January 31, 2016

Thomas J. Nasca, M.D., M.A.C.P.
Chief Executive Officer
Accreditation Council for Graduate Medical Education
515 North State Street, Suite 2000
Chicago, IL 60654

Dear Dr. Nasca,

Enclosed please find our response to your December 21, 2015 request for the formal positions of the American Medical Student Association (AMSA) on components of the Common Program Requirements addressing Resident Duty Hours in the Work and Learning Environment.

This paper was created by members of AMSA's national leadership, led by our National President and including: Alison Case, MD, MPH, AMSA Education and Advocacy Fellow; Aliye Runyan, MD, AMSA Gradaute Truste; and Perry Tsai, AMSA Vice-President for Program Development. This position statement is a reflective account of our committee's knowledge, experience, and research related to this issue. We speak for our national office, Board of Trustees, and nearly 40,000 physicians-in-training across the country.

AMSA's response is relevant to all physicians in training. It focuses on effective methods for residents to work and learn in safe environments, and represents our concerns for the health, well-being, and safety of physicians-in-training.

In response to your inquiry regarding our organization's willingness to participate in a Resident Duty Hours in the Learning and Working Environment Congress, AMSA would be happy to participate. We welcome any questions that you may have about our positions, and look forward to opportunities to engage with the ACGME further on our shared goals of protecting and improving public health by promoting excellence in training.

On behalf of AMSA's Board of Trustees and our members, we thank you for the opportunity to contribute to this important discussion.

Sincerely,

Deborah V. Hall

Deborah V. Hall, M.D.
AMSA National President, 2015-16

Positions of the American Medical Student Association on key components of the Accreditation Council for Graduate Medical Education's Common Program Requirements for Resident Duty Hours in the Learning and Working Environment

The American Medical Student Association (AMSA) is the nation's oldest and largest independent organization of physicians-in-training; and our mission is built upon the commitment of our members to advocate for high-quality health care, for excellence in physician training, and for protection and promotion of the welfare of physicians-in-training. To this end, AMSA has historically engaged with the Accreditation Council for Graduate Medical Education (ACGME) to advocate for program requirements and recommendations that reflect these core principles.

AMSA fully supports the ACGME's position that residency training should ultimately be designed to produce competent, autonomous, caring physicians[1]. Toward this end, residents must each develop a sense of professional identity and responsibility, a set of leadership and teamwork skills, and an ethical framework within which to practice and deliver high-quality care. More specifically, a professional identity encompasses the concepts of professional responsibility, accountability for fitness for duty, dedication to lifelong learning and continuous quality improvement, and maintenance of their capacity for empathetic, patient-centered care[2,3].

As outlined below, the following positions of the American Medical Student Association are established from the principles of our organization of nearly 40,000 members and are drawn from a review of the relevant literature, interviews of key informants and experts, and a broad base of evidence.

Regarding resident duty hours and the learning and working environment, AMSA supports the following positions.

1. **There is a continued need for resident duty hour limits as part of our shared obligation to resident well-being and high-quality patient care.**
2. **Within this model, transitions of care and supportive supervision are critical opportunities in graduate medical education to instill professionalism, communication, and teamwork in health care.**
3. **Graduated learning by residents should emphasize acquisition of high-yield competencies above hours in service.**
4. **Both enforcement and evaluation of resident duty hours are necessary in maintaining and enhancing the quality of resident medical education and the quality of patient care.**

The Continued Need for Resident Duty Hour Limits

Responsibility to provide high-quality, safe patient care is at the forefront of resident duty. sleep deprivation and fatigue have been well documented to result in deleterious effects on mood and attitudes toward patient care[4,5,6]. Relatedly, there is concern that excessive duty hours contribute to resident burnout and loss of empathy[7,8]. The documented range of resident burnout is stated to fall between 27% – 76%, with such residents reporting "sub-optimal patient care practices"[9,10].

