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Insulin Administration in Catholic Schools: A New Look at Legal and Medical Issues

Mike Huggins, Seattle University

Anecdotal evidence indicates that more students with type 1 diabetes are enrolling in Catholic schools across the United States. Meeting the medical needs of these students appears to be a significant challenge—legally and logistically—for many Catholic schools. District officials, school leaders, and school staff need support to understand the complexities of the disease and its treatments, as well as the laws that govern how non-medical school staff can intervene in normal and emergency situations. The goals of this article are: (a) to explore the current state of the legal and medical issues regarding non-RN administration of insulin to minor students with Diabetes Mellitus Type 1 (type 1 diabetes), including presentation of a state-by-state comparison of laws; (b) to examine historical factors leading to current state legislation regulating insulin administration; and (c) to suggest ways to move forward.

Keywords

Type 1 diabetes, state laws, insulin administration, glucagon administration, delegation

Introduction

Providing a safe and supportive environment for excellence in teaching and learning has long been an achievement of Catholic schools nationwide. But as students arrive in Catholic schools with various medical conditions, meeting students' needs within classroom environments becomes more complex and outcomes become more uncertain. Diabetes is one such medical condition. Research indicates that the prevalence of diabetes—both type 1 and type 2—in school-aged children is increasing (Dabelea et al., 2014). Although data are not currently available to document the exact number of students with diabetes in Catholic schools, anecdotal evidence from school and district staff across the US indicates that schools currently enroll more students with diabetes than they have in the past.

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The accommodations necessary for a student with diabetes to safely attend school vary among individuals. Teachers and school administrators may be particularly concerned about children who require the administration of insulin to manage their blood sugar (i.e. children with type 1 diabetes). These students may require additional monitoring and medication at specific intervals. Most children with type 1 diabetes will require regular assessments of their blood sugar, also called “serum glucose levels.” Depending on the reading obtained, the child may need an injection of insulin or may need to adjust the settings on an insulin pump (a medical device worn by the student that delivers a continuous infusion of insulin) (Juvenile Diabetes Research Foundation [JDRF], 2015a).

In order to accommodate the needs of students with type 1 diabetes in Catholic schools, it is essential that school leaders are aware of the complexities of diabetes and the regulations upon insulin administration within their state. Anecdotal evidence indicates that some Catholic school administrators have accepted children with type 1 diabetes into their schools with staff or teachers taking the responsibility for administering insulin or monitoring insulin pumps, at the instruction of parents. These administrators may be completely unaware of state laws that forbid such practice. Others, aware that it is in violation of state law, continue the practice because they simply do not know what else to do.

Often, the student’s parent(s)/guardian(s) will be the primary source of information about the treatment plan for their child. However, parent(s)/guardian(s) may not be aware of the laws that govern how non-medical school personnel intervene in the care of students with diabetes, and may make assumptions regarding resources available at the school. For example, assessing blood sugar readings involves the use of a small needle to obtain a sample of blood. This requires a measure of privacy and safety, and a sharps container designed for the safe collection of used needles and isolated so other children cannot gain access to it. Parents may assume the school has a private place for their child to test his/her blood sugar, a staff person available to help if needed, and a sharps container for disposal of needles; in many cases, a school will have none of these accommodations available and will need to juggle resources to meet the student’s needs.

In an ideal situation, the school would employ a full-time registered nurse (RN) who is licensed and trained in diabetes care, including how to calculate a student’s insulin needs based on their personalized “sliding scale,” which indicates the amount of insulin needed to maintain target blood sugar.

However, many Catholic schools simply cannot afford to employ a full-time RN. The absence of licensed medical personnel in Catholic schools results in a number of questions regarding responsibility for the care of students with diabetes: Legally, who may provide supervision, assistance, or intervention for a student with diabetes? For example, who is responsible for obtaining the blood sugar reading and injecting the insulin? Who interprets the sliding scale and decides how much extra insulin to administer? Who is responsible for intervening when a student has a hypoglycemic emergency? The student? The parent(s)? The school faculty, staff, and administrators? The answers to these questions are not straightforward and state laws vary widely.

