

Assessment of Immunization Training Needs for Medical Assistants

Literature Review

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Literature Review Executive Summary

The documents outlined in the literature review help build the framework for the Assessment of Immunization Training Needs for Medical Assistants. The literature review contains a variety of types of articles: clinical research, policy statements, reviews of medical assistants' scope of work, occupational analyses of the medical assisting profession, advocacy pieces, as well as many others. Little research has been done specifically on medical assistants and their profession compared to other medical professionals such as nurses and physicians. The information that has been collected for this literature review does however provide a historical insight into the profession's growth and the direction that it is headed into the future. In addition, the literature touches on current and relevant issues to the profession's development such as preparatory standards, regulatory oversight and evolving training needs.

As described throughout the literature, the medical assisting profession is a dynamically growing field. Medical assistants are highly present and visible within a variety of medical settings. Within the literature, medical assistants are often referred to as "generalists" based on the variety of broad skills and tasks they can perform within the medical setting. Some of the top tasks include: patient education, management and supervisory tasks, coding and billing, intravenous procedures, and medical records. Also, more current literature, presents medical assistants as being viewed as health coaches and patient advocates as well as critical members of multidisciplinary medical delivery teams.

Looking at the profession in its entirety, the literature also presents some of the struggles and challenges the profession faces. First, many educational pathways exist to acquire the skills needed to become a medical assistant. These pathways include completing a one or two-year associate degree in medical assisting, becoming a certified medical assistant (CMA) or a registered medical assistant (RMA), being trained on the job, or some combination of these. Due to the lack of consistency in which medical assistants are trained within the profession, medical assistants' skills and educational levels vary tremendously. Second, the literature illustrates a field in which the scope of practice is not well defined. Two reasons highlighted include a profession that is not licensed and many states have vague laws, or no laws, describing what medical assistants can and cannot do. Third, no uniform standards exist for assessing performance and providing necessary ongoing training. Required continuing education might be determined by a professional organization for the purposes of re-certification (such as American Association of Medical Assistants [AAMA]) or potentially by their employer; however, no specific continuing educational requirements for medical assistants exist across the entire profession at a state or national level.

In examining past research methods to contact medical assistants, professional organizations have proven to be an effective method for reaching some medical assistants. CMAs have been contacted through AAMA as well its state societies; and RMAs have been reached through American Medical Technologists (AMT). However, little evidence has been presented for effective methods in reaching medical assistants who are non-CMA medical assistants, non-RMA medical assistants, or medical assistants trained on the job.

A few conclusions can be drawn from researching the literature on medical assistants and immunizations. First, the literature on immunizations, specifically pediatric immunizations, calls for all child health professionals to collaborate with associated agencies as advocates for improving childhood vaccination rates. Recommendations include assessment and improvement activities to maximize the effectiveness in immunizing children as well as the encouraged use of current vaccine information statements (VISs) to educate parents. Second, looking specifically at medical assistants, it can be difficult to know if medical assistants are allowed to give immunizations in some states because of vague state laws. In addition, the variety of pathways into the field of medical assisting and the lack of standards for continuing education illustrate the challenge of providing quality immunization-related continuing education for medical assistants. Even so, the literature does indicate that medical assistants are highly visible in many practices and growing in number, and thus have the potential to positively affect immunization rates and practices.

Literature Review

Introduction to the Literature Review

Background

The medical assistant profession is currently undergoing tremendous growth and this growth is projected to continue. The Bureau of Labor and Statistics (2008) estimates that by 2016 medical assistants could number as many as 565,000, a 35% increase from 2006 data. Medical assistants' presence in the healthcare arena has become more prominent and their job responsibilities have, in many cases, expanded to include duties related to immunization. As medical assistants continue to spend a greater portion of their job performing clinical duties, they must have effective training and education to meet these new demands. Given that immunization schedules are subject to change on an annual basis, the area of immunization service is one area that may require new training and education.

A literature review was conducted to assist in describing the current research and professional perspectives related to immunization trainings needs for medical assistants.

The following sections explain how the literature review was conducted and the organization of this document.

Matrix

The matrix for the literature review is provided as a navigational tool. The objective of the matrix is to provide an easy and quick reference for locating articles. Below is a listing of the descriptive categories and how they are defined for the literature review.

Peer Reviewed – The article is a research article published in a peer reviewed journal.

Medical Assistant – Medical assistants are mentioned within the article. They could be the main focus of the article or part of many healthcare professionals discussed within the article.

Immunization – A major aspect of the article is related to immunization services.

Training – A major aspect of the article is related to continuing professional education training designed to expand or enhance the skill base of healthcare professionals.

VFC – A major aspect of the article is related to the Vaccines for Children program (VFC).

Survey – Article includes the use of a survey as a form of the research methodology.

Literature Review Methodology

Prior to conducting the literature review, specific parameters were set to guide the research. The intent was to include material featured in peer reviewed publications and, in light of the relative lack of material available concerning medical assisting, non-peer reviewed publications.

The databases/search engines used were CINAHL (via Ovid), PubMed, MEDLINE and Google Scholar.

Terms used within the search included: medical assistant; certified medical assistant; registered medical assistant; allied health professionals; vaccine/immunization.

Due to the limited amount of research available on medical assistants, very few search limits were placed on the literature review. Articles published within the United States and in the English language were considered. No limit was set on date of the articles.

In order to allow for a more useful review of the assembled material, the literature review section of this document includes the following information for each article: an abstract (when available), key findings, significance, and categories. Below is an explanation of each section.

Abstract - An abstract for each article is included when it is available within the article of interest; when it is not made available an abstract has not been created. The abstracts are verbatim from the source article.

Key Findings - The key findings of each article, as explained by the author/investigator, are included. When no clear key findings are presented within the document, they are inferred, as conservatively as possible, from the material.

