January 2012

Medication Administration In Child Care: A Comparison Of State Child Care Center Regulations With National Health And Safety Standards

Sarah Viall
Yale University, sarahfviall@gmail.com

MEDICATION ADMINISTRATION IN CHILD CARE: A COMPARISON OF STATE CHILD CARE CENTER REGULATIONS WITH NATIONAL HEALTH AND SAFETY STANDARDS

Thesis
Submitted to the Faculty
Yale University School of Nursing

In Partial Fulfillment
of the Requirements for the Degree
Master of Science in Nursing

Sarah Viall

May 21, 2012

This thesis is accepted in partial fulfillment of the requirements for the degree Master of Science in Nursing.

Angela A. Crowley, PhD, APRN, PNP-BC, FAAN

Date here 5/8/12

Permission for printing, photocopying or microfilming of "Medication Administration in Child Care: A Comparison of State Child Care Center Regulations with National Health and Safety Standards" for the purpose of individual scholarly consultation or reference is hereby granted by the author. This permission is not to be interpreted as affecting publication of this work or otherwise placing it in the public domain, and the author reserves all rights of ownership guaranteed under common law of unpublished manuscripts.

_____Sarah Viall_____

Abstract

MEDICATION ADMINISTRATION IN CHILD CARE: A COMPARISON OF STATE CHILD CARE CENTER REGULATIONS WITH NATIONAL HEALTH AND SAFETY STANDARDS

The purpose of this thesis was to review the 50 state and D.C. child care center regulations (N=51) and compare with medication administration standards in *Caring for Our Children (CFOC)– National Health and Safety Performance Standards: Guidelines for Out-of-Home Child Care Programs*, 3rd edition (CFOC). A data collection instrument, which included the seven standards directly related to medication administration in early care and education programs (ECE), was developed and reviewed by a team of national experts to measure compliance of state regulations with the standards. None of the states' regulations (N=51) met the criteria for all seven standards. Most of the states (98%) met some criteria for standards on medication administration (98%), labeling, storage, disposal (98%), contents of medication record (98%), and maintenance of records (84%). However, only a few states' regulations included some of the criteria for training of caregivers (27%), a medication policy (22%), and records of injury (12%). Most state child care regulations do not meet CFOC standards to ensure safe medication administration to children in ECE programs.

TABLE OF CONTENTS

LIST OF TABLES

TABLE

Chapter 1

Description of the Problem

Currently in the United States approximately 61% of children younger than six years have a care arrangement that includes supervision by someone other than their parent (Federal Interagency Forum on Child and Family Statistics, 2009), and the predominant use of out of home child care has remained around this proportion for over the past decade (U.S. Department of Education, National Center for Education Statistics, 2005). These numbers indicate that an increasingly large population of children is spending time in out of home care. In addition to healthy children, children with special health care needs, who account for approximately 9% of children less than six years in child care settings, are enrolled in child care programs. Of this special needs population, approximately 86% will require medications (U.S. Department of Health and Human Services, Health Resources and Services Administration, 2008). Thus, with these child care trends has followed an increased need for medication administration by staff in child care settings.

While the literature on medication administration and error is extensive in the inpatient setting (Kaushal, Jaggi, Walsh, Fortescue, & Bates, 2004), there is very little regarding ambulatory settings and even less concerned with the administration of medication by child care providers (Sinkovits, Kelly, & Ernst, 2003). A study in 2003, which investigators reported was the first to examine child care center medication administration, estimated that on average, 5.5% of children were receiving medications in child care during a two week period. However, in the centers they surveyed half of the staff had received no training on medication administration, including side effect monitoring (Sinkovits et al., 2003).

This presents a serious issue in terms of opportunity for medication administration errors. Children are particularly vulnerable to these errors due to fundamental factors of the pediatric population including weight-based dosing and the risk of ten-fold error, decreased communication abilities, an inability to self-administer, and the high vulnerability of the young, particularly those with immature renal and hepatic systems (Kaushal et. al, 2004). Furthermore, without adequate supervision and safety regulations, medications can present a very significant risk to any population. The National Coordinating Council for Medication Error Reporting and Prevention (NCCMERP) identified this problem specifically in child care centers pointing out the biggest issue; oversight and requirements for child care centers vary widely from state to state. They also found that medication administration errors were a significant problem in child care settings in the absence of licensed health professionals and with inadequately trained personnel. Not only were medication administration errors occurring but they were often going undetected and unreported (NCCMERP, 2003). The American Academy of Pediatrics (AAP) also addressed this problem in a summit on patient safety stating that "childcare settings for infants and toddlers rarely have any support for health matters and little monitoring by the state agencies… research is needed to design, promote, and implement standardized protocols for medication delivery in schools, preschools, child care centers, and family-based child day care homes" (AAP, 2006, p. 16).

Thus, the issue of vast variability among states in regulation and a critical lack of oversight of child care centers have become increasingly more apparent. A relevant document, titled *Caring for Our Children – National Health and Safety Performance Standards: Guidelines for Out-of-Home Child Care Programs, 3rd edition* (CFOC, 2011) was created to address national health and safety recommendations in the child care setting. It was created through a

collaboration of the AAP, American Public Health Association (APHA) and National Resource Center for Health and Safety in Child Care and Early Education (NRC). This document provides standards regarding many aspects of child care, including injury and disease prevention and health promotion, and sets forth very specific recommendations on training of personnel and administration of medications (AAP, American Public Health Association, National Resource Center for Health and Safety in Child Care and Early Education, 2011).

While these standards are evidenced-based and intended to protect children they are not required by law (AAP et al., 2011). Each of the 50 states and the District of Columbia maintain their own legal child care regulations which are specific to each state and many do not include some or all of the recommendations of CFOC (National Association of Child Care Resource and Referral Agencies, 2011). The NRC has organized these into a database of current child care regulations for all 50 states and the District of Columbia which provides the opportunity to compare state by state the current laws. The purpose of this cross-sectional study was to review and synthesize the individual state regulations for child care centers and the extent to which state regulations reflect CFOC, 3rd edition standards for safe medication administration in child care programs. This is of key importance to nursing and all of health care because if regulations do not reflect evidence-based standards then children may be at greater risk from medication errors.

Conceptual Framework

Bronfenbrenner's ecological model, adapted for child care health consultation was the conceptual framework for this study (Crowley, 2001). The original model was first introduced by Bronfenbrenner to describe human development as influenced by varying ecological systems which were arranged in a manner similar to Russian nested dolls. The innermost system, most

immediate to the individual, is the microsystem which consists of people and structures encountered all the time. Next is the mesosystem which is made up of the interconnected microsystems that comprise the individual's environment. Beyond that is the exosystem which describes the settings which are not a component of the individual's immediate environment but which influence development indirectly. Finally, the macrosystem refers to the outermost influences on development such as the political and social norms of a society and culture (Bronfenbrenner, 1979).

Bronfenbrenner suggested that decisions at the exosystem level influence child development (Bronfenbrenner, 1979). According to the model adapted for child care health consultation, the laws and regulations, or lack thereof, regarding child care program policies would contribute to children's health and development. This is an indirect, however, extremely significant influence on children and their families (Crowley, 2001).

Review of Literature

The risk of medication errors in children is a phenomenon which, while recognized as important, has not been well studied. A 2004 literature review by Kaushal et al. asserted that, in general, medication errors are the most frequent type of medical errors that occur. Furthermore, in children both the risk for errors and the risk for adverse effects resulting from these errors are greatest due to inherent characteristics of the pediatric population, such as small size and weight.

Sinkovits et al. (2003) examined medication administration specifically in day care centers in the Iowa pharmacist community. Using self-report surveys the researchers found that 5.5% of children at 82 centers were receiving medications. However, only 50% of the staff had received special training to administer medications. Furthermore, the two most common errors

were missed dose, which 55.6% of centers reported occurring, and medication unavailable for administration, which 50.6% of centers reported. In terms of safety, only 61% of the centers stored medications in a locked container and 53.7% reported seldom having any contact with a pharmacist. Although the target audience was local pharmacists, this study is important because it defines itself as the first to address the issue of medication safety in child care settings and also recommends the expansion and further study of the topic. Furthermore, it is worth noting that the results of this study were based solely on self-report making it possible that the true frequencies of these types of errors may be higher than voluntarily recounted (Sinkovits et al., 2003).

In recent years there have been no major studies which have heeded expert recommendations for examining the subject further. The AAP addressed the issue as it relates to child care settings specifically in 2006 in a summit report on patient safety. Based on several medication safety studies AAP stated that research on medication errors in child care settings should be a priority (AAP, 2006). While several local or state-wide studies have examined current regulations, a thorough review of the nursing and related literature did not yield any comprehensive or systematic study of state child care regulations across the U. S.

Furthermore, the risks and problems specific to medication administration and compliance with recommendations for administration in child care settings have not been evaluated systematically across states. This leads to a major lack of knowledge on the current state of regulations on medication administration in child care centers nationally. Regionally, a paper similar to the 2003 study of Iowa centers (Sinkovits et al., 2003) reviewed Connecticut's medication safety in child care programs and focused on evaluating the safety of early care and education programs based on hundreds of unannounced child care inspections across the state. The inspections discovered medications without orders or unlabeled, Epipens without personnel

trained to use them, controlled drugs left out and non-certified providers giving medications such as asthma inhalers. Based on these findings, and along with consideration of CFOCs recommendations, the authors made suggestions for the Connecticut Department of Public Health regarding medication administration and advocated for a best practice medication administration training program for all childcare providers (Crowley & Rosenthal, 2009).