In the ACGME's publication of the 2011 standards the continuous duty period requirements were crafted "to respond to ample scientific evidence about the negative performance effects of long periods of wakefulness"[1]. It is the position of the American Medical Student Association that resident duty hours requirements should be based on the most current research on sleep, learning, patient safety and care, and resident well-being. The current requirements are based on recommendations that reflect what is known about sleep and the effects of fatigue from robust neurobiological and occupational research[11,12,13,14].

Extensive research has shown that acute and chronic sleep deprivation are detrimental to learning[15,16,17] which is a primary goal of residency training. There is overwhelming evidence that these effects also result in medical errors[18,19], needlestick and other injuries[14,20], depression[5], motor vehicle accidents[11,12], and adverse pregnancy outcomes[21,22]. The Institute of Medicine concluded in 2009 that excessive work hours were harmful to residents and to patients[23]. We are obligated to use the current literature as our guide in formulating duty hour limits to ensure high-quality resident medical education and the safety of both patients and residents.

Therefore, AMSA remains resolute in our recommendation that the number of hours a resident physician may work per week should not exceed 80, without averaging the hours over a period greater than 1 week. The number of hours worked per shift should not exceed 16 for residents in all years of training, including time for transfer of patient care and education. Time off-duty between scheduled shifts should be at least 10 hours. Resident physicians should have at least 1 full continuous 24-hour period off-duty out of every 7 days, without averaging over a period of greater than 7 days, and 1 period of 48-hours off-duty per month.

With regard to moonlighting, AMSA supports moonlighting as a beneficial and legitimate practice but does not regard it as a solution to inadequate housestaff salaries or to the inefficient allocation of healthcare workers. Moonlighting hours should still be counted as a part of the 80-hour work week and thus obey the same restrictions as other resident work periods.

We also acknowledge the need for resident physicians to assess and adjust their own periods of rest in order to remain fit for duty, as noted in the common program requirements. Institutions must commit to proactive wellness programs that promote methods to achieve work/life balance and team environments which support accountability and self-monitoring.

Transitions of Care and Supportive Supervision: Opportunities for Professionalism, Communication, and Teamwork

As progress in medicine continues to accelerate and as patient populations become older and more medically complex, practicing excellent transitions of care will become increasingly imperative. Physicians will be expected to transfer care of patients between healthcare providers frequently, whether that be from a primary care provider to a specialist, from one hospital floor to another, from an ICU to a step-down unit, or between two physicians changing shifts. There is no reason that safe training environments, including reasonable limitations on duty hours, should be at odds with patient safety, including safe and effective transitions of care[24,25,26]. Transitions of care are and will continue to be an

integral part of practicing medicine. Resident training ought to reflect the growing importance of this essential skill that requires communication, professionalism, and teamwork.

Therefore, AMSA supports the current ACGME requirements stating that teamwork and interdisciplinary collaboration are critical components of both medical professionalism and patient safety, that residency programs should have structured and monitored processes in place to teach safe and effective transitions of care, and that residents must have competence in the communication skills needed to facilitate these transitions.

However, the daily lived experience of physicians still continues in silos, with communication and coordination between disciplines occurring rarely[27]. To illustrate this, a survey of over 1,000 physicians revealed that "two thirds thought they had received inadequate training in care coordination and patient education," indicating that these skills are not currently strongly represented in graduate medical education curricula[28].

Interprofessional training programs have been successfully developed and delivered through simulation models and case-based studies to address this issue; and they have demonstrated resulting increases in the understanding of individual roles and responsibilities as well as participant comfort level in dealing with interdisciplinary conflict[29] . Increased levels of shared responsibility for patients have also led to a lower number of adverse events in specific chronic diseases[30]; and an association between cooperation and decreased burnout has been established[3132].