Students with Diabetes

Children with type 1 diabetes must augment their need for physical, emotional, and spiritual safety with specific behaviors associated with their diagnosis. These children and their parents have learned that the disease can be controlled with strict attention to diet, exercise, and proper medication. Although parents generally bear the majority of the responsibility for managing diabetes care for a young child, older children and adolescents have been shown to benefit from the development of strategies and routines that put them in charge of their treatment. For example, research has shown that young adolescents (ages 9-16) who practice “adaptive” self-management (e.g. flexible but careful dietary management, testing blood sugar regularly, and diligent adjustments to insulin dosing) not only tend to have greater glycemic control than do adolescents who do not develop adaptive self-management patterns (Schneider et al., 2007) but the presence of adaptive self-management patterns also can predict greater glycemic control two years later (Rohan et al., 2013).

Parents of children with diabetes seek partners to ensure their child’s health. Teachers and school staff are in a unique position of trust and authority and are often viewed by parents as key partners in their child’s care (Wolff, 2012). However, state laws tightly control what teachers and school staff may and may not do for children in their classrooms. For example, most states have enacted laws that address how non-parents or unlicensed (non-medical) personnel can intervene as they monitor and treat a child with type 1 diabetes (See Table 1). Frequently, these laws categorically address the administration of the insulin needed by these children in the treatment of their disease. Specifically, they may forbid the injection of insulin by unlicensed

personnel. These laws may also remove needed protections from licensed medical personnel who attempt to educate non-medical personnel in proper methods of insulin administration. As a result of these constraints, children with type 1 diabetes are at significant risk.

In most states, unlicensed persons have minimal to no legal protections as they attempt to help children assess blood sugar levels and receive the insulin they need to maintain life. For Catholic schools that enroll children with type 1 diabetes, monitoring children with this condition and administering insulin as needed is a challenge shared by administrators, staff, and teachers alike. This also places the affected child in danger. In some states, teachers and staff may be administering insulin with the permission of the student's parent(s)/guardian(s), yet may be in violation of state law—without even being aware of the law.

This article is an initial exploration into the legal issues related to the care of students with diabetes—and, in particular, type 1 diabetes—attending Catholic schools. Specifically, the article will examine the laws governing insulin administration in schools. These laws differ from state to state: Some states have detailed laws and procedures; others have no legal precedents for this issue. Table 1 outlines each state's laws governing insulin administration and, where provisions exist, emergency treatment of hypoglycemia in schools.

Before examining the laws in place related to insulin administration, I first present background information about diabetes intended to provide a basic introduction to the disease, its variations, causes, and treatments. I then discuss the history of insulin regulation in order to explain why insulin administration is controversial. The history of insulin use and regulation is a major influence contemporary laws regarding insulin administration in schools.

Diabetes: a Primer

Many teachers and school administrators have become quite familiar with the health challenges faced by school-aged children who have diabetes, either type 1 or type 2. However, many are not aware of the significant differences that exist between the two types. Each type of diabetes develops differently, appears differently, is treated differently, and potentially has different complications that must be considered.

In order to understand the symptoms and treatments for diabetes of either type, it is first necessary to understand how the human body uses sugar. When one consumes table sugar, called *sucrose*, the body breaks this

compound down into two other types of sugars: glucose and fructose. Glucose is used directly by the body to fuel muscle and brain activity. Fructose tends to promote development of fat and to be stored by the body. In order for glucose to be used by the body, it must be carried into the cells by insulin; glucose is too large a molecule to cross the cell membrane without help. Insulin is formed in an organ called the pancreas, specifically by specialized tissue known as beta cells. These beta cells secrete insulin after a meal, or whenever the body detects an increased amount of glucose in the blood. Insulin is released into the bloodstream where it attaches to the glucose that also circulates. Only together can insulin and glucose enter the cells to be used as fuel. Without insulin, glucose continues to circulate. A simple test can determine the level of glucose circulating in the bloodstream (Wisse, 2014).