Significance - This section has been created to emphasize the particular interest/impact this article has for surveying medical assistants regarding immunization training needs (e.g., survey dissemination methods, need for immunization training).

Categories – These are informative terms about each article which are included in the literature review matrix (see above).

Articles

The full-text of each article in the literature review is provided in alphabetical order by the first author's last name.

Author	Date	Title	Categories					
			Peer-Reviewed	Medical Assistant	Immunization	Training	VFC	Survey
Aita, V., Dodendorf, D.M., Lebsack, J.A., Tallia, A.F., Crabtree, B.F.	2001	Patient Care Staffing Patterns and Roles in Community-Based Family Practices	x	x				
American Academy of Pediatrics	2003	Policy Statement: Increasing Immunization Coverage		x	x	x		
American Association of Medical Assistants	2008	2007-2008 Occupational Analysis of the CMA (AAMA)		x				x
American Association of Medical Assistants	2003	AAMA Role Delineation Study: Occupational Analysis of the Medical Assisting Profession		x				x
Balasa, D.A.	1990	Overview of Laws Affecting Medical Assisting Practice		x		x		
Bamberg, R., Keenon, J., Blayney, K.D.	1990	Multiskilled Medical Assistants in Physician Practices		x				
Bell, K.N., Hogue, C.J.R., Manning, C., Kendal, A.P.	2001	Risk Factors for Improper Vaccine Storage and Handling in Private Provider Offices	x		x	x		
Bodenheimer, T.	2007	Building Teams in Primary Care: 15 Case Studies		x		x		
Bodenheimer, T., & Laing, B.Y.	2007	The Teamlet Model of Primary Care	x	x		x		
Boom, J.A., Nelson, C.S., Laufman, L.E., Kohrt, A.E., Kozinetz, C.A.	2007	Improvement in Provider Immunization Knowledge and Behaviors Following a Peer Education Intervention	x	x	x	x	x	x
Braun, B.L., Fowles, J.B., Solberg, L.I., Kind, E.A., Lando, H., & Pine, D.	2004	Smoking-Related Attitudes and Clinical Practices of Medical Personnel in Minnesota	x	x				x
Bureau of Labor Statistics, U.S. Department of Labor	2008	Occupational Outlook Handbook - Medical Assistants		x				

Author	Date	Title	Categories					
			Peer-Reviewed	Medical Assistant	Immunization	Training	VFC	Survey
The Center for Health Workforce Studies	2004	Medical Assistants in the U.S.: A Profile of the Workforce		x				
Fidler, J.R.	1988	Medical Assistants: An Analysis of Tasks Performed in Practical Settings		x				x
Flight, M.R.	2000	Protecting Your Right to Practice		x	x			
Gordon, M.R.	1997	Certified Medical Assistants: Health care's Versatile Professionals		x		x		
Hagan, R.E.	1982	Medical Assistants: Professional Helping Hands for Physicians		x				
Leever, N.	2004	AAMA 2004 Medical Assisting Employment Issues and Salary Survey for Practitioners and Educators		x				x
McCarthy, B.D., Yood, M.U., Bolton, M.B., Boohaker, E.A., MacWilliam, C.H., Young, M.J.	1997	Redesigning Primary Care Processes to Improve the Offering of Mammography: The Use of Clinic Protocols by Nonphysicians	x	x				
McCarty, M.N.	1996	The Lawful Scope of a Medical Assistant's Practice		x				
Quallich, S.A.	2005	Medical Assistants: The Future Nurses?		x				
Shaughnessy, S.	1978	We Train Our Own Medical Assistants		x				
Tache, S., & Chapman, S.	2006	The Expanding Roles and Occupational Characteristics of Medical Assistants: Overview of an Emerging Field in Allied Health	x	x				
Tache, S., & Chapman, S.	2005	What a Medical Assistant Can Do for Your Practice		x				

Author	Date	Title	Categories					
			Peer-Reviewed	Medical Assistant	Immunization	Training	VFC	Survey
Tache, S., & Chapman, S.	2004	Medical Assistants in California		x				

LITERATURE REVIEW

Aita, V., Dodendorf, D.M., Lebsack, J.A., Tallia, A.F., Crabtree, B.F. (2001). Patient Care Staffing Patterns and Roles in Community-Based Family Practices. *The Journal of Family Practice*. 50(10). Retrieved from <http://www.ifponline.com/Pages.asp?AID=2348>, on May 14, 2008.

Abstract: OBJECTIVES: Collaborative models that involve office staff in the delivery of health care services offer promise for enhancing primary care practice; however, very little is known about current staffing patterns in practice. Our study describes patient care staff patterns and roles in community-based family practices. STUDY DESIGN: We used a multimethod comparative case study design that included detailed descriptive field notes of the office environment of 18 family practices and of 1637 clinical encounters, as well as in-depth interviews of practice staff and physicians. Systematic analysis of these data provided detailed descriptions of patient care staff patterns and functions. POPULATION: We included physicians and staff in 18 community-based Nebraska family practices. RESULTS: Practices are staffed with a range of clinical personnel including registered nurses, licensed practical nurses, certified medical assistants, radiology technicians, and trained and untrained medical assistants. Each of these has specific educational preparation that potentially qualifies them for different patient care roles; however, staff roles were determined primarily by local needs and physician expectations rather than by education, training, or licensure. Staffing patterns varied greatly, with the majority of practices employing at least one registered nurse (10 of 18), licensed practical nurse (5), or both (4). Still, the overall majority of practices used non-nursing personnel as the predominate patient care staff. Patient care staff-to-clinician ratios ranged from a low of 0.5 to a high of 3.3. CONCLUSIONS: Many recent recommendations about collaborative models of clinical care seem problematic when put into a context of the findings of current staffing patterns and use of personnel in family practices. Staff members often fulfill roles independent of training. Staff leadership is also potentially important for designing effective collaborative care models; however, we found leadership only occurred with the approval of clinic authorities. These practical issues are rarely addressed in normative recommendations about system change and intervention. Our findings indicate that there are considerable opportunities for practices to better use nursing and other patient care staff in the delivery of clinical services. Developing a collaborative practice model should include formalizing expectations of staff to reflect training and experience, and explicitly configuring staff to meet the needs, values, and goals of a practice.