Some professionals have tried to emphasize the importance of medication administration as a serious medical act even in child care centers where the complexity of children and the riskiness of medications can be underestimated. A paper published in 2005 in Connecticut described a suit regarding the concept of delegation versus professional activity in the training of child care providers in medication administration by registered nurses (RNs). Prior to the case, an RN could be held accountable for any errors committed by a non-medical provider trained by them, even if the nurse was not present when the error occurred. The Connecticut State Board for Examiners for Nursing (CSBEN) ultimately ruled that this training by RNs was a professional activity and not an act of delegation. However, the significance of this ruling was indicated by the authors as underscoring the importance of safe medication administration in child care programs. Furthermore, the authors suggested the need for medication administration training curriculum, measuring competency, and revalidation of that competency regularly for unlicensed providers giving medications to children. While these recommendations are not mandated by law in the state, this was one of the first published articles which called for more stringent guidelines (Heschel, Crowley, & Cohen, 2005).

Research Question

The question addressed in this thesis is how do state child care center regulations regarding medication administration compare with national health and safety recommendations?

Operational Definitions

For the purposes of this thesis the following are defined

- Child care centers (CCCs): A non home-based licensed facility where care is provided to non-related children. This definition generally applies to all states although there is variation among states with regard to enrollment size.
- National recommendations: Medication administration standards and related standards set forth by CFOC (2011).
- State child care center regulations: the current regulations in each state enforcing minimum health and safety in licensed child care centers.

Chapter 2

Data Collection Instrument

On July 3, 2011 using a word search of "medication" and "medicine" the CFOC, 3rd edition database was examined. Forty standards were identified which mentioned or referred to medication or medicine and a list compiled.

In September 2011 along with my praxis advisor, Dr. Angela Crowley, this list of standards was reviewed. Redundancies and ancillary standards were identified and eliminated. This included all standards that did not specifically refer to the processes and policies regarding medication administration in child care programs. The new list consisted of seven remaining, relevant standards. A data collection instrument was then created (see Appendix A) which

itemized specific criteria for each standard and included a “met” or “unmet” specification. A “Comments” section was also included for each standard; thus allowing the investigator to keep careful notes of each standard during the review process. This method was based on the one used by Dr. Sara Benjamin and other investigators to systematically examine menus in child care across states compared with CFOC standards in 2009. This method was originally inspired by Moon & Biliter’s (2000) review of child care center regulations in conjunction with survey distribution to assess center compliance with the Back to Sleep campaign.

Expert counsel was then sought and the instrument was reviewed by Dr. Linda Satkowiak, a member of the National Resource Center (NRC) staff, and Barbara Hamilton, a former member of the NRC staff and an Early Care and Education Specialist for the US Department of Health and Human Services, Maternal Child Health Bureau. They gave feedback on the accuracy of the data collection instrument in capturing the standards of interest and recommended some language edits. In addition, they suggested three standards, which had relevant components to our purpose and approved the final instrument. Along with my praxis advisor these three standards were evaluated and it was concluded that some but not all parts of the standards were pertinent to medication administration. Thus, it was decided that these standards should be partially incorporated into our data collection instrument. Thus, from the original 40 standards the final instrument consisted of seven complete standards: Standard 3.6.3.1. Medication Administration, Standard 3.6.3.2. Labeling, Storage, Disposal of Medications, Standard 3.6.3.3. Training of Caregivers/Teachers to Administer Medication, Standard 9.4.1.2. Maintenance of Records, Standard 9.4.1.9. Records of Injury, Standard 9.4.2.6. Contents of Medication Records, and Standard 9.2.3.9. Written Policy on Use of Medications as well as three partial standards: Standard 3.4.5.1. Sun Safety Including Sunscreen, Standard

3.4.5.2. Insect Repellant and Protection from Vector-Borne Diseases, and Standard 3.5.0.1. Care Plan for Children with Special Health Care Needs.

Sample

For this cross-sectional study data on state regulations for child care facilities were collected from the National Resource Center (NRC) website which is available to the public at http://nrc.uchsc.edu. This source features a database which includes current licensing regulations documents for all 50 states and the District of Columbia relating to child care facilities. For the purposes of this thesis only regulations for child care centers were reviewed.

Data Collection Procedure

The review of child care center regulations using the data collection instrument was conducted from December 2011-January 2012. If only one regulation document for a state was listed it was used. If multiple documents existed a word search of "definitions" was conducted for the specific facility type described by the document's title and selection was made for entities which most closely matched the definition of CCC described in the Operational Definitions section.

For each set of regulations a word search of the following relevant terms was conducted: medication, medicine, policy, procedure, sun, repellant, care plan, plan of care, and error. All regulations, which included these words were read in their entirety and compared to the regulations included on the data collection instrument. Regulations were considered consistent with standard components, that is "met" CFOC (2011) standard, only when the regulations clearly and indisputably matched the core concept of the selected standard.

If language within the standard or the regulation was not clear in terms of relevance or interpretation, my praxis advisor was consulted. If a discussion of the intent of the language resulted in continued uncertainty the NRC staff was consulted. Questions were not directed to specific state agencies in order to preserve impartial results across all states.

Chapter 3

Results

Regulations for all 50 states and D.C. were reviewed using the itemized instrument, and hereafter the term states should be considered to include D.C. Since each standard has multiple components, a proportion was calculated to reflect how many of the required elements within each standard were fulfilled compared to the total number of elements. For each of the six standards regarding general medication administration, labeling and storage, training of caregivers, maintenance of records, records of injury, and contents of medication record one proportion was calculated (Table 1). For the standard regarding medication administration policy nine sub-categories were included and proportions determined for each standard (Table 2). One percentage was calculated for each of the three partial standards regarding sunscreen, insect repellant, and children with special health care needs as well (Table 3).

Standard 3.6.3.1.Medication Administration

This standard was determined to include six total components and provides an overview of the elements which medication administration in child care should be addressing, including proper ordering, permission, labeling, and documentation. Because of the broad nature of the

standard's elements, it is a convenient way to informally capture each state's general compliance with the CFOC (2011) recommendations.

A particularly unclear item within this standard relates to prescription requirements. The standard states that prescription medication be "ordered by a prescribing health professional for a specific child". However, this was rarely explicitly stated, thus, fulfillment was determined by regulations which included the requirement that medication be stored in the original container. The reasoning is that a pharmacy label for a prescription drug would identify the specific child and prescriber of that medication.

Similarly, specification of the original container was considered to meet the standard regarding proper prescription labeling because name, date, prescriber, pharmacy, phone number, dosage/instructions, and warnings were assumed to be inherently included on an original pharmacy container label. In contrast, the labeling criterion was considered unfulfilled if for Over-the-Counter (OTC) or non-prescription medications it was not explicitly stated that each medication must be labeled with the child's name and specific instructions, not manufacturer instructions alone. Also of note, only West Virginia satisfied the element of this standard which specified that standing medication orders only be allowed with a special care plan for a documented medical need.

All states except Idaho partially fulfilled some criteria with proportions ranging from 17-83%; however, no state fulfilled the standard in its entirety.

Standard 3.6.3.2. Labeling, Storage, Disposal of Medications

This standard includes eight elements relating to labeling, proper storage, and disposal recommendations. The labeling elements overlap with Standard 3.6.3.1., however, in this

standard prescription medication labeling and non-prescription medication labeling are divided into two separate criteria.

In the same way as the previous standard, to fulfill the labeling criteria for a prescription medication a specification of original container storage was considered satisfactory. However, for non-prescription medications an explicit description of labeling with "name and instructions" for the child was required, as opposed to manufacturer instructions only. To meet the criterion regarding storing medications at the proper temperature regulations referring to refrigeration stipulations were considered satisfactory.

A specific element of note within this standard is the recommendation that unused medication be either returned or disposed of according to the U.S. Food and Drug Administration (FDA) recommendations. For both Maryland and Massachusetts disposal according to different federal agencies was specified. In Maryland disposal was required per the Office of National Drug Control Policy or the U.S. Environmental Protection Agency and in Massachusetts per the Department of Public Health, Drug Control Program. After verifying this discrepancy through personal communication with NRC staff, these were both determined to satisfy the particular criteria. As for other states, this standard was not considered met by general requirements of "proper disposal" or "disposal per agency/facility standards" which were determined to be too imprecise, nor by regulations that specified flushing unused medications down the toilet because this is not the FDA recommendation.

All states partially fulfilled this standard with a range of 13-88% meeting the recommendations with the exception of the District of Columbia. Once again, no state fulfilled this standard in its entirety.

Standard 3.6.3.3. Training of Caregivers/Teachers to Administer Medication

This standard describes the various recommendations regarding staff training to administer medications in child care centers. These include the type of training, and the specification that training should include a competency assessment, licensed health professional trainer, and be followed periodically with skill competency assessment checks.