Another opportunity for increased communication and collaboration is in the relationship between residents and supervisors. In order for residents to progress through the levels of graduated autonomy necessary for independent practice, they must have supportive supervision from mentors. These mentors may include attending physicians, upper-level residents, or other healthcare professionals such as nurse practitioners or physician assistants; and supervision encompasses not only high-quality instruction, but also availability, tolerance, and promotion of a safe, approachable learning environment. Residents should not feel shame or fear when seeking support they need. One factor in miscommunication between residents and supervisors may be the lack of clear expectations among residents and supervisors defining the conditions under which contact is warranted or even required[33]. Programs should promote increased communication and openness between faculty and residents to prevent this miscommunication. An environment of support and cooperation should prevail in resident education; and there should be no opportunity for fear of retaliation, humiliation, or other negative consequences to keep residents from speaking up and asking for help when necessary.

Studies have shown that increased resident supervision appropriate for level of training improves education outcomes, though more studies are needed to both validate and explore the optimal models for resident supervision and faculty training[34,35]. Innovative models to encourage faculty involvement by providing incentive to participate as a supervisor in resident education have been piloted elsewhere[36].

AMSA supports increased supervision of residents as is necessary to provide adequate graduate education[37,38], and we support further study of incentives to involve faculty in resident supervision and further studies of models to train faculty to provide optimal supervision and improve resident training.

Graduated Learning Based on High-yield Competencies, not Hours

Over the past decade, many residency programs have adopted the graduated milestone model in evaluating resident competency. This model is based on achieving proficiency in a number of skills and competencies based on requirements set by specialty boards and not based on a set number of hours. AMSA supports a graduated milestone or competency-based model over an hours-based model, as it appropriately brings the focus of resident education back to relevant patient care and away from hours logged. Programs have already begun assessments of this model, and we encourage new requirements to include an emphasis on further validation and study by programs themselves[39].

In line with the goal of producing competent, autonomous, caring physicians, resident education should be high-yield, focused on clinical, technical, and administrative skills in proportion to their applicability to practice and to their difficulty to master. These clinical skills and entrustable professional activities should be given priority over other tasks that may be more appropriately assigned to other healthcare workers. It would be expected, for example, that a surgical resident should spend time mastering a common procedures in order to become proficient; however, it is less clear that the same resident requires many hours of patient transfer orders and follow-up scheduling to master those skill sets.

AMSA believes that residency programs should actively monitor resident workload and prioritize resident learning time toward high-yield competencies and to ensure that workload compression does not take the place of active learning[40,41]. One way that this can be achieved is by the appropriate use of interprofessional teams[42,43].

Several case studies have emerged showing promise and innovation in meeting the multiple aims of the teaching hospital environment[44,45]. These studies have demonstrated that a safe limit on duty hours, as recommended by the IOM, by no means needs to come at the expense of safe workloads or resident learning[46,4748].

Further Evaluation and Enforcement of Resident Duty Hour Limits

AMSA is committed to evidence-based training that reflects best practices for both learning and safety. High-quality data should continue to be collected on measurable indicators of knowledge and on resident, faculty, and patient perception of competency in order to determine the impact of duty hours and models on resident education. Some studies have already assessed indicators of competence and the utility of new models, including simulations, in achieving expertise[49]. AMSA strongly encourages the ACGME to adopt more formal guidelines and requirements for research in these areas.

In order to realize any of the benefits of resident duty hour limits or to reliably evaluate the effects, resident duty hours need to be reported accurately, and the duty hour limits need to be enforced consistently. Despite efforts to promote an environment of honest reporting and adherence to the current duty-hour requirements, residents continue to underreport hours to their programs. This occurs for a variety of reasons including fear of retaliation or fear of a negative impact to their program if it were to be penalized by the ACGME[50].

AMSA believes that an independent process for evaluating duty hours that bypasses reports from the program and goes directly from residents to the ACGME is needed. New York State and the Institute of Medicine's recommendations provide starting models. We hope that this strategy might remove some of the potential for coercion by programs and the fear of retaliation from programs. We support the ACGME's current policy of on-site visits and resident surveys to collect as much information as possible in order to allow continuous quality improvement in resident education. Data from a direct process should be made available in a de-identified and complete format to enhance continuous quality improvement.