Key Findings: This study indicates that medical assistants are highly present and visible in family physician offices. Their education ranges from formal education with the obtainment of the CMA credential to no formal training at all. This study found there were considerable opportunities for practices to better use nursing and other patient care staff in the delivery of clinical services. This should be done by developing a collaborative practice model which includes formalized expectations of staff to reflect training and the goals of the practice.

Significance: In facilities without professional nurses, medical assistants can exert a considerable amount of authority. They take on traditional nursing roles as well as many physician responsibilities.

Categories: Peer Reviewed, Medical Assistant

American Academy of Pediatrics, Committee on Community Health Services and Committee on Practice and Ambulatory Medicine. Policy Statement: Increasing Immunization Coverage. (2003). *Pediatrics*, 112(4), 993-996.

Abstract: Despite many recent advances in vaccine delivery, the goal for universal immunization set in 1977 has not been reached. In 2001, only 77.2% of US toddlers 19 to 35 months of age had received their basic immunization series of 4 doses of diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine, 3 doses of inactivated poliovirus vaccine, 1 dose of measles-mumps-rubella (MMR) vaccine, and 3 doses of *Haemophilus influenzae* type b (Hib) vaccine. Children who are members of a racial or ethnic minority, who are poor, or who live in inner-city or rural areas have lower immunization rates than do children in the general population. Additional challenges to vaccine delivery include the introduction of new childhood vaccines, ensuring a dependable supply of vaccines, bolstering public confidence in vaccine safety, and sufficient compensation for vaccine administration. Recent research has demonstrated specific and practical changes physicians can make to improve their practices' effectiveness in immunizing children, including the following: 1) sending parent reminders for upcoming visits and recall notices; 2) using prompts during all office visits to remind parents and staff about immunizations needed at that visit; 3) repeatedly measuring practice-wide immunization rates over time as part of a quality improvement effort; and 4) having in place standing orders for registered nurses, physician assistants, and medical assistants to identify opportunities to administer vaccines. Pediatricians should work individually and collectively at local and national levels to ensure that all children receive all childhood immunizations on time. Pediatricians also can proactively communicate with parents to ensure they understand the overall safety and efficacy of vaccines.

Key Findings: One intervention cited in the policy statement relating to medical assistants stated multicomponent interventions that include provider education were strongly recommended although their effectiveness needed further evaluation. The policy statement also concluded with several recommendations:

- Pediatricians and child health professionals should join with the national American Academy of Pediatrics (AAP) and AAP chapters in advocating childhood vaccines; collaborating with local health services to identify barriers to access to vaccine providers; removing/reducing economic barriers and socioeconomic and racial disparities in immunization rates.
- Pediatricians should undertake assessment and improvement activities necessary to maximize their practices' effectiveness in immunizing children.
- Pediatricians should use the most current vaccine information statements to educate parents about vaccine risks and benefits of immunizations.

- Pediatricians should report all adverse events related to vaccines by using the Vaccine Adverse Event Reporting System.
- Pediatricians should support and implement the Standards of Child and Adolescent Immunization Practices as endorsed by the AAP and the National Vaccine Advisory Committee.

Significance: Medical assistants are considered by the AAP to be significant entities within physicians' offices and, therefore, instrumental in improving immunization rates among those served by the office.

Categories: Medical Assistant, Immunization, Training

American Association of Medical Assistants: 2007-2008 Occupational Analysis of the CMA (AAMA). Chicago, IL: American Association of Medical Assistants; 2008.

Abstract: Not Available

Key Findings: A survey was sent to a random sample of CMAs, both AAMA members and non-members. More than 15,000 surveys were distributed with 3,658 collected and analyzed, a response rate of 24%. One point highlighted in the survey analysis was that medical assistants are more frequently the patient's primary contact within the medical practice. They often take on the role of "patient advocate" and "health coach." Phlebotomy and intravenous injections are included in medical assistant's scope of practice.

Significance: The analysis indicates the need for comprehensive immunization education/training given that medical assistants, nationally, are expected to be able to perform invasive procedures such as immunization services.

Categories: Medical Assistant, Survey

American Association of Medical Assistants: AAMA Role Delineation Study: Occupational Analysis of the Medical Assisting Profession. Chicago, IL: American Association of Medical Assistants; 2003.

Abstract: Not Available

Key Findings: A survey was sent to a random sample of CMAs, AAMA members, non-members and former members. More than 15,000 surveys were distributed with 4,004 collected and analyzed, a response rate of 26%. The survey results indicated an increasing percentage of respondents (as compared to past role delineation studies) are spending a greater portion of their time performing clinical tasks. Respondents also listed the tasks they think medical assistants will be delegated with increasing frequency during the next five years. The top tasks included assisting in clinical or patient care procedures, patient

education, management and supervisory tasks, coding and billing, intravenous procedures, and medical records.

Significance: Medical assistants are increasingly given responsibilities that include the preparation and administration of immunizations as well as maintaining immunization records.

Categories: Medical Assistant, Survey

Balasa, D.A. (1990). Overview of Laws Affecting Medical Assisting Practice. *The Professional Medical Assistant*. 23(2), 20.

