occur during working hours, and the MAs should be told whether they should bring their breakfast or lunch to the session. Start and end on time.

Check in with physicians and other team members on a regular basis to see if the training is helping the MAs gain new competencies and improve their performance in the practice. Use feedback to continue to improve the professional development series. As MA competencies and capabilities evolve, augment MA roles as appropriate and in compliance with applicable laws.

Q&A

[How should we make sure the training sessions are successful from the MAs' perspective?](#)

Check in with the MAs regularly:

- Play [games or do activities](#) to test and reinforce the teachings at the end of each session.
- Administer a brief survey (five questions or fewer) at the end of each session to make sure the content and format are working.
- Use verbal teach-back style questioning to confirm the impact of the training. If you're using this approach, you might ask, "What are the three most important things you learned about health literacy?"
- Give a follow-up survey at the end of the year-long program to see what sessions resonated most with the MAs and how they are using what they learned in their daily work. At this point, it might be worth revisiting a popular topic or one that requires some additional reinforcement.

DOWNLOAD [Complete medical assistant professional development toolkit](#)

[How should we evaluate the program?](#)

Qualitative data from the session evaluations can indicate the effect of the program on MA confidence, understanding of clinic workflows, performance in the MA role and feelings of job satisfaction. These are easy to measure and provide valuable insight. You may also consider gathering feedback from the MAs and other care team members using end-of-year [surveys](#).

Monitor any new skills or processes that should be used regularly after each session, such as a new protocol for documenting information in the medical record or a better approach to measuring blood pressure during the rooming process. A practice coach (who could be the person who gave the training or another member of the practice team) or the MA supervisor can shadow the MAs to ensure that they understand and are using the new skill or process. These audits give the opportunity for on-the-spot coaching. Your practice may also choose to monitor metrics on your patient satisfaction survey related to MA professionalism and clinical care.

DOWNLOAD [MA inservice education survey](#)

[How can we maximize the impact of our program?](#)

Involve an interdisciplinary team when executing the program in your practice; this approach lends credibility to the program and promotes success. Consider linking sessions to other practice activities to improve engagement. For example, if your clinic sees many patients with diabetes, hold training on the importance of preparing patients for diabetic foot exams in November to coincide with National Diabetes Month. You may also consider connecting your training topics to statewide or national health initiatives, such as [Healthy People 2020](#).

Team-based presentations may help your MAs get the most out of the training. Bringing in outside speakers who are experts on various topics, such as a nurse practitioner with hospice experience, or having a team of two staff members present on a pilot that they've been involved in can be very effective in engaging MAs.

[Do we need to pilot the new program or can we roll it out all at once?](#)

If your practice wants to start out on a smaller scale, consider piloting the MA professional development program in a couple of pods or teams within the clinic. Five or six MAs would be able to give valuable feedback about the teaching methods and delivery of material in these pilot sessions. Depending on how often you decide to hold sessions, plan to run the pilot for four to six sessions or up to six months. Communicate with the other MAs and teams in the practice that are not part of the pilot so they know that they will be included in the program's official rollout.



AMA Pearls

Get input from the MAs on their training needs

Take into account your MAs' interests and needs when developing your curriculum. Lessons personalized for your team will be well received.

Training promotes life-long learning for MAs

Life-long learning is a crucial aspect of developing a strong team, similar to the educational commitment that physicians, nurses and other providers make. MA professional development programs mirror the continuing education that others in your clinic receive.

Conclusion

Professional development training is a valuable tool to engage and educate your MA team. Making the effort to develop tailored lessons can improve your practice culture, workflow and team dynamics. A team of well-trained MAs can enable the practice to adopt a team-based care model, take better care of patients with greater efficiency and increase satisfaction for all members of the care team as well as patients.



STEPS in practice

1

How's it working in Verona, NJ?

Vanguard Medical Group has five sites across New Jersey and serves 50,000 patients each year. The family practice group strongly supports the goals of medical home transformation and uses innovation to drive quality initiatives, employing team-based care where each employee works to the top of their license.

In 2012, feedback received from providers, patients, staff and care coordinators indicated that there were varied levels of performance among the MA staff, making the implementation of new workflows more difficult and time consuming. This variation was in large part due to (1) differences in prior education and experience, (2) lack of opportunity for MAs to access professional development beyond the initial new-hire orientation process and (3) non-formalized communication with MAs about performance expectations beyond the annual review. Providers needed to complete administrative tasks left unaddressed or repeat clinical tasks done incorrectly. MAs felt undervalued and that the practice was not invested in supporting their professional growth. Patients commented that MAs were inconsistent in terms of professionalism, phone skills, accurately relaying information and the rooming process. As a result, MA performance was somewhat uneven, and essential intellectual capital of the largest component of the practice staff was untapped and underdeveloped. MA clinical supervisors also identified areas for improvement, but were under pressure to do real-time training of new hires who were shadowing experienced staff, supervise externs, shift staffing to cover call-outs and vacations, address work flow issues and jump in to cover stations needing extra help. These day-to-day realities trumped the creation of an additional professional development program by the MA clinical supervisors.