Due to wide variation in the regulations regarding the topic of training, a separate table was created to capture the general requirement of training (Appendix B). CFOC (2011) recommendations specify a "standardized program" of training for those staff who administer medications. According to NRC staff and based on the best available evidence, standardized training is defined as the following; "Training should include demonstration of proper techniques and return demonstration by the participants-the instructor should show the trainees the technique, and the trainee should demonstrate the technique for the instructor. In addition, a written posttest of the information included in the course helps to ensure that the staff understands the rationale for the procedures that have been taught, demonstrated and return demonstrated. This component of the training helps the recipients retain their competence. Also, the written posttest is an opportunity to test literacy skills that are essential for interpreting medication orders, drug labels, and drug information" (L. Satkowiak, personal communication, November 18, 2011). No state specified this type of standardized program in their regulations.

Five (Colorado, Maryland, New York, Virginia, and Wyoming) of the 51 states (10%) did specify a "department-approved" training. Eight states (16%) specified a general training requirement (Connecticut, Deleware, Louisiana, Massachusettts, New Hampshire, New Jersey, Utah, and West Virginia). However, the remaining 38 states (74%) did not specify any training requirements whatsoever for staff to administer medications.

Overall, only six states (Colorado, Connecticut, Massachusetts, New Hampshire, New York, and Virginia) partially fulfilled any of the criteria within this standard. No state fulfilled this standard in its entirety and no state met the criterion of skill competency monitoring following a medication administration error.

Standard 9.4.1.2. Maintenance of Records

This standard has only two components which relate to maintaining a medication administration log and specifying in the regulations how long it should be kept. While eight states (16%) did not fulfill any part of this standard (Arkansas, Alaska, D.C., Hawaii, Idaho, New Hampshire, South Dakota, and Vermont), 10 states (20%) were considered to satisfy it in its entirety (Arizona, Connecticut, Florida, Indiana, Mississippi, North Carolina, Ohio, Oregon, Texas, and Utah).

Standard 9.4.1.9. Records of Injury

The three components of this standard relate to records of injury and procedures following a medication error event. CFOC (2011) recommends that a report should be generated, copies of that report should be maintained and distributed, and facilities should plan to take corrective action based on the contents of those reports. While no state's regulations explicitly convey that a medication error report should directly lead to corrective action, the issue was indirectly addressed in certain states, such as, Connecticut where the regulations state that "if the department determines that the health, safety or welfare of a child in the child day care center … imperatively requires emergency action to halt the administration of medications… the department may issue a cease and desist order requiring the immediate cessation of the

administration of medications". While this was not considered unequivocal enough to meet the related criteria of the instrument, it is notable because of its likeness to the investigators' interpretation of the standard's purpose.

Overall, only six states (12%) (Connecticut, Massachusetts, New York, North Dakota, South Carolina, and West Virginia) partially fulfill this standard by satisfying the criterion of requiring a written report following a medication error. No states were considered to fulfill the criteria that the reports should be distributed properly or used to determine corrective action.

Standard 9.4.2.6.Contents of Medication Records

This standard includes a variety of elements, several of which overlap with previous standards. The 12 criteria cover medication administration log content, labeling, parent/guardian permission for prescription and non-prescription medication, prescriber authorization for prescription and non-prescription medication, and side effect lists.

Of particular note is the element within this standard specifying an authorization from a prescribing health professional for all prescription medications. In contrast to the recommendation in Standard 3.6.3.1. which states "prescription medications are ordered by a prescribing health professional for a specific child", this standard stipulates a separate, written authorization by the prescriber, which provides details regarding medication administration. Thus, regulations which simply indicated storage in an original container were not considered satisfactory for fulfillment. On a related note, several states had regulations regarding a written medical assessment from the health care provider prior to a child's enrollment which were to include a medication list. However, this was not considered to fulfill this criterion because the

medical assessment was not described as specifically providing authorization to administer medications.

With the exception of Idaho, all states met some of the criteria for this standard with a range of 8-83%.

Standard 9.2.3.9. Written Policy on Use of Medications

This standard regarding written policy on the use of medications has multiple components and was divided into nine sub-categories (Table 2). A separate, state-specific table was also created in order to clarify each state's compliance with policy requirements (Appendix C).

Overall, 20 of the 51 states (39%) make no mention of policy in their requirements. Of the 31 states (61%) that do mention some type of medication administration policy, 20 (39%) were considered too vague to fulfill any of the criteria of the standard. For example, in Alabama the only reference made to policy was the statement "Authority and procedure for administering medication or medical procedures shall be clearly defined" which was not explicit enough to satisfy any of the instrument's criteria.

Eleven states (22%) (Alaska, Arizona, California, Connecticut, Georgia, Iowa, Maine, New Jersey, New York, Ohio, and West Virginia) had specific regulations, which fulfilled at least some of the elements of the standard. However, no state satisfied all the requirements of this standard, and only Connecticut partially met each one of the sub-categories of this standard.

Standard 3.4.5.1. Sun Safety Including Sunscreen

This partial standard has only one element, whether parent/guardian written permission is required for sunscreen application. As Table 3 demonstrates, 23 states (45%) fulfilled this standard.

Standard 3.4.5.2. Insect Repellant and Protection from Vector-Borne Diseases

This partial standard includes two elements, both parent/guardian written permission to apply insect repellant and consultation with a health care professional or department about the appropriateness of repellant use. Table 3 demonstrates that 20 states (39%) fulfilled the former of these criteria, and no states satisfied the latter.

Standard 3.5.0.1. Care Plan for Children with Special Health Care Needs

This standard has two elements relating to medication for children with special health care needs. A Care Plan, including medications, is recommended as well as inclusion on this plan of emergency medications incorporating clearly understandable parameters for administration. North Carolina specified the Care Plan for emergency medications only. Minnesota also specified a child care program plan for children with special health care needs; however, medication was never explicitly specified so the standard was considered unfulfilled. As Table 3 demonstrates, six states (12%) (Arizona, Colorado, Delaware, Montana, North Dakota, and Ohio) fulfilled this standard in its entirety.

Overview

As demonstrated by the previous discussion, four of the seven standards, Standard 3.6.3.1., Standard 3.6.3.2., Standard 9.4.1.2., and Standard 9.4.2.6., and two of the partial standards, Standard 3.4.5.1., and Standard 3.4.5.2. were mentioned to some degree in the regulations of most states. However, it is important to note that training of caregivers to administer medications and records of injury were seldom addressed in most state regulations. Furthermore, policy and care plans for children with special health care needs were not thoroughly addressed by most states. Overall, no state regulations addressed every standard, even partially. At best, several states, specifically Connecticut, Massachusetts and New York, reflected CFOC (2011) recommendations exceptionally well by including almost all the standards to some degree.

Table 1. Frequency of State Compliance with CFOC (2011) Medication Administration Standards

	Date Reviewed	Medication Administration Standard 3.6.3.1.	Labeling, Storage, Disposal of Meds Standard 3.6.3.2.	Training of Caregivers to Administer Standard 3.6.3.3.	Maintenance of Records Standard 9.4.1.2.	Records of Injury Standard 9.4.1.9.	Contents of Medication Record Standard 9.4.2.6.
AL	12/28/11	67%	38%	0%	50%	0%	42%
AK	12/28/11	67%	63%	0%	0%	0%	17%
AZ	12/28/11	50%	38%	0%	100%	0%	42%
AR	12/28/11	17%	25%	0%	0%	0%	17%
CA	1/18/12	50%	25%	0%	50%	0%	25%
CO	12/29/11	67%	63%	40%	50%	0%	67%
CT	12/26/11	83%	88%	40%	100%	33%	83%
DC	12/29/11	50%	0%	0%	0%	0%	17%
DE	12/29/11	67%	63%	0%	50%	0%	50%
FL	12/29/11	50%	38%	0%	100%	0%	42%
GA	12/29/11	67%	38%	0%	50%	0%	42%
HI	1/18/12	17%	13%	0%	0%	0%	8%
ID	1/18/12	0%	25%	0%	0%	0%	0%
IL	1/4/12	67%	75%	0%	50%	0%	42%
IN	1/18/12	50%	25%	0%	100%	0%	33%
IA	1/4/12	33%	25%	0%	50%	0%	25%
KS	1/18/12	33%	13%	0%	50%	0%	25%
KY	1/19/12	33%	38%	0%	50%	0%	17%
LA	1/4/12	50%	38%	0%	50%	0%	67%
ME	1/4/12	50%	25%	0%	50%	0%	42%
MD	1/4/12	50%	38%	0%	50%	0%	17%
MA	1/5/12	50%	63%	20%	50%	33%	58%
MI	1/5/12	50%	25%	0%	50%	0%	33%
MN	1/5/12	50%	25%	0%	50%	0%	33%
MS	1/5/12	33%	13%	0%	100%	0%	33%
MO	1/19/12	67%	63%	0%	50%	0%	42%
MT	1/5/12	50%	63%	0%	50%	0%	42%
NE	1/10/12	33%	38%	0%	50%	0%	33%
NV	1/20/12	33%	38%	0%	50%	0%	17%
NH	1/10/12	33%	50%	20%	0%	0%	25%
NJ	1/10/12	50%	38%	0%	50%	0%	67%
NM	1/10/12	67%	50%	0%	50%	0%	58%
NY	1/10/12	67%	50%	40%	50%	33%	67%
NC	1/11/12	67%	38%	0%	100%	0%	58%
ND	1/13/12	50%	25%	0%	50%	33%	33%
OH	1/13/12	50%	50%	0%	100%	0%	42%
OK	1/13/12	50%	38%	0%	50%	0%	25%
OR	1/14/12	67%	50%	0%	100%	0%	50%
PA	1/14/12	50%	38%	0%	50%	0%	33%
RI	1/14/12	50%	25%	0%	50%	0%	42%
SC	1/14/12	50%	50%	0%	50%	33%	17%
SD	1/16/12	33%	38%	0%	0%	0%	17%
TN	1/16/12	50%	50%	0%	50%	0%	33%
TX	1/17/12	50%	50%	0%	100%	0%	33%
UT	1/17/12	50%	50%	0%	100%	0%	42%
VT	1/17/12	33%	25%	0%	0%	0%	8%
VA	1/17/12	83%	63%	20%	50%	0%	42%
WA	1/17/12	83%	75%	0%	50%	0%	75%
WV	1/19/12	83%	75%	0%	50%	33%	58%
WI	1/17/12	67%	50%	0%	50%	0%	50%
WY	1/18/12	50%	25%	0%	50%	0%	42%