Abstract: Not Available

Key Findings: Laws affecting medical assistants greatly vary from state to state with no federal uniform guidelines. This article lists 20 states (as of 1990) that have no language whatsoever that speaks to the medical assistant's right to be delegated clinical procedures.

Significance: California and Washington have laws that require medical assistants to prove their competence in venipuncture and injections before they can legally undertake such procedures. No other states have similar laws.

Categories: Medical Assistant, Training

Bamberg, R., Keenon, J., Blayney, K.D. (1990). Multiskilled Medical Assistants in Physician Practices. *The Professional Medical Assistant*. 23(6), 14-17.

Abstract: Not Available

Key Findings: The current era of cost containment in health services delivery has increased the demand for multiskilled medical assistants. This article indicates that employers have a high degree of satisfaction with multiskilled medical assistants and wish there were more of them. The model program for multiskilled medical assistants is the University of Alabama at Birmingham's Multiple Competency Clinical Technician (MCCT) program.

Significance: Just as other allied health professionals have gradually gained responsibility and expertise in specific health care areas, medical assistants are going down the same path. Their primary use in physician offices and clinics progressively leads to more complex and specialized responsibilities.

Categories: Medical Assistant

Bell, K.N., Hogue, C.J.R., Manning, C., Kendal, A.P. (2001). Risk Factors for Improper Vaccine Storage and Handling in Private Provider Offices. *Pediatrics*, 107(6). Retrieved from <http://www.pediatrics.org/cgi/content/full/107/6/e100>, on April 23, 2008.

Abstract: CONTEXT: Preventing loss of vaccine potency during storage and handling is increasingly important as new, more expensive vaccines are introduced, in at least 1 case requiring a different approach to storage. Little information is available about the extent to which staff in private physicians' offices meet quality assurance needs for vaccines or have the necessary equipment. Although the National Immunization Program at the Centers for Disease Control and Prevention (CDC) in 1997 developed a draft manual to promote reliable vaccine storage and to supplement published information already available from the CDC and the AAP, the best ways to improve vaccine storage and handling have not been defined. OBJECTIVES: To estimate the statewide prevalence of offices with suboptimal storage and handling, to identify the risk factors for suboptimal situations in the offices of private physicians, and to evaluate whether the distribution of a new National Immunization Program draft manual improved storage and handling practices. DESIGN: Population-based survey, including site visits to a stratified, random sample of consenting private physicians' offices. At least 2 months before the site visits, nearly half (intervention group) of the offices were randomly selected to receive a draft CDC manual entitled, "Guideline for Vaccine Storage and Handling." The remainder was considered the control group. Trained graduate students conducted site visits, all being blinded to whether offices were in the intervention or control groups. Each site visit included measurements of refrigerator and freezer temperatures with digital thermometers (Digi-thermo, Model 15-077-8B, Control Company, Friendswood, TX; specified accuracy $\pm 1^\circ\text{C}$). Their metaltipped probes were left in the center shelf of cold storage compartments for at least 20 minutes to allow them to stabilize. The type of refrigerator/freezer unit, temperature- monitoring equipment, and records were noted, as were the locations of vaccines in refrigerator and freezer, and the presence of expired vaccines. Other information collected included the following: staff training, use of written guidelines, receipt of vaccine deliveries, management of problems, number of patients, type of office, type of medical specialty, and the professional educational level of the individual designated as vaccine coordinator. PARTICIPANTS: Two hundred twenty-one private physicians' offices known by the Georgia Immunization Program (GAIP) in 1997 to immunize children routinely with government-provided vaccines. OUTCOME MEASURES: Estimates (prevalence, 95% confidence interval [CI]) of immunization sites found to have a suboptimally stored vaccine at a single point in time, defined as: vaccine past expiration date, at a temperature of $\leq 1^\circ\text{C}$ or $\geq 9^\circ\text{C}$ in a refrigerator or $\geq -14^\circ\text{C}$ (recommended for varicella vaccine) in freezer, and odds ratios (ORs) for risk factors associated with outcomes. We performed χ^2 analysis and Student's *t* tests to compare the administrative characteristics and quality assurance practices of offices with optimal vaccine storage with those with suboptimal storage, and to compare the proportion of offices with suboptimal storage practices in the groups that did and did not receive the CDC manual. RESULTS: Statewide estimates of offices with at least 1 type of suboptimal vaccine storage included: freezer temperatures measuring $\geq -14^\circ\text{C}$ = 17% (95% CI: 10.98, 23.06); offices with refrigerator temperatures $\geq 9^\circ\text{C}$ = 4.5% (95% CI: 1.08, 7.86); offices with expired vaccines =

9% (95% CI: 4.51, 13.37); and offices with at least 1 documented storage problem, 44% (95% CI: 35.79, 51.23). Major risk factors associated with vaccine storage outside recommended temperature ranges were: lack of thermometer in freezer (OR: 7.15; 95% CI: 3.46, 14.60); use of freezer compartment in small cold storage units (OR: 5.46; 95% CI = 2.70, 10.99); lack of thermometer in refrigerator (OR: 3.07; 95% CI: 1.15, 8.20); and failure to maintain temperature log of freezer (OR: 2.70; 95% CI: 1.40, 5.23). Offices that adhered to daily temperature monitoring for all vaccine cold storage compartments, compared with those that did not, were 2 to 3 times more likely to assign this task to staff with higher levels of training, have received a recent visit from the state immunization program, and be affiliated with a hospital or have Federally Qualified Health Center (FQHC) status. In addition, sites using >1 refrigerator/freezer for vaccine storage were more likely to have at least 1 cold storage compartment outside recommended temperature ranges. We found no significant differences in the data reported above between the intervention group (received copy of the draft manual) and the control group (did not receive copy of draft manual), even when controlling for the annual number of immunizations given or the type of office. **CONCLUSIONS:** Problems with vaccine storage are common and mainly relate to inadequate monitoring of cold storage units or use of freezer units in inappropriate, small refrigerator/freezer units. A modest outlay to purchase equipment and/or train staff could avoid these problems. These results support the following steps: 1) do not store frozen vaccines in freezer compartments in less than full-sized refrigerators (<18 cu ft); 2) monitor temperatures in both the refrigerator and freezer compartments to ensure that setting the freezer compartment control to <-15°C does not lower the refrigerator compartment to <2°C and thereby freeze vaccines that may be damaged by such exposure; 3) prepare a written job description for the duties of vaccine coordinator; 4) review temperature-monitoring practices; 5) follow standard procedures when vaccine temperatures are out of range or a power outage occurs; 6) inventory and rotate vaccines in cold storage each time new vaccines are delivered; and 7) train all vaccine-handling staff in the above and ensure that all have access to the latest authoritative guidance on vaccine storage and that all understand the meaning of temperature range, negative temperatures, Celsius and Fahrenheit scales, and conversion.