Despite these challenges, the clear need for MA training prompted the implementation of a professional development program, delivered by nurse care coordinators. Because the nurse care coordinators serve as a clinical resource for the MAs at Vanguard, they were a logical choice to deliver the program. Using topics selected through a staff survey, the nurse care coordinators at each site deliver a monthly MA training session in a module format. The modules are written by the Director of Care Coordination, who has a nursing background, using vetted resources and websites at a health education level appropriate for MAs. The modules are updated annually. The same module is taught at each site in a given month in a “Lunch and Learn” format. Monthly modules are approximately 45 minutes long and may include warm-up exercises, short electronic surveys, interactive presentations, materials/handouts, guest speakers and peer teaching.

The professional development cycle begins with the distribution of pocket-sized (2x4-inch) flashcards as a pre-session learning exercise. Each flashcard set is divided into general topics, including Professionalism in the MA Role, Diabetes Management, Rooming a Patient and others. Cards can be added or removed from circulation as needed; each flashcard pack is numbered, tracked and recycled into MA training sessions for the following year. After four weeks, cards are collected and a pre-assessment is given to gauge MA learning and determine curriculum content. MAs sign in at each session and attendance is tracked by their supervisors as a component of their annual performance review.

Some topics covered in the Vanguard MA professional development program include: Professionalism in the MA Role (Star-Studded Service), Diabetes Management, Hypertension and Proper Blood Pressure Measurement Technique, Hospice and Palliative Care, Chronic Kidney Disease, Cultural Diversity in the Workplace and Stress Reduction.

The MA professional development program has evolved since it was first implemented in 2013. Initial feedback from MAs, clinical supervisors, providers and care coordinators has been positive. Vanguard learned from previous iterations that an information-dense lecture approach is less useful than the current interactive format, and they continue to tweak the program in ways that motivate MAs to learn and use the information from each session. Vanguard does not collect quantitative data on the program, and they purposely eliminated the testing that was done in past years. They observed that “learning for the test” behavior created anxiety among MAs, rather than encouraging deeper learning and collaboration with peers. Instead, qualitative data are collected, including MA reports of increased confidence and pride in their role, and feeling more valued by the practice. Some providers have seen improvement in charting, phone skills and patient interactions. Clinical supervisors appreciate that the practice continues to incrementally raise the bar for MA accountability and performance, which aligns well with global practice goals of providing Star-Studded Service. This monthly module approach is applicable to a practice of any size, is flexible for customization, promotes standardization across multiple offices, and is easy to implement. The program costs are modest (50 sets of flash cards: \$300) and the MAs, the entire care team and patients benefit from successful professional development of the MA staff.

2

How's it working in Fort Collins, CO?

Snow Mesa Internal Medicine in Fort Collins, CO, implemented the APEX (Awesome Patient Experience) model in 2015 to streamline appointments and decrease patient wait times.¹² In the APEX model, one medical assistant (MA) remains with the patient for the duration of the visit.³ This MA performs **expanded rooming** functions, including agenda setting and following disease-specific protocols to address care gaps. Leadership at Snow Mesa knew that supplemental training would help MAs successfully conduct these tasks. The clinic developed a tailored professional development program that is now being extended to several other sites and specialties.

The preliminary program was largely a grass roots effort led by the RN supervisor. Each element of the patient encounter was broken down into small pieces, with MAs deciding what they wanted to “bite off” first as part of their training. The focus of their work could be check in, exam room preparation before the provider enters, being in the exam room with the provider, or check out. They decided to start with rooming. The MAs wanted to “own” this process and therefore added to their responsibilities by taking over some tasks that were previously done by front desk staff and providers.

One of the first rooming tasks MAs took over from providers was medication reconciliation. The RN supervisor identified appropriate training materials with the help of a consulting pharmacist. The curriculum included self-study and Friday morning workshops with the RN and pharmacist. After completing the module, the MAs took a paper-based test to ensure competency. The MAs also underwent electronic health record (EHR) retraining to learn new tools, cross-trained with other team members to get a feel for how they work, practiced motivational interviewing techniques to help them communicate more effectively with patients and brushed up on medical terminology through an online learning management system.

The training program is evolving as staff turns over and established MAs continue to grow their skill set. Now when a new MA comes on board, they spend six to eight weeks learning from the team. Their progress is overseen by an assigned mentor who is often the physician they will be working with. The first week covers the

EHR and the second week is spent shadowing an experienced MA. During the third and fourth weeks, rooming is covered. First, basic rooming skills are taught, such as taking vitals, medicine reconciliation and allergy checks. Robust rooming procedures such as history-taking, agenda setting and order entry per protocols are taught when the MA is comfortable with the basics. During week five, the new MA learns techniques for writing a complete history of present illness (HPI). **Inbasket management** is covered during the sixth week of training. By weeks seven and eight, most MAs are confident and performing many tasks with minimal oversight. Much of the remaining time is spent on partial scribing with “elbow support” by another MA and real-time feedback from the physicians regarding their documentation. Most MAs progress to full scribing and brushing up on areas of need by the end of the eight-week training period. The MAs have become so engaged in the learning process that they have independently started a monthly “scribe training” where one MA teaches details of a body system to peers in a lecture or game-type format during a morning pre-clinic session. In addition, all MAs spend at least two hours a month focusing on self-taught or item-specific growth areas. This helps keep them current with scribe technique, terminology and EHR documentation.