(CFOC, 2011)

Table 2. Frequency of State Compliance with CFOC (2011) Medication Administration Policy Standards

	Date Reviewed	Permission Standard 9.2.3.9.a	Rx/Order Standard 9.2.3.9.b	Administration Standard 9.2.3.9.c	Refusing Administration Standard 9.2.3.9.d	Safety and Documentation of Administration Standard 9.2.3.9.e	Accepting Medications Standard 9.2.3.9.f	Handling and Storage Standard 9.2.3.9.g	Returning Standard 9.2.3.9.h	MAR Standard 9.2.3.9.i
AL	12/28/11	0%	0%	0%	0%	0%	0%	0%	0%	0%
AK	12/28/11	100%	0%	0%	0%	0%	0%	0%	25%	0%
AZ	12/28/11	50%	0%	33%	17%	17%	25%	29%	50%	57%
AR	12/28/11	0%	0%	0%	0%	0%	0%	0%	0%	0%
CA	1/18/12	0%	0%	0%	0%	0%	0%	0%	0%	14%
CO	12/29/11	0%	0%	0%	0%	0%	0%	0%	0%	0%
CT	12/26/11	100%	100%	50%	17%	50%	50%	29%	50%	86%
DC	12/29/11	0%	0%	0%	0%	0%	0%	0%	0%	0%
DE	12/29/11	0%	0%	0%	0%	0%	0%	0%	0%	0%
FL	12/29/11	0%	0%	0%	0%	0%	0%	0%	0%	0%
GA	12/29/11	0%	0%	17%	0%	17%	25%	29%	0%	43%
HI	1/18/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
ID	1/18/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
IL	1/4/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
IN	1/18/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
IA	1/4/12	0%	0%	0%	0%	0%	13%	14%	0%	14%
KS	1/18/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
KY	1/19/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
LA	1/4/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
ME	1/4/12	100%	0%	17%	17%	0%	13%	0%	0%	29%
MD	1/4/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
MA	1/5/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
MI	1/5/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
MN	1/5/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
MS	1/5/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
MO	1/19/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
MT	1/5/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE	1/10/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
NV	1/20/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
NH	1/10/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
NJ	1/10/12	100%	0%	50%	17%	17%	25%	43%	25%	57%
NM	1/10/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
NY	1/10/12	0%	0%	0%	0%	17%	0%	0%	0%	0%
NC	1/11/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
ND	1/13/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
OH	1/12/12	0%	0%	17%	0%	0%	0%	0%	0%	0%
OK	1/13/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
OR	1/14/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
PA	1/14/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
RI	1/14/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
SC	1/14/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
SD	1/16/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
TN	1/16/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
TX	1/17/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
UT	1/17/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
VT	1/17/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
VA	1/17/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
WA	1/17/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
WV	1/19/12	100%	0%	33%	33%	33%	25%	43%	25%	57%
WI	1/17/12	0%	0%	0%	0%	0%	0%	0%	0%	0%
WY	1/18/12	0%	0%	0%	0%	0%	0%	0%	0%	0%

(CFOC, 2011)

Table 3. Frequency of State Compliance with CFOC (2011) Medication Administration-Related Standards

	Date Reviewed	Sun Safety Including Sunscreen Standard 3.4.5.1.	Insect Repellant Standard 3.4.5.2.	Care Plan for Children with SHCN Standard 3.5.0.1.
AL	12/28/11	0%	0%	0%
AK	12/28/11	0%	0%	0%
AZ	12/28/11	0%	0%	100%
AR	12/28/11	100%	0%	0%
CA	1/18/12	0%	0%	0%
CO	12/29/11	100%	50%	100%
CT	12/26/11	100%	50%	0%
DC	12/29/11	0%	0%	0%
DE	12/29/11	0%	0%	100%
FL	12/29/11	0%	0%	0%
GA	12/29/11	0%	0%	0%
HI	1/18/12	0%	0%	0%
ID	1/18/12	0%	0%	0%
IL	1/4/12	100%	50%	0%
IN	1/18/12	100%	50%	0%
IA	1/4/12	0%	0%	0%
KS	1/18/12	0%	0%	0%
KY	1/19/12	0%	0%	0%
LA	1/4/12	100%	50%	0%
ME	1/4/12	0%	0%	0%
MD	1/4/12	0%	0%	0%
MA	1/5/12	100%	50%	0%
MI	1/5/12	100%	50%	0%
MN	1/5/12	100%	50%	0%
MS	1/5/12	0%	0%	0%
MO	1/19/12	0%	0%	0%
MT	1/5/12	100%	0%	100%
NE	1/10/12	0%	0%	0%
NV	1/20/12	0%	0%	0%
NH	1/10/12	100%	50%	0%
NJ	1/10/12	100%	50%	0%
NM	1/10/12	100%	50%	0%
NY	1/10/12	100%	50%	0%
NC	1/11/12	100%	50%	50%
ND	1/13/12	0%	50%	100%
OH	1/13/12	100%	50%	100%
OK	1/13/12	0%	0%	0%
OR	1/14/12	100%	50%	0%
PA	1/14/12	0%	0%	0%
RI	1/14/12	0%	0%	0%
SC	1/14/12	0%	0%	0%
SD	1/16/12	0%	0%	0%
TN	1/16/12	0%	0%	0%
TX	1/17/12	0%	0%	0%
UT	1/17/12	0%	0%	0%
VT	1/17/12	100%	50%	0%
VA	1/17/12	100%	50%	0%
WA	1/17/12	100%	0%	0%
WV	1/19/12	100%	0%	0%
WI	1/17/12	100%	50%	0%
WY	1/18/12	100%	50%	0%

(CFOC, 2011)

Chapter 4

Discussion

The foremost purpose of state child care regulations is to ensure the minimum level of health and safety of all enrolled children. The CFOC (2011) standards provide health and safety recommendations based on the best available evidence for out-of-home early education and child care. As discussed in the introduction, medication administration in these settings has not been widely studied. However, multiple studies indicate that medication administration errors are a significant threat to patient safety and that children are inherently at the greatest risk for both medication errors and resulting adverse effects (Kaushal et. al, 2004).

In this context, the significance of this review is particularly noteworthy. As demonstrated by the results, most state child care regulations do not satisfactorily fulfill CFOC (2011) recommendations for medication administration in child care centers and the extent to which the recommendations are reflected in regulations varies widely across states. These discrepancies also highlight the lack of a consistent, evidence-based foundation to influence policy. Even in states, which recently updated their medication administration laws, CFOC standards are not met in their entirety, or nearly in their entirety. It is certainly worth further investigation into how these policies to keep children safe are being determined and put into practice.

Of particular note is the lack of regulations regarding the training of child care staff prior to administration of medication and the reporting of medication errors. Only six states were partially compliant with these standards. The NCCMERP specifically identified the lack of child care provider training and reporting of medication errors as contributing factors to increased

incidence of overall errors and highlighted the importance of these regulations in ensuring the health and safety of children in child care (NCCMERP, 2003).

Furthermore, since policy informs practice, the overall lack of regulations mentioning policy is a concern. Only 11 states were partially compliant with this recommendation and none were completely compliant. A regulation requiring a written policy for medication administration is necessary for staff, parents, and licensing specialists to ensure that safe medication administration practices are understood and incorporated into the daily care of children in centers.

With regard to the previous two points, it is important to note that for the purposes of this review the 3rd and most recent edition of CFOC (2011) was used which was released in July 2011. This review was conducted six months after the release date. It is likely that states with recent regulation updates would have used CFOC, 2nd edition (2002) standards which contained fewer medication administration specific recommendations. Specifically, Standard 3.083 Training of Caregivers to Administer Medication in the 2002 edition did not stipulate a "standardized" method of training for staff to administer medications. Similarly, Standard 8.021 Written Policy on Use of Medications was more succinct on the details that should be included in a written policy (CFOC, 2002). Thus, while some state regulations do not meet criteria for some CFOC third edition standards, states may have had higher frequencies of compliance based on CFOC second edition recommendations.