Key Findings: Overall, the study's findings strongly indicate a need to improve the knowledge and quality assurance practices related to vaccine storage and handling in private offices. One specific result that could relate to medical assistants is the study's conclusion that daily vaccine temperature monitoring was 2 to 3 times more likely to occur in offices (P , .05) that had the following indicators of training, knowledge, or outside inspection: 1) vaccine coordinators (when a coordinator was designated) had at least bachelor's level professional training; 2) office respondent reported a recent visit from the GAIP; 3) office respondent demonstrated knowledge of acceptable temperature ranges for childhood vaccines; and 4) office was affiliated with a hospital or had FQHC status.

Significance: The article emphasized the need for training among all staff, which would include medical assistants, regarding the handling and storing vaccines. In addition, FQHC were used to make contact with physicians and their staff with positive results.

Categories: Peer Reviewed, Immunization, Training

Bodenheimer, T. (2007) Building Teams in Primary Care: 15 Case Studies. *California Healthcare Foundation*. Retrieved from <http://www.chcf.org/topics/chronicdisease/index.cfm?itemID=133375>, on July 7, 2008.

Abstract: Not Available

Key Findings: This article discusses extensive interviews and case studies of primary care practices, and the consequential development of a teamlet model to enhance the practice environment. The teamlet consists of 1 clinician and 2 health coaches. A clinical encounter includes 4 parts: a previsit by the coach, a visit by the clinician together with the coach, a postvisit by the coach, and between-visit care by the coach. The teamlet model is meant to be adapted to the particular circumstances of each primary care practice; its only essential feature is the expansion of the 15-minute visit into a more intensive and satisfying encounter. The model differs from all 15 case studies featured in this report by placing major emphasis on patient self-management of chronic illness. Practices wishing to move in this direction can adopt one or more components of the model — adding functions to the traditional pre-visit, launching a regular post-visit, or providing regular between-visit phone calls or electronic communication. Ultimately, the team-building innovations featured in this report provide a wealth of ideas on how to transform primary care practice into a smooth-functioning institution offering quality, accessible health care for the patient population while ensuring a satisfying work experience for all caregivers.

Significance: The roles of medical assistants are expanding rapidly as they are given more and more responsibility. These new duties include management of medical records, patient care, and disease management. In addition, the teamlet model descriptions use clinician training as the educational method for medical assistants who are acting in an expanding role.

Categories: Medical Assistant, Training

Bodenheimer, T., & Laing, B.Y. (2007). The Teamlet Model of Primary Care. *Annals of Family Medicine*, 5(5), 457–461.

Abstract: The 15-minute visit does not allow the physician sufficient time to provide the variety of services expected of primary care. A *teamlet* (little team) model of care is proposed to extend the 15-minute physician visit. The teamlet consists of 1 clinician and 2 health coaches. A clinical encounter includes 4 parts: a previsit by the coach, a visit by the clinician together with the coach, a postvisit by the coach, and between-visit care by the coach. Medical assistants or other practice personnel would require retraining to assume the health coach role. Some organizations have instituted aspects of the teamlet model. Primary care practices interested in trying out the teamlet concept need to train 2 health coaches for each full-time equivalent clinician to ensure smooth patient flow.

Key Findings: The teamlet model of primary care utilizes two medical assistants, along with the health provider, to provide and deliver care. Training for the medical assistants is provided by the clinician or an outside trainer.

Significance: This model is now cited in several primary care delivery models and is gaining significant favor as a way to provide increased care without increasing the number of primary care physicians.

Categories: Peer Reviewed, Medical Assistant, Training

Boom, J.A., Nelson, C.S., Laufman, L.E., Kohrt, A.E., Kozinetz, C.A. (2007). Improvement in Provider Immunization Knowledge and Behaviors Following a Peer Education Intervention. *Clinical Pediatrics*, 46(8), 706-717.

Abstract: Provider education programs that use academic detailing to improve childhood immunization have been implemented in several states. The purpose of this study was to evaluate the impact of these types of programs to improve immunization-related behaviors in private provider offices. The intervention included peer-based academic detailing in which teams of 1 physician, 1 nurse, and 1 office manager visited pediatric and family practices to deliver an educational presentation and develop practice-specific action plans. Comparison of pre–post intervention surveys showed that providers' willingness to give the maximum number of immunizations due at 1 visit ($P < .001$) increased. More providers reported routinely screening immunization records at sickness or injury visits ($P < .05$) and using minimum intervals ($P < .001$) postintervention. Mean change in baseline and postintervention overall scores was significant for pediatric practices (0.40, $P < .05$), small practices (0.64, $P < .01$), Vaccines for Children (VFC) practices (0.74, $P < .05$), and non-VFC provider practices (0.67, $P < .01$) but not for family or large practices.