Type 1 diabetes develops when the beta cells of the pancreas become damaged (possibly by a virus) and can no longer produce insulin. As a result of beta cell destruction, when glucose levels increase the body cannot follow its normal process of using insulin to carry the glucose into cells. This results in dangerously high glucose levels in the blood. The body attempts to reduce the glucose level by other means. This can lead to a life threatening condition known as diabetic ketoacidosis, or DKA (JDRF, 2015b).

Insulin injections are obligatory for persons with type 1 diabetes; they are never optional. A number of variables affect the insulin type and amount injected, not the least being the amount of food consumed and the estimate of glucose in the meal. When a person with type 1 diabetes ingests carbohydrates or sugars and does not take enough insulin to support the body in processing them, hyperglycemia (high blood sugar) results. Conversely, when a person with diabetes does not eat, and takes either oral medications or injects insulin, hypoglycemia (low blood sugar) can result. In order to treat hyperglycemia, additional insulin will be necessary to bring blood sugar back within the desired range. For hypoglycemia, less insulin is required to compensate for sugars consumed. In cases of severe hypoglycemia, injection of the emergency medication glucagon may be necessary. Carefully measured insulin delivery is necessary to maintain life for persons with type 1 diabetes, and can be a challenge for those without training in diabetes care (JDRF, 2015a).

In contrast, type 2 diabetes is a condition that appears to be a consequence of excessive calorie intake over time and resulting obesity, inactivity, and a poorly understood genetic predisposition, as well as other as-yet unidentified factors. The key difference between type 1 and type 2 diabetes is that in the latter, the beta cells are not completely inactive. Because the body can secrete

some insulin, children with type 2 diabetes do not typically have the extremely high levels of glucose in their bloodstream. No matter how much glucose is absorbed from a meal, the pancreas is able to secrete enough insulin to keep DKA from developing. Children and adults with type 2 diabetes can usually treat the disease for many years with diet, exercise, and oral medication (Schreiner, 2014).

Insulin: A Complex Story

The overwhelming majority of states restrict insulin administration to the person with diabetes, parents or guardians, physicians, registered nurses, or other licensed medical personnel. State Boards of Medicine and Boards of Nursing historically have acted to reserve insulin administration for licensed medical personnel and have had state laws on their side. Thus, schools that have tried to change these laws have found themselves facing not only their state Board of Nursing, but the American Nurses Association as well (American Nurses Association, 2009; American Nurses Association & National Council of State Boards of Nursing, n.d.). This is a formidable lobby with excellent reasons why registered nurses or other licensed medical personnel should remain the only authorized insulin administrators.

There are a number of reasons for the strict regulation of insulin administration. The first reason is the history associated with insulin. Overdose, intentional or otherwise, has been linked to homicide and accidental death. Overdose has also historically been used to induce a coma and was associated with treatment (and abuse) in psychiatric institutions (Doroshov, 2007). Insulin is known as a “high alert” medication because of a great number of medical errors involving inappropriate insulin administration. There are many historical cases of homicide, accidental death, or adverse events associated with insulin administration. A 2005 analysis of electronic medical records databases at 21 hospitals revealed the complexity of insulin use and accidental misuse (Amori et al., 2005). This research analyzed patient records between August 1, 2000 and December 31, 2005 and identified 2,598 reports of medical errors. Insulin administration errors were involved in 82% of these reports.

A second reason for restrictions on insulin administration is linked to the complexity of treatment options for diabetes; for example, currently, there are five different types of insulin available for treatment of diabetes—rapid-acting, short-acting, intermediate-acting, long-acting, and pre-mixed (Blair, 2015). The type, amount, and frequency of insulin administration are highly individualized and a plan for managing insulin needs is generally developed

in consultation with medical professionals. Knowing what type of insulin is needed, how much to inject, and when, requires an education in the physical and biological sciences as well as special training that most non-medical personnel do not have. State laws recognize the need for caution in the administration of insulin and place boundaries around who may inject the medication.