There are several other potential limitations to this review, the most obvious being that regulations may have changed during or after data were collected. Thus, the results described may be out of date at the time of this review. Also, the issue of regulation versus actual practice may lend itself to limitation. A comprehensive synthesis of the regulations in each state does not

necessarily represent the practices of all child care centers within states. More specific guidelines on a state's expectations may exist that are not incorporated into regulations. The investigator did not communicate with state-level agency staff, and therefore, would not be aware of this level of detail.

Implications for Practice

One of the most important prospective implications for this cross-sectional review is a comprehensive and easily understandable presentation of state medication administration regulations in child care centers nationally. The goal of this review was to reveal the extent to which state regulations met best practice recommendations set forth in CFOC to promote children's health and safety with regard to medication administration practices. Also, based on this analysis, to derive a more concise framework for the argument of less variability and more evidence-based consideration in lawmaking and establishment of child care center regulations. These components are necessary to ensure that all children who require medication in child care centers across the nation are healthy and safe.

References

American Academy of Pediatrics. (2006). *Summit: Setting a research agenda for patient safety: Agency for Healthcare Research and Quality: Summary statement by the American Academy of Pediatrics*. Retrieved Jan 23, 2011, from http://practice.aap.org/content.aspx?aid=359&nodeID=8006

American Academy of Pediatrics, American Public Health Association, and National Resource Center for Health and Safety in Child Care and Early Education (2002). *Caring for our children: National health and safety performance standards; Guidelines for out-of-home child care programs, 2nd edition*. Elk Grove Village, IL: American Academy of Pediatrics and Washington, DC: American Public Health Association. Retrieved April 1, 2012, from http://nrckids.org

American Academy of Pediatrics, American Public Health Association, and National Resource Center for Health and Safety in Child Care and Early Education (2011). *Caring for our children: National health and safety performance standards; Guidelines for out-of-home child care programs, 3rd edition*. Elk Grove Village, IL: American Academy of Pediatrics and Washington, DC: American Public Health Association. Retrieved Jul 5, 2011, from http://nrckids.org

Benjamin, S. E., Copeland, K. A., Cradock, A., Neelon, B., Walker, E., Slining, M. M., & Gillman, M. W. (2009). Menus in child care: A comparison of state regulations with national standards. *Journal of the American Dietetic Association, 109*, 109-115. Retrieved from http://ovidsp.ovid.com/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&D=medl&AN=19103330

Benjamin, S. E., Cradock, A., Walker, E. M., Slining, M., & Gillman, M. W. (2008). Obesity prevention in child care: A review of U.S. state regulations. *BMC Public Health, 8*, 188.

Retrieved from http://ovidsp.ovid.com/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&D=medl&AN=18513424

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design.* Cambridge, MA: Harvard University Press.

Crowley, A. A. (2001). Child care health consultation: An ecological model. *Journal of the Society of Pediatric Nurses, 6*, 170-181. Retrieved from http://ovidsp.ovid.com/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&D=med4&AN=11777330

Crowley, A.A., & Rosenthal, M.S. (2009). Ensuring health and safety in Connecticut's early care and education programs: An analysis of Department of Public Health child care licensing specialists' reports of unannounced inspections. Farmington, CT: Child Health and Development Institute of Connecticut.

Federal Interagency Forum on Child and Family Statistics. (2009). *America's children: Key national indicators of well-being*.Washington, DC: U.S. Government Printing Office. Retrieved Mar 15, 2012, from http://www.childstats.gov/pdf/ac2009/ac_09.pdf

Heschel, R. T., Crowley, A. A., & Cohen, S. S. (2005). State policies regarding nursing delegation and medication administration in child care settings: A case study. *Policy, Politics, & Nursing Practice, 6*, 86-98.

Kaushal, R., Jaggi, T., Walsh, K., Fortescue, E. B., & Bates, D. W. (2004). Pediatric medication errors: What do we know? What gaps remain?. *Ambulatory Pediatrics, 4*, 73-81. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/14731088

National Association of Child Care Resource and Referral Agencies. (2011). *We can do better: 2011 update, NACCRRA's ranking of state child care center regulations and oversight*. Retrieved April 1, 2012, from http://www.naccrra.org/node/1769

Olympia, R. P., Brady, J., Kapoor, S., Mahmood, Q., Way, E., & Avner, J. R. (2010). Compliance of child care centers in Pennsylvania with national health and safety performance standards for emergency and disaster preparedness. *Pediatric Emergency Care, 26*, 239-247. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/20401968

Sinkovits, H. S., Kelly, M. W., & Ernst, M. E. (2003). Medication administration in day care centers for children. *Journal of the American Pharmacists Association: JAPhA, 43*, 379-382.

The National Coordinating Council for Medication Error Reporting and Prevention. *Recommendations to reduce medication errors in non-health care settings*. Retrieved Jan 23, 2011, from http://www.nccmerp.org/council/council2003-06-20.html

U.S. Department of Education, National Center for Education Statistics. (2005). *National Household Education Surveys Program.* Retrieved Jan 23, 2011, from http://www.childstats.gov/americaschildren/famsoc3.asp#19

U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau. (2008). *The National Survey of Children with Special Health Care Needs Chartbook 2005–2006.* Retrieved Feb 4, 2011, from http://mchb.hrsa.gov/cshcn05/NF/intro.htm

APPENDIX A

State: _____

Date of Last Update: _____

Date Reviewed: _____

Care Standards

Standard	Criteria	Met/Unmet (X/O)	Comments
3.6.3.1. Medication Administration			
	1. Prescription medication ordered by prescribing health professional for specific child.		
	2. Over-the Counter (OTC) ordered by prescribing health professional for specific child.		
	3. Written permission of the parent/guardian needed.		
	4. Labeled medication in original container (label should include name, date filled, prescribing clinician, pharmacy name, phone number, dosage/instructions, relevant warnings).		
	5. Documentation that medicine/agent was administered as prescribed.		
	6. Standing orders only for children with documented medical need with special care plan provided by primary care provider with instructions, signed by guardians.		
3.6.3.2. Labeling, Storage, Disposal of Medications			
	1. Prescription medication dated and kept in original container.		
	2. OTC medications in original container sold by manufacturer, labeled by parent/guardian with name and instructions.		
	3. All medications have child-resistant caps.		
	4. All medications stored away from food.		
	5. All medications stored at proper temperature.		
	6. All medications inaccessible to children.		
	7. Unused medication returned to parent/guardian or disposed of according to US food and Drug Administration (FDA) recommendations.		
	8. Documentation of all disposed medications.		

3.6.3.3. Training of Caregivers/Teachers to Administer Medication			
	1. Caregiver/teacher who administers medications should complete a standardized program on medication administration.		
	2. Medication administration training program should include skills and competency assessment.		
	3. Trainer of caregivers/teachers should be a licensed health professional (RN, APRN, MD, PA, or pharmacist).		
	4. Skill competency should be monitored annually.		
	5. Skill competency should be monitored whenever a medication administration error occurs.		
9.4.1.2. Maintenance of Records			
	1. Child care facility should maintain a medication administration log.		
	2. The length of time the medication administration log is maintained should be specified according to state regulations.		
9.4.1.9. Records of Injury			
	1. Facility should complete a report any time an injury occurs that results in first aid or medical attention, including medication error.		
	2. Three copies of report should be maintained; one for the parent/guardian, one for the facility, and one for a facility injury log.		
	3. Based on the injury logs, the facility should plan to take corrective action.		
9.4.2.6. Contents of Medication Records			
	1. State requirements for medication record content should be checked and followed.		
	2. Administration log should be maintained.		
	3. Administration log should include sufficient details: the child's name, medication given, dose, route, time, date, and signature/initials of person administering.		
	4. Space should be available in log for notation of why a "prn" med was given, any side-effects noted, and if the dose was refused or spit up.		
	5. Must be in original containers, properly labeled.		
	6. For long-term medications (to be given an entire year), a Care Plan should be in place.		

	7. For all prescription drugs a consent signed by parent/guardian for each medication including administration details.		
	8. For all prescription drugs an authorization from prescribing health professional.		
	9. For all prescription drugs a list of potential side effects and other warnings about medication.		
	10. For all OTC medications a consent signed by parent/guardian for each medication including administration details.		
	11. For all OTC medications an authorization from prescribing health professional		
	12. For all OTC medications a list of potential side effects and other warnings about medication.		