The success of MA training was measured indirectly by how the APEX rollout was affecting practice efficiency. Daily huddles provided one forum to discuss barriers and successes. Initially, timelines and a Kamishibai board (a visual storyboard commonly used in Lean Management approaches) were posted in the clinic to document accomplishments, track metrics such as the results of time studies and recognize opportunities for improvement.

Without additional training for MAs, the innumerable successes Snow Mesa is witnessing would not be possible. Provider and staff satisfaction has increased and there is less clerical work being done by providers after hours. Quality metrics have also improved. In October 2016, patient satisfaction was excellent as demonstrated by a 96 percent top box score. “Productivity,” as measured by relative value units generated, has also increased. Snow Mesa continues to monitor a dashboard and are rolling APEX out to other primary care practices in the system.

As more clinics in the University of Colorado Health System transition to the APEX model, they are starting to emulate the training program created at Snow Mesa. MAs from the pilot clinic are now rotating through other primary care clinics to teach pieces of the APEX model in real time. Because expanded rooming is such an integral component of APEX, training on proper technique is now being standardized and taught to all incoming MAs in the northern region of Colorado served by the University Health System. Specialty clinics are also beginning to integrate pieces of this model, chosen depending on the practice (surgical vs. medical subspecialty). These efforts are still in the pilot phase, so it is unclear what aspects of the MA professional development program they will implement.

References

1. University of Colorado Health. [Awesome Patient Experience \(APEX\)](#). Accessed July 20, 2016.
2. Smith T. [“APEX” tops UCHHealth efforts to streamline patient care](#). *UCHHealth Central Insider*. Published February 17, 2015. Accessed July 20, 2016.
3. Smith T. [AF Williams providers still determined to get APEX to its peak](#). *UCHHealth News*. Published October 14, 2015. Accessed July 20, 2016.



To demonstrate completion of this module and claim *AMA PRA Category 1 Credits™*, please visit:
www.stepsforward.org/MedicalAssistant

Get implementation support

The AMA is committed to helping you implement the solutions presented in this module. If you would like to learn about available resources for implementing the strategies presented in this module, please call us at (800) 987-1106 or [click here](mailto:StepsForward@ama-assn.org) to send a message to StepsForward@ama-assn.org



References

1. American Medical Association. AMA Activities: Health disparities toolkit. <http://www.ama-assn.org/ama/pub/physician-resources/public-health/eliminating-health-disparities/ama-activities.page>. Accessed November 19, 2015.
2. The American Medical Association Foundation. Health literacy and patient safety: help patients understand [video]. https://www.youtube.com/watch?v=cGtTZ_vxjyA. Published August 27, 2010. Accessed November 19, 2015.
3. Agency for Healthcare Research and Quality. Health literacy universal precautions toolkit. <http://www.ahrq.gov/sites/default/files/wysiwyg/professionals/quality-patient-safety/quality-resources/tools/literacy-toolkit/healthliteracytoolkit.pdf>. Published April 2010. Accessed November 20, 2015.
4. Centers for Disease Control and Prevention. Health literacy. <http://www.cdc.gov/healthliteracy/>. Updated October 8, 2015. Accessed November 19, 2015.
5. Harvard University, T.H. Chan School of Public Health. Health literacy studies. <http://www.hsph.harvard.edu/healthliteracy/resources/>. Accessed November 19, 2015.
6. Merriman B. Health literacy in the information age: communicating cancer information to patients and families. *CA Cancer J Clin.* 2002;52(3):130-133. <http://onlinelibrary.wiley.com/doi/10.3322/canjclin.52.3.130/abstract;jsessionid=8A1250680B6919B89F27A7DD4EC20AE4.f02t03>.
7. Glassman P. National Network of Libraries of Medicine. Health literacy. <http://nmlm.gov/outreach/consumer/hlthlit.html>. Published June 2013. Accessed November 19, 2015.
8. US Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Health communication activities. www.health.gov/communication/literacy. Updated July 24, 2008. Accessed November 19, 2015.
9. Vanguard Medical Group. Health library. <http://www.vanguardmedgroup.com/index.php?p=health-library>. Accessed November 19, 2015.
10. National Kidney Foundation. Understanding your lab values. <https://www.kidney.org/kidneydisease/understandinglabvalues>. Accessed November 19, 2015.
11. Mayo Clinic. Chronic kidney disease. <http://www.mayoclinic.org/diseases-conditions/kidney-disease/basics/definition/con-20026778>. Updated January 30, 2015. Accessed November 19, 2015.
12. National Institutes of Health, US National Library of Medicine. Chronic kidney disease. <https://www.nlm.nih.gov/medlineplus/chronickidneydisease.html>. Accessed November 19, 2015.