Key Findings: Results from this study suggest that future immunization educational interventions should be targeted to and tailored for family medicine practices, large practices, and medical assistants. Presumably, these results can be extended to include all practices that deliver immunization services (i.e., pediatrics, internal medicine, and obstetrics/gynecology).

Significance: The study recognizes the large number of medical assistants that administer vaccinations. It was also reported that a majority of practices employed non-nursing personnel as primary care staff and those individuals were trained in traditional nursing roles such as delivering vaccinations.

Categories: Peer Reviewed, Medical Assistant, Immunization, Training, VFC, Survey

Braun, B.L., Fowles, J.B., Solberg, L.I., Kind, E.A., Lando, H., Pine, D. (2004). Smoking-Related Attitudes and Clinical Practices of Medical Personnel in Minnesota. *American Journal of Preventive Medicine*, 27(4), 316-322.

Abstract: Context: Effective clinic-based, smoking-cessation activities are not widely implemented. Objective: To compare and contrast the smoking-cessation attitudes and clinical practices of five types of primary healthcare team members. Design and Setting: From July to October 2002, a cross-sectional survey was mailed to randomly selected primary care physicians (MDs), advanced practice nurses (APRNs), registered nurses (RNs), licensed practical nurses (LPNs), and medical assistants (MAs). Main Outcome Measures: Factors associated with limited smoking-cessation service delivery. Results: The overall response rate was 68% ($n = 3021$). Most respondents reported that patients' smoking status was consistently documented at their clinic (79%); other system prompts were less common (30%). Many respondents reported documenting smoking status or recommending quitting; few reported consistently assessing, assisting, or arranging follow-up. The mean rank of smoking cessation as an important preventive service among nine preventive services declined from MDs (1.9) to APRNs (2.5), RNs (3.4), LPNs (4.2), and MAs (4.6). Smoking prevalence increased from 1% in MDs to 3% APRNs, 9% RNs, 17% LPNs, and 22% MAs. Those who reported no consistent smoking-cessation service delivery were more likely to be RNs, LPNs, or MAs, currently smoke, and work more hours. They were less likely to consider patients receptive to cessation messages, to consider themselves qualified to counsel on smoking, or to work in clinics that had smoking-cessation guidelines or system prompts such as chart reminders. Conclusions: Smoking-cessation service delivery may be enhanced if educational offerings, system changes, and training include all clinical staff members.

Key Findings: The response rate among medical assistants was high (73%). While the information obtained from the Minnesota Department of Health included practice information for physicians and nurses, the investigators were unable to obtain that same type of information from the Minnesota Chapter of the AAMA.

Significance: The study sample was chosen from a database maintained by the Office of Rural Health and Primary Care at the Minnesota Department of Health. This database contains all health care professionals that require licensing throughout the state (e.g., physicians, nurses). Since medical assistants are not licensed through the state, contact was made through the Minnesota Chapter of the AAMA (in July of 2002).

Categories: Peer Reviewed, Medical Assistant, Survey

Bureau of Labor Statistics, U.S. Department of Labor: Occupational Outlook Handbook-Medical Assistants, 2008-2009 Edition, Retrieved from <http://www.bls.gov/oco/ocos164.htm>, on March 28, 2008.

Abstract: Not Available

Key Findings: The occupational handbook on medical assistants, distributed by the U.S. Department of Labor, gives an overview of several different occupational aspects of medical assistants including: nature of the work, earnings, and projections data. About 62 percent of medical assistants work in physician offices. While completion of a 1-year or 2-year program is becoming preferred by employers, some medical assistants receive only training on the job. Employment is projected to grow much faster than average, ranking medical assistants among the fastest growing occupations over the 2006-16 decade.

Significance: This article provides an overview of the medical assisting occupation as well as the future directions into which the field may lead.

Categories: Medical Assistant

The Center for Health Workforce Studies, *Medical Assistants in the U.S.: A Profile of the Workforce*, Rensselaer, New York, February 2004.

Abstract: Not Available

Key Findings: The Center for Health Workforce Studies provides an extensive review of the medical assisting profession. The study concludes with a list of recommendations the medical assistant profession must consider with its growth and progression:

- Other professions with similar competencies may compete for available jobs
- Organized nursing may become increasingly hostile to the medical assisting profession
- There is a need for standardization of education for medical assisting professionals
- Competencies taught in education programs must change to meet changing and emerging demands for technological skills
- There is a need for the AAMA to focus its right-to-practice advocacy
- There is a need to increase the number of credentialed medical assistants
- New paths to the CMA credential should be developed
- There is a need for data about graduating students
- There is a need to preserve an appropriate mix of skills to encourage demand from physicians and outpatient providers
- There is a need for better data about medical assistants

Significance: The article provides a detailed examination of the current state of medical assisting as well as the direction the field can be expected to take in the next several years. Specifically, the authors suggest there may be a desire, among employers, to see medical assistants as primarily clinical (e.g., doing venipuncture, administering injections, and initiating IVs) or primarily administrative.

Categories: Medical Assistant

Fidler, J.R. (1988). Medical Assistants: An Analysis of Tasks Performed in Practical Settings. *Evaluation & the Health Professions*, 11(3), 358-378.

Abstract: A task analysis and demographic inquiry were conducted from registered medical assistants (medical assistants certified by American Medical Technologists) working in practical settings. A mail survey methodology was utilized to administer questionnaires to a national sample of medical assistants. Data were gathered on the performance status of 128 administrative and clinical tasks as well as several general task areas. Respondents also provided information regarding characteristics of their employment setting. Results from the survey suggest that medical assistants perform a wide variety of tasks. Particularly salient are those tasks involving patient management, patient contact, and handling of clinical materials. Results also suggest that medical assistants are employed in a wide variety of practical settings. Overall, registered medical assistants constitute a heterogeneous group, in terms of both duties performed and employment situation.