Many children with type 1 diabetes will have insulin pumps. These devices are programmed to inject a specific amount of insulin at a specific time. But this process is not without danger and must be monitored. Children with insulin pumps must be taught to assess their own blood sugar and to track the grams of carbohydrates in the food they consume. “Counting carbs” is a way to predict how much insulin will be needed after a meal. If a high carbohydrate meal is consumed, blood sugar will increase. This will require more insulin to prevent dangerously high levels of glucose circulating in the bloodstream. Alternately, a child may decide not to eat the type or amount of food recommended. In this case, the pre-programmed amount of insulin may be too high and lead to serious complications. Knowing when and how to react to these complications requires knowledge and judgment, and sometimes a rapid response. However, most states have laws in place that restrict the ability of school personnel to do anything more than summon emergency personnel via 911.

Legal Considerations for Catholic Schools in the Care of Students with Diabetes

Laws governing administration of medications to school-aged children are aimed at public schools. However, they extend to private educational organizations as well, including Catholic schools, private schools, and home schooling situations in which the instructional personnel are not parents or legal guardians of the students. As of early 2015, most states have laws that restrict administration of injectable medications such as insulin to licensed medical personnel, persons with the medical condition that requires the medication, or their parent(s)/guardian(s). Thirty-three states allow school staff to administer insulin, provided very specific conditions—which differ by state and range from certification through diabetes education programs to the absence of a school nurse—are met. Only a few states have responded in ways that allow non-licensed medical personnel to perform this task *and* at the same time protect medical personnel who attempt to teach non-medical personnel how to administer insulin. As of this writing, no state provides

protection to a registered nurse who delegates the authority to non-medical personnel in the treatment of a child where independent nursing judgment is required. In other words, whenever a registered nurse must perform assessment and decision making arising from her/his education and license in the treatment of a person with type 1 diabetes (e.g. determining appropriate dosage of insulin from a “sliding scale”), that same nurse will be held legally accountable for the outcome should that nurse give an unlicensed person the responsibility to intervene. This is the very center of difficulty for schools that admit children with type 1 diabetes but cannot afford the services of registered nurse or school nurse. If a child cannot self-monitor and treat, and if a parent or legal guardian is unavailable, who then responds? A number of states are completely silent about this question.

In states that require registered nurses to administer insulin, one alternative has been to have the registered nurse train others to administer insulin to children with type 1 diabetes through a state-approved educational program. This is allowed by some states, for example California, observing that the child’s safety is at risk by laws that limit insulin administration to professionals who may not be present when the child needs insulin administered. If, however, a registered nurse trains others to administer insulin, the notion of *delegation* comes into force. Delegation is the utilization of others to perform a specific act, but without the transfer of responsibility or accountability. Thus, a registered nurse may train another person how to inject insulin. However, this same registered nurse retains the responsibility and accountability for the injection no matter what the outcome (American Nurses Association & National Council of State Boards of Nursing, n.d.). In states where delegation is allowed, this practice has helped some Catholic schools provide care to children with type 1 diabetes by training teachers and other staff to administer insulin.

Some states have directed Boards of Education to create programs to educate unlicensed personnel on medication administration. Following this training, these personnel are allowed to administer medications. In a few states this permission extends to insulin, but that is rare and reflects the complicated history of insulin usage. In states with these programs, for example in California, the permission granted though the program is dependent upon the program not violating the Nurse Practice Act. That is, the educational program cannot instruct non-licensed medical personnel to do things that would violate the very reason the state licenses registered nurses. This includes situations where rapidly changing conditions would require an edu-

cated, licensed professional to assess the patient's condition and respond from a body of specialized scientific knowledge and experience. These conditions describe type 1 diabetes perfectly, and are the reason why insulin administration rarely is included in state-approved educational programs for teachers and school personnel. The standard remains a registered nurse, ideally one certified as a school nurse, who monitors students and treats them according to existing orders and using nursing judgment.