---

[1] ACGME Task Force on Quality Care and Professionalism. *The ACGME 2011 Duty Hours Standards: Enhancing Quality Of Care, Supervision, And Resident Professional Development*. Chicago: Accreditation Council for Graduate Medical Education; 2011.

[2] Stern, David T., Papadakis, Maxine. "The Developing Physician--Becoming a Professional" *The New England Journal of Medicine*. 2006;355:1794-1799

[3] Wald, HS. Professional Identity (Trans)Formation in Medical Education: Reflection, Relationship, Resilience. *Acad Med*. 2015;90:701–706.

[4] Berkoff K, Rusin W. Pediatric house staff's psychological response to call duty. *J Dev Behav Pediatr*. 1991;12(1):6-10.

[5] Sen S, Kranzler HR, Krystal JH, et al. A prospective cohort study investigating factors associated with depression during medical internship. *Arch Gen Psychiatry*. 2010;67(6):557-565.

[6] Samkoff JS, Jacques H. A review of studies concerning the effects of sleep deprivation and fatigue on residents' performance. *Acad Med*. 1991 Nov; 66(11): 687-93.

[7] Shanafelt, T. D., West, C., Zhao, X., Novotny, P., Kolars, J., Habermann, T., & Sloan, J. Relationship between increased personal well-being and enhanced empathy among internal medicine residents. *Journal Of General Internal Medicine*, 2005;20(7), 559-564.

[8] Rosen IM, Gimotty PA, Shea JA, Bellini LM. Evolution of Sleep Quantity, Sleep Deprivation, Mood Disturbances, Empathy, and Burnout among Interns. *Academic Medicine*, January 2006;81(1): 82-85.

[9] Pantaleoni, J. L., Augustine, E. M., Sourkes, B. M., & Bachrach, L. K. Burnout in pediatric residents over a 2-year period: a longitudinal study. *Academic Pediatrics*, 2014;14(2), 167-172.

[10] Farenkopf AM, Sectisch TC, Barger LK. Rates of medication errors among depressed and burnt out residents: A prospective cohort study. *BMJ Online First*. 8 December 2007. Doi:10.1136/bmj.39469.763218.BE

[11] Marcus CL, Loughlin GM. Effect of sleep deprivation on driving safety in housestaff. *Sleep*. 1996;19(10):763-766.

[12] Barger LK, Cade BE, Ayas NT, et al. Extended work shifts and the risk of motor vehicle crashes among interns. *N Engl J Med*. 2005;352(2):125-134.

[13] Ware JC, Risser MR, Manser T, Karlson KH. Medical resident driving simulator performance following a night on call. *Behav Sleep Med*. 2006;4(1):1-12.

[14] Parks DK, Yetman RJ, McNeese MC, et al. Day-night pattern in accidental exposures to blood-borne pathogens among medical students and residents. *Chronobiol Int*. 2000;17(1):61-70.

[15] Walker, M. P., Brakefield, T., Morgan, A., Hobson, J. A., Stickgold, R. Practice with Sleep Makes Perfect. Sleep-Dependent Motor Skill Learning. *Neuron*. 2002;35:205-211. doi:10.1016/S0896-6273(02)00746-8

[16] Goel, Namni, et al. "Neurocognitive Consequences Of Sleep Deprivation." *Seminars In Neurology*. 29.4 (2009): 320-339. MEDLINE Complete. Web. 27 Jan. 2016.

[17] Maquet P. The Role of Sleep in Learning and Memory. *Science.* 2 November 2001;294;5544: 1048-1052.