Key Findings: The results from this task analysis were used in validating the content of the RMA certification examinations. Furthermore, by defining major area categories and the tasks constituting those areas, examination questions could be developed that were representative of and related to the medical assisting role. Educators may find task delineations of use in developing suitable training curricula. The use of such information by educators helps assure that individuals will learn skills germane to practical medical assistant performance.

Significance: The investigators surveyed medical assistants on membership roles in which only active members were randomly selected. Of the 500 individuals surveyed, approximately one-third returned the questionnaire. The purpose of this instrument was to better understand the overall responsibilities of medical assistants rather than specific responsibilities within administrative or clinical functions.

Categories: Medical Assistant, Survey

Flight, M.R. (2000). Protecting your right to practice. *The Professional Medical Assistant*. 33(4), 12-16.

Abstract: Not Available

Key Findings: The article presents background information on the development of medical assistants' scope of practice to the specific focus of the article: protecting the profession's right to practice. Immunizations are currently included within the medical assistants' scope of practice as laid out by the AAMA. RMAs and on-the-job trained medical assistants (OJTs) are not subject to these guidelines. As medical assistants' responsibilities broaden there is an increasing need to define what those practices may entail and what should be outside their scope of practice given their training/education.

Significance: The AAMA has developed a scope of practice for medical assistants graduating from CMA programs. This is an effort to have input in the licensure procedure that is unique to each state. Licensing is a state responsibility; generally, states are reluctant to license professionals unless it can be clearly shown that the lack of licensure poses an immediate and substantial danger to public health and safety.

Categories: Medical Assistant, Immunization

Gordon, M.R. (1997). Certified Medical Assistants: Health care's versatile professionals. *Michigan Medicine*. 96, 54-55.

Abstract: Not Available

Key Findings: This article was written to promote the celebration of "National Medical Assistants Week." The author focused on three aspects related to medical assistants: the need for medical assistants, certification, and continuing education. As pointed out by the author, medical assistants that do receive formal training are required to obtain continuing education. This continuing education can cover many different health related issues.

Significance: Medical assistants obtaining certification must maintain that certification through either reexamination or by obtaining 60 continuing education contact hours. Continuing education is obtained by attending various workshops, seminars, in-services and classes. The AAMA offers the opportunity to attend educational seminars and one state convention yearly.

Categories: Medical Assistant, Training

Hagan, R.E. (1982). Medical Assistants: Professional Helping Hands for Physicians. *The Journal of the Indiana State Medical Association*. 75(7), 450-451.

Abstract: Not Available

Key Findings: Within the article, the author focuses on several positive attributes medical assistants can contribute to a medical practice. The author encourages other physicians to advocate for the medical assistants within their medical practice to actively participate in AAMA. As of 1982 the AAMA estimated their potential membership at 300,000 to 500,000, yet its actual membership was only 16,000.

Significance: Since the 1980s, AAMA has sought to become a strong and valuable allied health profession to physicians.

Categories: Medical Assistant

Leever, N. (2004). AAMA 2004 Medical Assisting Employment Issues and Salary Survey for Practitioners and Educators. *CMA Today*. September/October 2004. Retrieved from http://www.aama-ntl.org/resources/library/salsurvey_0804.pdf, on June 26, 2008.

Abstract: Not Available

Key Findings: This survey was administered in 2004 by mail to 10,000 medical assistants. They primarily consisted of AAMA members, but included some non-certified members and nonmembers. Total responses numbered 4,057. Of the 3,288 medical assistants reporting participation in clinical activities, 67% indicated responsibilities included administering injections.

Significance: Contacting CMAs through AAMA has demonstrated to be an effective manner in reaching medical assistants and achieving a response to surveys.

Categories: Medical Assistant, Survey

McCarthy, B.D., Yood, M.U., Bolton, M.B., Boohaker, E.A., MacWilliam, C.H., Young, M.J. (1997). Redesigning Primary Care Processes to Improve the Offering of Mammography: The Use of Clinic Protocols by Nonphysicians. *Journal of General Internal Medicine*. 12, 357-363.

Abstract: **OBJECTIVE:** To develop, within the framework of continuous quality improvement, new processes for offering mammography and determine whether protocols executed completely by nonphysicians would increase mammography utilization. **DESIGN:** A prospective follow-up study with patients from an intervention clinic and two control clinics. **SETTING:** Three general internal medicine clinics in a large, urban teaching hospital in Detroit, Michigan. **PATIENTS/PARTICIPANTS:** A total of 5,934 women, aged 40 through 75 years, making 16,546 visits to one of the clinics during the study period (September 1, 1992, through November 31, 1993). **INTERVENTION:** Medical assistants and licensed practical nurses in the intervention clinic were trained to identify women due for screening mammography, and to directly offer and order a mammogram if patients agreed. **MEASUREMENTS AND MAIN RESULTS:** Patients were considered up-to-date with screening if they had a mammogram within 1 year (if age 50–75) or 2 years (if age 40–49) prior to the visit *or* a mammogram within 60 days after the visit. The proportion of visits each month in which a woman was up-to-date with mammography was calculated using computerized billing records. Prior to the intervention, the proportion of visits in which women were up-to-date was 68% (95% confidence interval [CI] 63%, 73%) in the intervention clinic and 66% (95% CI 61%, 71%) in each of the control clinics. At the end of the evaluation, there was an absolute increase of 9% (95% CI 2%, 16%) in the intervention clinic, and a difference of 1% (95% CI -5%, 7%) in one of the control clinics and -2% (95% CI -3%, 5%) in the other. In the intervention clinic, the proportion of visits in which women were up-to-date with mammography increased over time and was consistent with a linear trend ($p = .004$). **CONCLUSIONS:** Redesigning clinic processes to make offering of mammography by medical assistants and licensed practical nurses a routine part of the clinic encounter can lead to mammography rates that are

superior to those seen in physicians' usual practice, even when screening levels are already fairly high. Physicians need not be considered the sole, or even the primary, member of the health care team who can effectively deliver some preventive health measures.