Even where law permits delegation, the registered nurse cannot delegate if the situation requires independent nursing assessment and judgment. To do so would essentially violate the Nurse Practice Act and result in action against the nurse's professional license. If the law does permit delegation, e.g. a registered nurse approves a teacher or someone else in the school to administer insulin, those instructions are valid only for that pupil, under specific conditions, and for that dose at that time. If at any moment a child's condition changes or instructions must be altered, the registered nurse is required and delegation cannot be exercised. This is because the registered nurse is educated and licensed to practice independent nursing judgment and intervene accordingly. When a child with type 1 diabetes is following a predictable course and blood sugar levels remain stable, standard instructions will work. However, teachers and school administrators must be prepared for situations where this is not the case. In such situations, unless state law expressly allows unlicensed persons to give insulin injections or adjust insulin pumps, doing so carries great liability.

Thus it is that in most states, delegation is not allowed. Insulin administered by anyone except the child him- or herself, the child's parent or legal guardian, a registered nurse, or other licensed medical professional can lead to serious legal problems, particularly if a child is harmed or dies. In no state is delegation protection offered to registered nurses if they expressly give permission to unlicensed persons for actions that require independent nursing judgment. This would include a minor who has changing physical or cognitive responses associated with either too low or too high blood sugar. The result of this uneven legal terrain has been the restriction of care of minors with type 1 diabetes at a time when the disease is becoming much more prevalent..

Table 1 (below) outlines the state laws governing insulin administration for each of the 50 US states and the District of Columbia. Particular attention is given to provisions for self-administration of insulin by the student and for delegation of insulin administration to school staff who are not licensed medical personnel.

Table 1

State Laws Pertaining to Insulin Administration in Schools

State	Pertinent Laws	Self Administration of Insulin Allowed	Staff Administration of Insulin allowed ^a	Notes
Alabama	Alabama Nursing Standards of Practice, 610-X-7.02 (2009)	Not addressed	Yes, if requirements met	State law specifically designates a “school nurse” to be responsible and accountable for medication administration to students. A non-certified person may be trained to help but only after a twelve-hour instructional course.
Alaska	12 AAC 44.965	Not addressed	Yes, if requirements met	<i>Medication Administration: Guide for Training Unlicensed School Staff</i> (Barker et al., 2012) specifies how and when the school nurse may delegate medication administration to staff.
Arkansas	N/A	Not addressed	No	State laws address asthma and anaphylaxis medications only.
Arizona	ARS 15-344 (2002) ARS 15-344.01 (2008)	Yes, if requirements met	Yes, if requirements met	School districts have responsibility to develop policies and procedures for medication administration to students. Volunteer “diabetes care assistants” may administer glucagon in cases of hypoglycemia if (1) the school nurse is unavailable; (2) the parent or legal guardian has provided an unexpired glucagon kit; and, (3) the diabetes care assistant has provided the school with a written statement signed by a health care professional certifying that training has been completed regarding the use of glucagon in hypoglycemia. Note: This legislation appears to apply only to glucagon, not insulin.

Note. Adapted from “State School Health Policy Database” by the National Council of State Boards of Education. Available: http://www.nasbe.org/healthy_schools/hs/bytopics.php?topicid=4110

^a Staff administration of insulin (delegation) may be permitted as long as the staff member has attended a state-approved education program, the registered nurse has initially seen the patient, the registered nurse accepts full responsibility for outcomes of the injection (no delegation protection), and the trained staff member exercises no independent nursing judgment.

Table 1 (cont.)

State	Pertinent Laws	Self Administration of Insulin Allowed	Staff Administration of Insulin Allowed	Notes
California	<p>Staff Administration Education Code 49400 (1976) Education Code 49423 (1976) Ca. Code of Regulations Title 5, Division 1, Chap- ter 2, Subchapter 3, Article 4.1, 600, 601, & 604 (2003) Education Code 49423 (2004)</p> <p>Self Administration Education Code 49414.5 (2003) Education Code 49423, 49423.6 California Business and Professions Code 2725(b)(2) California Code of Regu- lations Title 5, Division 1, Chapter 2, Subchap- ter 3, Article 4.1, 604</p>	Yes, if requirements met	Yes, if requirements met	California law in this area is complex and well developed, and has undergone recent change.