Standard 9.2.3.9. Written Policy on Use of Medications

Sub-categories	Criteria	Met/Unmet (X/O)	Comments
9.2.3.9.a. Policy on Permission			
	1. Includes written parent/guardian consent forms for each prescription medication.		
	2. Includes written parent/guardian consent forms for each OTC medication.		
9.2.3.9.b. Policy on Prescription/Order			
	1. Includes prescribing health professional's authorization form for each prescription medication.		
	2. Includes prescribing health professional's authorization form for each OTC medication.		
9.2.3.9.c. Policy on Administration			
	1. Includes circumstances under which the facility will administer topical medication.		
	2. Includes circumstances under which the facility will administer OTC medication.		
	3. Includes circumstances under which the facility will administer long-term, daily medication for children with chronic health conditions.		
	4. Includes circumstances under which the facility will administer controlled substances.		
	5. Includes circumstances under which		

	the facility will administer emergency medications.		
	6. Includes circumstances under which the facility will administer one-time medication to prevent conditions (i.e. febrile seizures).		
9.2.3.9.d Policy on Refusing Administration			
	1. Includes circumstance under which facility will not administer medication; when no authorization from parent/guardian or prescribing health professional.		
	2. Includes circumstance under which facility will not administer medication; administering OTC cough and cold medications.		
	3. Includes circumstance under which facility will not administer medication; administering a new medication for the first time while child in facility.		
	4. Includes circumstance under which facility will not administer medication; unclear instructions or supplies needed not present.		
	5. Includes circumstance under which facility will not administer medication; medication expired.		
	6. Includes circumstance under which facility will not administer medication; trained staff member and/or backup not present to give the medication.		
9.2.3.9.e Policy on Safety and Documentation of Administration			
	1. Includes specification that adequately trained staff only to be assigned task of administration.		
	2. Includes checking of written consent before medication administration.		
	3. Includes checking the six rights of medication administration.		
	4. Includes documenting and reporting any medication errors.		
	5. Includes documenting and reporting any adverse effects to medication.		
	6. Includes documenting and reporting any vomiting or spitting up of medication.		
9.2.3.9.f. Policy on Accepting Medications			
	1. Includes verifying consent.		
	2. Includes verifying medication matches consent.		
	3. Includes proper prescription labeling of original container.		
	4. Includes proper OTC labeling of original container.		
	5. Includes list of warnings and possible side effects.		

	6. Includes verifying that valid Care Plan accompanies all long-term medications.		
	7. Includes verifying any special storage requirements.		
	8. Includes verifying any precautions while child taking that medication.		
9.2.3.9.g. Policy on Handling and Storage			
	1. Includes medications that require refrigeration.		
	2. Includes controlled substances.		
	3. Includes expired medications.		
	4. Includes policy insuring confidentiality.		
	5. Includes preparation area that is quiet and out of children's access.		
	6. Includes keeping all medications totally inaccessible to children.		
	7. Includes whether or not even short-term medications will be kept overnight at the facility.		
9.2.3.9.h. Policy on Returning			
	1. Includes procedures to accurately account for all controlled substances administered.		
	2. Includes procedures to accurately account for all controlled substances returned to family.		
	3. Includes procedures to dispose of unused medications, including controlled substances.		
	4. Includes procedures to dispose of medications that could not be returned to the parent/guardian.		
9.2.3.9.i. Policy on Medication Administration Record (MAR)			
	1. Maintained by designated staff.		
	2. Includes parent/guardian consent for administration.		
	3. Includes authorization from child's prescribing health professional and instructions.		
	4. Includes information about medication including warnings and side effects.		
	5. Includes documentation of administration.		
	6. Includes documentation of side effects.		
	7. Includes medication error log.		

Related Standards

Standard	Criteria	Met/Unmet (X/O)	Comments
3.4.5.1. Sun Safety Including Sunscreen			
	1. Parent/guardian written permission		

	required.		
3.4.5.2. Insect Repellant and Protection from Vector-Borne Diseases			
	1. Caregivers/teachers should consult with child health care consultant, primary care provider, or local health department about appropriateness of repellants.		
	2. Parent/guardian written permission required.		
3.5.0.1. Care Plan for Children with Special Health Care Needs			
	1. Care Plan should include medications to be administered on a scheduled basis.		
	2. Care Plan should including medications to be administered on an emergent basis with clearly stated parameters, signs, and symptoms that warrant giving the medication written in lay language.		

APPENDIX B

	Department-approved Training Required	General Training Required	No Training Required	Comments
AL			X	"Medication administered to the child by designated staff." No specification of who that is.
AK			X	**10.1070(f)**: An entity not listed in (e) of this section may administer medication if (1) within the scope of the person's own license; (2) under other legal authority; or (3) under the supervision of another licensed health care provider. **10.1070 g(6)**: " in an entity with one or more employees, only one designated employee in each shift may administer medication"
AZ			X	R9-5-516 B. 1. Pg 49: "A facility director, or a staff member designated in writing by the facility director, is responsible for the administration of all medications in the facility,
AR			X	
CA			X	101216(e)(4)
CO	X			7.702.62 C#5: "4-hour Department-approved medication administration training"
CT		X		19a-79-9a (b) Administration of Medications (1) Training Requirements (A) Prior to the administration of any medication, the director(s), head teacher(s), program staff or group day care home provider(s) who are responsible for administering the medications shall first be trained by a physician, physician assistant, advanced practice registered nurse or registered nurse in the methods of administration of medications and shall receive written approval from the trainer which indicates that the trainee has successfully completed a training program as required herein.
DC			X	
DE		X		327. A licensee shall ensure that only trained staff members authorized in accordance with State Law, or health care providers, nurses or other qualified medical health personnel administer medication to children in a Center.
FL			X	
GA			X	591-1-1-.33 #1g: Staff Training. (1) Orientation. Prior to assignment to children or task, all employees must receive initial orientation on the following subjects: (g) The administration of medicine;
HI			X	
ID			X	
IL			X	407.360: c) Medication shall be administered in a manner that protects the safety of the child.

				1) A specific staff person shall be designated to administer and properly document the dispensation of the medication each day.
IN			X	
IA			X	
KS			X	"By designated staff member"
KY			X	
LA		X		7321A. Effective January 1, 2005, the staff person(s) administering medication shall be trained in medication administration. The training shall be obtained every two years.
ME			X	
MD	X			13A.16.11.04 F. Effective July 1, 2011: (1) Whenever children in care are present, there shall be at least one center employee present who has completed medication administration training approved by the office. (2) Medication may be administered to a child in care only by an employee who has completed approved medication training.
MA		X		(1) Training. All educators must be trained in the program's emergency and evacuation procedures in standard precautions and in medication administration procedures. (b) Medication. Each person who administers prescription or non-prescription medication to a child must be trained to verify and to document that the right child receives the proper dosage of the correct medication designated for that particular child and given at the correct time(s), and by the proper method. Each person who administers medication (other than topical medication) must demonstrate competency in the administration of medication before being authorized by the licensee to administer any medication. 2. Each person who administers any medication, other than oral or topical medications and epinephrine auto-injectors, must be trained by a licensed health care practitioner and must demonstrate annually to the satisfaction of the trainer, competency in the administration of such medications. An alternative method of training approved by the Massachusetts Department of Public Health (MDPH) can be substituted with approval from MDPH.
MI			X	
MN			X	
MS			X	
MO			X	
MT			X	
NE			X	8-016.04 Parental Responsibility: Parents or any licensed health care professional shall determine if child care providers or center and preschool staff are competent to give or apply medication. Center and preschool directors have the responsibility to assess the ability of staff to give or apply medication safely.

NV			X	
NH		X		4002.18 (b): Administration of prescription and non-prescription medications to children shall be performed by authorized staff, a registered nurse (RN), licensed practical nurse (LPN) or licensed health care practitioner, in accordance with the child's medication order. 4002.18 (k) Prior to administering prescription and non-prescription medication to any child, child care personnel shall complete and document training on medication safety and administration delivered by the department, a physician, RN, or LPN practicing under the direction of an ARNP, RN or physician.
NJ		X		10:122-7.5(b) The center shall develop and follow a policy on the administration of medication and health care procedures to children, which shall include the following provisions: 2. The center shall: i. Designate those staff members who are authorized to administer medication or health care procedures to, or to supervise self-administration of medication or health care procedures by, those children whose parents authorize it; and ii. Ensure that each staff member designated to administer medication and health care procedures is informed of each child's medication and health care needs.
NM			X	8.16.2.26 (C) #3: a "designated staff member" to administer only
NY	X			418-1.11 (j) (13): All day care providers and employees, except those excluded in subparagraph (iii) of this paragraph and except as provided in paragraphs (3) and (11) of this subdivision, who have agreed to administer medication must complete the office-approved medication administration training or an office-approved equivalent before administering medications to children in day care. (i) Providers or employees who will be responsible for administering medications must receive training in the methods of administering medications prior to administering any medications in a day care setting. In order to be trained in the administration of medications in a day care setting, a provider or employee must be literate in the language or languages in which health care instructions from parents and health care providers will be received. Upon completion of the training, the provider or employee must receive a written certificate from the trainer that indicates that the trainee has successfully completed this training program, as required, and demonstrated competency in the administration of medications in a day care setting. (ii) The training in the administration of medications must be provided by a health care provider who has been certified by the office to administer the office-approved curriculum.
NC			X	
ND			X	