[18] Landrigan CP, Rothschild JM, Cronin JW, et al. Effect of Reducing Interns' Work Hours on Serious Medical Errors in Intensive Care Units. *New England Journal of Medicine.* October 2004;351;18: 1838-1848.

[19] Lockley SW, Cronin JW, Evans EE, et al. Effect of Reducing Interns' Weekly Work Hours on Sleep and Attentional Failures. *New England Journal of Medicine*. October 2004;351;18: 1829-1837.

[20] Ayas NT, Barger LK, Cade BE, et al. Extended work duration and the risk of self-reported percutaneous injuries in interns. *JAMA*. 2006;296(9):1055-1062.

[21] Gabbe SG, Morgan MA, Power ML, et al. Duty hours and pregnancy outcome among residents in obstetrics and gynecology. *Obstet Gynecol*. 2003;102(5 Pt 1):948-951.

[22] Klebanoff MA, Shiono PH, Rhoads GG. Outcomes of pregnancy in a national sample of resident physicians. *N Engl J Med*. 1990;323(15):1040-1045.

[23] IOM (Institute of Medicine). 2009. Resident Duty Hours: Enhancing Sleep, Supervision, and Safety. Washington, DC: The National Academies Press.

[24] Starmer AJ, O'Toole JK, Rosenbluth G, et al. Development, Implementation, and Dissemination of the I-PASS Handoff Curriculum: A Multisite Educational Intervention to Improve Patient Handoffs. *Acad Med*. June 2014;89:876–884.

[25] Wacogne I, Diwakar V. Handover and note-keeping: The SBAR approach. *Clinical Risk*. 2010:16: 173-175.

[26] Beckett CD, Kipnis G. Collabo rative Communication: Integrating SBAR to Improve Quality/Patient Safety Outcomes. *Journal for Healthcare Quality*. 2009;31;5: 19–28.

[27] Ericsson KA. Acquisition and Maintenance of Medical Expertise: A Perspective From the Expert-Performance Approach With Deliberate Practice. *Acad Med*. 2015 Nov;90(11):1471-86.

[28] National Transitions of Care Coalition (2010). Improving transitions of care: Findings and considerations of the vision of the National Transitions of Care Coalition.
http://www.ntocc.org/portals/0/pdf/resources/ntoccissuebriefs.pdf

[29] Hanyok, L. A., Walton-Moss, B., Tanner, E., Stewart, R. W., & Becker, K. Effects of a graduate-level interprofessional education program on adult nurse practitioner student and internal medicine resident physician attitudes towards interprofessional care. *Journal Of Interprofessional Care*. 2013;27(6), 526-528.

[30] Pollack, C. E., Lemke, K. W., Roberts, E., & Weiner, J. P. Patient sharing and quality of care: measuring outcomes of care coordination using claims data. *Medical Care*. 2015;53(4), 317-323.

[31] Deneckere, S., Euwema, M., Lodewijckx, C., Panella, M., Mutsvari, T., Sermeus, W., & Vanhaecht, K. (2013). Better interprofessional teamwork, higher level of organized care, and lower risk of burnout in acute health care teams using care pathways: a cluster randomized controlled trial. *Medical Care* 51(1): 99-107 9.

[32] IOM (Institute of Medicine). 2015. Measuring the impact of interprofessional education on collaborative practice and patient outcomes. Washington, DC: The National Academies Press.

[33] Palakshappa D, Carter LP, El Saleeby CM. Discrepancies in After-Hours Communication Attitudes between Pediatric Residents and Supervising Physicians. *J Pediatr*. 2015 Dec;167(6):1429-1435.

[34] Farnan JM, Petty LA, Georgitis E, Martin S, Chiu E, Prochaska M, Arora VM. A systematic review: the effect of clinical supervision on patient and residency education outcomes. *Acad Med*. 2012 Apr;87(4):428-42.

[35] Haber LA, Lau CY, Sharpe BA, Arora VM, Farnan JM, Ranji SR. Effects of increased overnight supervision on resident education, decision-making, and autonomy. *J Hosp Med*. 2012 Oct;7(8):606-10.