Key Findings: Medical assistants are being given a great deal of responsibility for informing and providing preventive health care services.

Significance: This article provides a specific example of how medical assistants are being utilized in a semi-autonomous manner by physicians in the health care setting. It also indicates the potential reliance, by the physician, on the medical assistant to perform tasks that were previously restricted to nursing or other allied health staff.

Categories: Peer Reviewed, Medical Assistant

McCarty, M.N. (1996). The Lawful Scope of a Medical Assistant's Practice. *AMT Events*, 13(2), 60-62.

Abstract: Not Available

Key Findings: The purpose of the article is to provide guidance to medical assistants about their lawful scope of practice within their state. In a vast majority of states, medical assistants may perform basic clinical procedures under the direct supervision of a licensed medical practitioner (physician, osteopath, podiatrist, etc.). Most states do not have laws or regulations dealing specifically with practice of medical assisting. Unless expressly prohibited, it is generally permissible for a doctor to assign basic clinical tasks to a medical assistant, as long as the licensed practitioner directly supervises and assumes responsibility for the actions of the assistant.

Significance: Within a physician's practice, the scope of responsibility of the medical assistant is generally left to the discretion of the responsible physician. Since only five states (Arizona, California, Florida, South Dakota and Washington) have enacted laws directly addressing the practice of medical assisting, a large portion of medical assistants lack federal/state guidelines.

Categories: Medical Assistant

Quallich, S.A. (2005). Medical Assistants: The Future Nurses? *Urologic Nursing*. 25(5), 389-391.

Abstract: Not Available

Key Findings: The article's author focuses on the difficulties in distinguishing the roles between nurses and medical assistants. Many tasks assigned to medical assistants are directly due to nursing shortages. The removal of less-complex tasks from the nursing staff allows those nurses to focus on the more involved and complicated facets of patient

care. In private practice, medical assistants often fill a “generalist” role which encompasses clerical, clinical, and administrative duties. In a hospital setting, medical assistants may have a more specialized role such as collecting specimens, sterilizing equipment, removing sutures, or changing dressings.

Significance: Medical assistants are progressively becoming more of a presence in the health care setting. Tasks that were previously the domain of nurses (immunizations/vaccines) are now being given to medical assistants.

Categories: Medical Assistant

Shaughnessy, S. (1978). We Train Our Own Medical Assistants. *Group Practice*. 27, 18-19.

Abstract: Not Available

Key Findings: This article describes a unique situation in which an early medical assistant program was tailored to, and by, physicians and their needs in the work place.

Significance: This article gives a detailed account of an early medical assistant program located in Phoenix, Arizona at ABC-HMO, Inc. It indicates that as early as the mid to late 1970's medical assistants were involved in providing immunization services

Categories: Medical Assistant

Tache, S., & Chapman, S. (2006). The Expanding Roles and Occupational Characteristics of Medical Assistants: Overview of an Emerging Field in Allied Health. *Journal of Allied Health*. 35(4), 233-237.

Abstract: Not Available

Key Findings: The data presented in this report provide a description of medical assistants, the fastest growing allied health occupation. The limited amount of published data leads to an incomplete picture of this field. There are three major reasons behind the regulatory fragmentation in the field of medical assisting. First, the multiple pathways leading to medical assisting reflect a fragmented approach to training. Second, the scope of practice remains ill defined. Third, there are no uniform standards for assessing training and performance.

In addition to fragmentation, there is discordant oversight of the field as reflected in the dichotomy of standards held by professional societies and state boards. The occupational associations in medical assisting establish training and performance standards for medical assistants, whereas state medical boards provide the most minimal guidelines for medical assistants to be employed in the field.

Significance: The investigators highlight the discordant nature of the field of medical assisting into the beginning of the 21st century. The regulatory fragmentation as described by the authors illustrates some of the difficulties in developing professional trainings for medical assistants.

Categories: Peer Reviewed, Medical Assistant

Tache, S., & Chapman, S. (2005). What a Medical Assistant Can Do for Your Practice. *Family Practice Management*. April, 51-54.

Abstract: Not Available

Key Findings: The authors discuss four main points in this article based upon their research:

- Due to the lack of standardized educational criteria for medical assisting, it is the responsibility of the employer to determine each applicant's skill level and certification type.
- Medical assistants may convey clinical information on behalf of the physician and follow clinical protocols when speaking with patients, but they cannot exercise independent medical judgments.
- Medical assistants can optimize patient flow, enabling the physician to see more patients and conduct more robust visits.
- National and state certification for medical assistants is available, but only 15% of medical assistants in the U.S. obtain it.

Significance: This article provides a description of the duties a medical assistant is competent to perform, and is addressed to physicians who may not fully understand the potential roles of medical assistants. It discusses both the administrative and clinical duties common to medical assistants.

Categories: Medical Assistant

Tache, S., & Chapman, S. (2004). *Medical Assistants in California*. San Francisco: UCSF Center for the Health Professions.

Abstract: Not Available

Key Findings: This article provides a critical view of medical assisting in California. According to the authors, medical assisting growth is projected to reach 53% within ten years of the writing of this article.

Significance: Medical assistants provide both the administrative and clinical support functions necessary for medical practice. Several training options lead to certification including vocational schools and college degrees. However, neither individual states nor

the federal government mandate formal certification to work as a medical assistant at this time.

Categories: Medical Assistant