OH			X	5101: 2-12-31 (B)(2) Designate individuals who will administer prescription and nonprescription medication. Any staff member may apply nonprescription topical products or lotions used as a preventative measure.
OK			X	
OR			X	
PA			X	
RI			X	Three. (14) "All medications shall be administered by the center director or his/her designee."
SC			X	
SD			X	
TN			X	1240-04-03-.10 (12)(a): All medications, prescribed and non-prescribed, shall be received from the parent by a designated staff person or management level staff person. ""(b) An alternate staff person shall be available to administer medication in the event the designated staff person is absent.
TX			X	
UT		X		R430-100-17 (1): medications shall be administered to children only by a provider trained in the administration of medications.
VT			X	
VA	X			D. Medication administration and daily health observation 1. To safely perform medication administration practices listed in 22 VAC 15-30-580, whenever the center has agreed to administer prescribed medications, the administration shall be performed by a staff member or independent contractor who has satisfactorily completed a training program for this purpose approved by the Board of Nursing and taught by a registered nurse, licensed practical nurse, doctor of medicine or osteopathic medicine, or pharmacist; or administration shall be performed by a staff member or independent contractor who is licensed by the Commonwealth of Virginia to administer medications. a. The approved training curriculum and materials shall be reviewed by the department at least every three years and revised as necessary. b. Staff required to have the training shall be retrained at three-year intervals. 3. To safely perform medication administration practices listed in 22 VAC 15-30-580, whenever the center has agreed to administer over-the-counter medications other than topical skin gel, cream, or ointment, the administration must be performed by a staff member or independent contractor who has satisfactorily completed a training course developed or approved by the Department of Social Services in consultation with the Department of Health and the Board of Nursing and taught by an R.N., L.P.N., physician, or pharmacist; or performed by a staff member or independent contractor who is licensed by the Commonwealth of Virginia to administer medications . a. The course, which shall include competency

				guidelines, shall reflect currently accepted safe medication administration practices, including instruction and practice in topics such as, but not limited to, reading and following manufacturer's instructions; observing relevant laws, policies and regulations; and demonstrating knowledge of safe practices for medication storage and disposal, recording and reporting responsibilities, and side effects and emergency recognition and response. 4. Any child for whom emergency medications (such as but not limited to albuterol, glucagon, and epipen) have been prescribed shall always be in the care of a staff member or independent contractor who meets the requirements in subdivision 1 of this subsection.
WA			X	170-295-3130 (1): Only staff persons who have been oriented to your center's medication policies and procedures can give medications.
WV		X		78-1-8. (8.6.g.) Prior to administering medication, the qualified staff member shall have training from an approved training source in medication administration.
WI			X	
WY	X			Chapter 8, Section 5, (d) Medications can only be given in child care when: (i) Child care staff who administer medication have received training approved by the Department on administration of medication.

APPENDIX C

	Regulation Language Referring to Medication Policy	Standards Met
AL	**- D.6.a.5a**: "Authority and procedure for administering medication or medical procedures shall be clearly defined."	- Too vague, all standards considered unmet
AK	**- 7 AAC 57.410**. Information for parents**.** At or before a child's admission, a child care facility shall supply a parent with the following information in writing: (6) policy and provisions for ill children, including parent or guardian permission for medication, if applicable; **- 7 AAC 10.1070. Medications** - "the entity shall establish written procedures for maintaining a record that accurately accounts for the receipt and each use of each controlled substance, and for periodically reconciling the record;" - "the entity shall have a written policy for the use of any commonly used nonprescription medication for oral or topical use kept on hand by the entity for the communal use of any adult or child in care for whom the medication may be indicated;"	- Following standards met: 9.2.3.9.a #1 and #2 9.2.3.9.h #1
AZ	**R9-5-516. Medications** A. A licensee shall ensure that a written statement is prepared and maintained on facility premises that specifies: 1. Whether prescription or nonprescription medications are administered to enrolled children; and 2. If prescription or nonprescription medications are administered, the requirements in subsection (B) for administering the prescription or nonprescription medications… (*Section B contains all med regulations on pages 48-50)	- Multiple standards met, see complete rubric
AR	Nothing specified.	
CA	**101226** Health-Related Services (e) In centers where the licensee chooses to handle medications: (5) The licensee shall develop and implement a written plan to record the administration of prescription and nonprescription medications and to inform the child's authorized representative daily when such medications have been given.	- Standards met: 9.2.3.9.i #5 only

CO	**7.702.41** Statement of Policies and Procedures - A written statement of the center's policies and procedures must be made available to parents and guardians and to staff and must include the following… R. The procedure for storing and administering children's medicines and delegation of medication administration in compliance with Section 12-38-132, C.R.S., of the "Nurse Practice Act".	- Vague wording, all standards considered unmet
CT	**19a-79-3a. Administration** (d) The operator shall implement and annually review specific written policies, plans and procedures required by any applicable statute or regulation. The operator shall notify the parent(s), staff and the department within five (5) days of changes in these policies, plans and procedures. The policies, plans and procedures shall include, but not necessarily be limited to: (7) general operating policies, including, but not necessarily limited to: (D) medication policies if applicable, **19a-79-9a.** "Group day care homes and child day care centers that administer medications of any kind shall comply with all requirements of this section and shall have written policies and procedures at the facility governing the administration of medications which shall include, but not be limited to, the types of medication that shall be administered, parental responsibilities, staff responsibilities, proper storage of medication and record keeping. Said policies and procedures shall be available for review by file commissioner during site inspections or upon demand and shall reflect best practice."	- Many standards met, see complete rubric
DC	Nothing specified.	
DE	**- 315**. A licensee shall have a written plan for the routine and emergency health care of children including procedures to be followed in case of illness and plans for accessing emergency services. Each staff member shall receive a copy of this plan and be trained in its implementation during staff orientation. Parents/guardians shall be given a copy of this plan at the time of enrollment. The plan shall be approved by the health care provider or certified child care health consultant who is also a Registered Nurse licensed in Delaware and include: C. The Center's policy regarding the administration of medication; and **- 370**. A licensee shall have an organized system of communicating with parent(s)/guardian(s) in a respectful manner that incorporates the use of a written policy	- Vague language, all considered unmet

	regarding parent(s)/guardian(s) communication including strategies to ensure parent(s)/guardian(s) involvement in the Center as follows: T. A copy of the Center's routine and emergency health care plan including health exclusions and administration of medication;	
FL	Nothing specified.	
GA	**591-1-1-.21** Operational Policies and Procedures. A center shall establish and implement written policies and procedures which shall be kept current and made available to the parents and used to govern the operations of the center. (1) The policies and procedures shall be consistent with applicable laws, regulations and these rules and shall include the following: (e) A description of handling administration of medication (see rule .20 about medications), and notifying parents of noticeable adverse reactions to prescribed medications;	- Several standards met, see complete rubric
HI	Nothing specified.	
ID	Nothing specified.	
IL	**Section 407.360** Medications a) The day care center shall maintain a written policy regarding medications.	- Vague language, all considered unmet
IN	**470 IAC 3-4.7-32** Staff orientation (a) Prior to having direct contact with children or food, the following training or information shall be provided to all staff and volunteers according to the specific responsibilities assigned to that particular staff member or volunteer: (6) General health policies and procedures, including, but not limited to, the following: (C) All policies and documentation procedures for dispensing approved medication to children.	- Vague language, all considered unmet
IA	**109.10(3)** Medications. The center shall have written procedures for the dispensing, storage, authorization, and recording of all prescription and nonprescription medications, including the following: *a.* All medications shall be stored in their original containers, with accompanying physician or pharmacist's directions and label intact and stored so they are inaccessible to children and the public. Nonprescription medications shall be labeled with the child's name. *b.* For every day an authorization for medication is in effect and the child is in attendance, there shall be a notation of administration including the name	- Standards met: 9.2.3.9.f #3 9.2.3.9.g #6 9.2.3.9.i #5

	of the medicine, date, time, dosage given or applied, and the initials of the person administering the medication or the reason the medication was not given. *c.* In the case of medications that are administered on an ongoing, long-term basis, authorization shall be obtained for a period not to exceed the duration of the prescription.	
KS	Nothing specified.	
KY	Nothing specified.	
LA	Nothing specified.	
ME	17 Health/Medical - 17.3. Health care consultation 17.3.1. Health consultation requirements for facilities licensed for thirteen (13) or more children: 17.3.1.2.3. Policy on administration of medication in compliance with Section 17.6, including identification of staff members permitted to dispense medication and procedures for documentation of the administration or dispensing of medication;	- Standards Met: 9.2.3.9.a #s1 and 2 “”.c #2 “”.d #1 “”.f #3 “”.i #s 2 and 5
MD	Nothing specified.	
MA	- **7.08** Family Involvement - (6) Written Information for Parents. The licensee must provide the following information to families in writing prior to enrollment of their child: (c) the program's policy regarding administration of medication as in 606 CMR 7.11(2)(a); - **7.11** Health and Safety (2) Medication Administration. (a) The licensee must have a written policy regarding administration of prescription and nonprescription medication. The policy must provide for the administration of medications ordered by a child's health care practitioner. (g) Each licensee shall have a written policy on medication disposal.	- Vague language, all considered unmet
MI	Nothing specified.	
MN	- **9503.0140** Health. - Subpart 1. Health policies. The license holder must develop written health policies approved by the commissioner and must ensure that they are carried out. - **9503.0090** Information for Parents. - Subpart 1. Policies given to parents. At the time of a child's enrollment, the parent must be	- Vague language, all considered unmet