[36] Rosenbluth G, Tabas JA, Baron RB. What's in It for Me? Maintenance of Certification as an Incentive for Faculty Supervision of Resident Quality Improvement Projects. *Acad Med*. 2016 Jan;91(1):56-9.

[37] Sandhu G, Teman NR, Minter RM. Training autonomous surgeons: more time or faculty development? *Ann Surg*. 2015 May;261(5):843-5.

[38] Schumacher DJ, Slovin SR, Riebschleger MP, Englander R, Hicks PJ, Carraccio C. Perspective: beyond counting hours: the importance of supervision, professionalism, transitions of care, and workload in residency training. *Acad Med*. 2012 Jul;87(7):883-8.

[39] Hauff SR, Hopson LR, Losman E, Perry MA, Lypson ML, Fischer J, Santen SA. Programmatic assessment of level 1 milestones in incoming interns. *Acad Emerg Med*. 2014 Jun;21(6):694-8.

[40] Auger KA, Landrigan CP, Gonzalez del Rey JA, Sieplinga KR, Sucharew HJ, Simmons JM. Better rested, but more stressed? Evidence of the effects of resident work hour restrictions. *Acad Pediatr*. 2012 Jul-Aug;12(4):335-43

[41] Haferbecker D, Fakeye O, Medina SP, Fieldston ES. Perceptions of educational experience and inpatient workload among pediatric residents. *Hosp Pediatr*. 2013 Jul;3(3):276-84.

[42] Salsberg E. The Nurse Practitioner, Physician Assistant, And Pharmacist Pipelines: Continued Growth. *Health Affairs Blog*. May 26, 2015. http://healthaffairs.org/blog/2015/05/26/the-nurse-practitioner-physician-assistant-and-pharmacist-pipelines-continued-growth/#figureone. Accessed January 27, 2016.

[43] Fletcher KE, Visotcky AM, Slagle JM, Tarima S, Weinger MB, Schapira MM. The composition of intern work while on call. *J Gen Intern Med*. 2012 Nov;27(11):1432-7.

[44] Scally CP, Reames BN, Teman NR, Fritze DM, Minter RM, Gauger PG. Preserving Operative Volume in the Setting of the2 011 ACGME Duty Hour Regulations. *J Surg*. 2014; 71:580-586.

[45] Vuvicevic D, Mookadam F, Webb BJ, Labonte HR, Cha SS, Blair JE. The impact of 2011 ACGME duty hour restrictions on internal medicine resident workload and education. *Adv Health Sci Educ Theory Pract*. 2015 Mar;20(1):193-203. doi: 10.1007/s10459-014-9525-5. Epub 2014 Jun 11.

[46] Block L, Habicht R, Wu AW, et al. In the Wake of the 2003 and 2011 Duty Hours Regulations, How Do Internal Medicine Interns Spend Their Time? *J Gen Intern Med.* 2013;28(8):1042–7.

[47] Lin H, Lin E, Auditore S, Fannin J. A Narrative Review of High-Quality Literature on the Effects of Resident Duty Hours Reforms. *Acad Med*. 2016;91:140–150.

[48] Cheung JY, Mueller D, Blum M, et al. An observational pre–post study of re-structuring Medicine Inpatient teaching service: Improved continuity of care within constraint of 2011 duty hours. *Healthcare*. 2015;2:129–134.

[49] Bhatti NI, Ahmed A, Choi SS. Identifying quality indicators of surgical training: A national survey. *Laryngoscope*. 2015;125(12):2685-9. doi: 10.1002/lary.25262. Epub 2015 Apr 15.

[50] Fargen KM, Rosen CL. Are Duty Hour Regulations Promoting a Culture of Dishonesty Among Resident Physicians? *Journal of Graduate Medical Education*. 2013;5(4):553-555.