	provided with written notification of the: H. center's policies on the administration of medicine;	
MS	- **103** Facility Policy and Procedures - 103.01 Parental Information: Before a child's enrollment, the parent shall be provided with the following: - 4. Health and emergency procedures: a. Procedures for storing and giving a child medication.	- Vague language, all considered unmet
MO	Nothing specified.	
MT	- **37.95.181** DAY CARE FACILITIES: MEDICATION ADMINISTRATION (4) If the provider/facility elects to administer medication to children, the provider/facility must maintain the following documentation on site: (b) a written medication administration policy which includes at a minimum: (i) types of medication which may be administered; and (ii) medication administration which may be administered; and including the route of medication administration, the amount of medication given, and the times when medication is to be administered; and	- Vague language, all considered unmet
NE	Nothing specified.	
NV	Sec. 10. NAC 432A.320 is hereby amended to read as follows: 432A.320 1. Except as otherwise provided in NRS 432A.177, within the first 2 weeks after commencing employment, newly employed members of the staff of a facility must be given a written and oral orientation program and be trained in the policies, procedures and programs of the facility by the director or a designee trained by the director. The orientation must address, at a minimum: (h) The general health and safety policies and procedures of the facility, including, without limitation, policies and procedures concerning: (8) The administration of medication	- Vague language, all considered unmet
NH	Nothing specified.	
NJ	- **10:122-3.6** Information to Parents document - 18. Inform parents of the center's policy on administering medication and health care procedures;	- See (b)-(d), several standards met see complete rubric

	- **10:122-7.5** Administration and control of prescription and non-prescription medicines and health care procedures (a) The center shall inform each child's parent upon enrollment of its policy on administering medication and health care procedures to children, including the provisions specified in (b) to (d) below. The policy shall indicate: 1. Whether the center will administer non-prescription medication or a nonprescribed health care procedure to a child; 2. Whether the center will administer prescription medication or a prescribed health care procedure to a child with a short-term illness; and 3. That the center will provide reasonable accommodations for the administration of medication or health care procedures to a child with special needs, if failure to administer the medication or health care procedure would jeopardize the health of the child or prevent the child from attending the center.	
NM	**8.16.2.22** Administrative Requirements C. POLICY AND PROCEDURES: All facilities using these regulations must have written policies and procedures covering the following areas: (3) policies and procedures for the handling of medications;	- Vague language, all considered unmet
NY	**418-1.11** Health and Infection Control - (a) The provider must prepare a health care plan on forms furnished by the office, or approved equivalents. Such plan must protect and promote the health of children in a manner consistent with the health care plan guidelines issued by the office. The guidelines describe practices to promote the health of children and special considerations for the care of mildly and moderately ill children for programs that provide care for such children. The health care plan must be on site and available upon demand by a parent or guardian or the office. The health care plan must be followed by the provider. For programs offering care to infants and toddlers, care to mildly or moderately ill children, or the administration of medications, the health care plan must be approved by the program's health care consultant… The health care plan must describe the following: - (2) which staff members are certified to administer medications. The plan must state that only a trained, designated staff person may administer medications to children, except in those programs where the only administration of medications offered will be the administration of over-the-counter topical ointments, including sunscreen lotion and topically applied insect repellant pursuant to paragraph (11) of subdivision (j) of this section. The designated staff person may only administer medications to children if the designated	- Standards met: 9.2.3.9.e #1 - The remainder considered too vague

	staff person is at least 18 years of age, possesses a current certification in first aid and cardiopulmonary resuscitation (CPR), and has completed the administration of medication training pursuant to paragraph (13) of subdivision (j) of this section; - (7) child health policies and practices, including… if applicable, the policy and procedure for the administration of medications; - (j) The child day care center may administer medication or treatment only in accordance with the following: - (1) Policies regarding the administration of medications must be explained to the parent or guardian at the time of enrollment of the child in care. Parents or guardians must be made familiar with the policies of the day care provider relevant to the administration of medications.	
NC	**10A NCAC 09 .2604** OPERATIONAL POLICIES: In addition to all other policies required in Section .1600 of this Chapter, the center shall develop written policies that contain the following: (13) Medication administration procedures;	- Vague language, all considered unmet
ND	Nothing specified.	
OH	- **5101: 2-12-30** Written Information, Policies, and Procedures to be Provided to Parents/Guardians of Children in Licensed Child Care Centers (A) The administrator shall supply the custodial parent or guardian and all employees with written information concerning licensing, the program, policies and procedures of the center at the time of enrollment or employment, or when there are any revisions or additions. (3) Any information provided by the center shall not be in conflict with the licensing rules and shall include at a minimum, the center's: (e) Management of illness as required in rule 5101:2-12-33 of the Administrative Code, including: (iv) Procedures for administration of medication, food supplements and modified diets. (v) Policy regarding whether or not the center allows the possession and use of an inhaler or medication by a school child, when needed in an emergency for a child with a special health condition, including the procedures for obtaining consents and releases as the center deems appropriate if the center allows such possession and use.	- Considered too vague for most standards - Standards met: 9.2.3.9.c #5
OK	- **Section 5**. Organization - Section 5.1. Policy and procedure	- Vague language, all considered unmet

	(a) Content. A written statement of the child care center's policy and procedure is available to staff and parents and includes, but is not limited to the: (4) procedure for: (c) storing and administering children's medicines;	
OR	Nothing specified.	
PA	Nothing specified.	
RI	Nothing specified.	
SC	**114-503** Management, Administration and Staffing F. Parent access and communication (3) Parents shall be provided with the following information upon admission: (e) The policy and procedures for the administration of medications:	- Vague language, all considered unmet
SD	- **67:42:10:10**. Program standards. Each day care center must have written policies regarding the following: (3) Health program policies for children, including the need for a current immunization record, the reporting of contagious diseases, and the storage and administration of medications;	- Vague language, all considered unmet
TN	Nothing specified.	
TX	**Subchapter B**, Administration and Communication - Division 4, Operational Policies 746.501 What written operational policies must I have? You must develop written policies that at a minimum address each of the following: (4) Procedures for dispensing medications, or a statement that medication is not given;	- Vague language, all considered unmet
UT	Nothing specified.	
VT	**C**. Policies, Procedures, Records, and Reports 4. Written procedures shall be established for: c. storage and administration of medications;	- Vague language, all considered unmet
VA	**- 22 VAC 15-30-310. Staff training and development.** B. By the end of the first day of supervising children, staff shall be provided in writing with the information listed in 22 VAC 15-30-490 A and the following: 5. Policy for any administration of medication; and **- 22 VAC 15-30-490. Parental involvement.** A. Before the child's first day of attending, parents	- Vague language, all considered unmet

	shall be provided in writing the following: 5. The center's policy regarding any medication or medical procedures that will be given; 6. The center's policy regarding application of: a. Sunscreen; b. Diaper ointment or cream; and c. Insect repellent. - **22 VAC 15-30-580. Medication.** A. Prescription and nonprescription medication shall be given to a child: 1. According to the center's written medication policies; and C. The center's procedures for administering medication shall: 1. Include any general restrictions of the center. 2. For non-prescription medication, be consistent with the manufacturer's instructions for age, duration and dosage. 3. Include duration of the parent's authorization for medication, provided that it shall expire or be renewed after 10 work days. Long-term prescription drug use and over-the-counter medication may be allowed with written authorization from the child's physician and parent. 4. Include methods to prevent use of outdated medication.	
WA	- **170-295-3010** What kind of health policies and procedures must I have? (2) Your health policies and procedures must have information on how you plan to: (j) Manage medication;	- Vague language, all considered unmet
WV	- **78-1-6**. Governance 6.3. Administrative Manual. 6.3.a. An applicant or licensee shall ensure that each center has an administrative manual that includes the center's policies and procedures with the dates they were implemented or revised, regarding: 6.3.a.6. Health, including, at a minimum, immunization, any parental objection to treatment, exclusion and re-admittance of the child with a communicable illness, and medication administration; - **78-1-7**. The Child and Family. 7.1.a. A center shall develop, implement and maintain an admission policy and procedure	- Several standards met, see completed rubric

	ensuring that prior to the admission of the child to the center: 7.1.a.5. A center informs the parent of the details of the agreements to be signed by the parent, including, but not limited to, an agreement that: 7.1.a.5.C. The parent has received and discussed a copy of the center's policies on: 7.1.a.5.C.2. Immunization, parental objections to treatment, the dismissal and re-admittance to the center of the child with a communicable illness, procedures for notifying the child's parent in advance of its policies on the exclusion and re-admittance of ill children, procedures for informing the parent of each child of the exclusion policy, and medication administration; - **78-1-15**. Health. 15.4 Child Illness at the Center 15.4.h. Medication Administration. With advice from a licensed health care provider, a center shall develop, implement and maintain health policies and procedures that include the following procedures for the administration of medication: *[complete results in state by state notes]*	
WI	Nothing specified.	
WY	- Chapter 8: Rules Relating Specifically to CCCs - Section 5. Medications. (a) All child care facilities shall have written policies and procedures governing the supervision of the administration of medication to children. These policies and procedures shall be available for inspection.	- Vague language, all considered unmet