Table 1 (cont.)

State	Pertinent Laws	Self Administration of Insulin Allowed	Staff Administration of Insulin Allowed	Notes
Colorado	<i>Guidelines for Medication Administration: An Instructional Program for Training Unlicensed Personnel to Give Medications in Out-of-Home Child Care, Schools and Camp Settings</i> (5th ed., 2008)	Yes	Yes	See <i>Guidelines for Medication Administration An Instructional Program for Training Unlicensed Personnel to Give Medications in Out-of-Home child care, schools, and camp settings</i> (5 th ed.) (Colorado Department of Human Services, 2008)
Connecticut	Public Health Code 10-212a (2009)	Not addressed	Yes	
District of Columbia	Code 38-651.04, .05, & .06 (2008)	Yes, if requirements met	Yes, if requirements met	
Delaware	Administrative Code 14:817 (2003)	Not addressed	By licensed school nurse only	
Florida	Statute 1006.062 (2012); Statute 385.203 (2010)	Yes	Yes	
Georgia	State Board of Education Rule 160-4-8-.01 (2000)	Not addressed	By state law, each school system must develop and implement its own policies.	See <i>Georgia School Health Resource Manual</i> (Bryant-Curry, Matthiessen, & Seay, 2013). For forms and suggested guidelines, see: http://www.choa.org/Health-Professionals/Nursing-Program/Nurse-Resources/School-Nurses/School-Health-Consultant/GA-School-Health-Manual-Forms-and-Letters

Table 1 (cont.)

State	Pertinent Laws	Self Administration of Insulin Allowed	Staff Administration of Insulin Allowed	Notes
Hawai'i	HRS 320A-253 (2007)	Yes	Yes, if requirements met	Health aides may administer premeasured medications only in emergency situations. Sliding scale insulin administration does not qualify.
Iowa	281 IAC 41.404(1-3)	Yes	Yes, if requirements met	State law requires each local school board to establish specific policies related to medication administration. See <i>Medication Management in Iowa Schools</i> (2009) for suggestions on policies.
Idaho	N/A	Yes	No	
Illinois	Education 23 Administrative Code Ch. 1-b, Section 23.120 (2002) 105 ILCS 5/10-22.21b (2000) Public Act 096-1485 (2010)	Yes	No	Local school board policies moderate state education policies, but school nurse is necessary for administration of medication, which in any case is limited to "critical medications" during the school day and at recognized school related activities. <i>Recommended Guidelines for Medication Administration in Schools</i> (IL Dept. of Human Services & IL State Board of Education, 2000) is available as a guide for local school boards. In every school where a child with diabetes is enrolled, all school employees must receive training in Diabetes care.
Indiana	Code 20-34-5 (2007)	Yes	Yes, if requirements met	

Table 1 (cont.)

State	Pertinent Laws	Self Administration of Insulin Allowed	Staff Administration of Insulin Allowed	Notes
Kansas	KAR 60-15-101 (2009) KAR 60-15-102 (2009) KAR 60-15-103 KAR 60-15-104	Yes	Yes, if requirements met	See Delegation of Specific Nursing Tasks tool: http://www.ksbn.org/legal/Delegation%20of%20Specific%20Nursing%20Tasks%20in%20the%20School%20Setting.pdf See <i>Guidelines for Medication Administration in Kansas Schools</i> (Bureau of Family Health, Children and Families Section, 2010)
Kentucky	KRS 156.502 (2002) Statute 156.501 (2002) 702 KAR 1:160 Section 4 (g) KRS 158.838 (2005) KRS 156.502	Yes	Yes, if requirements met	Local school systems must establish proof that a Kentucky Department of Education-provided medication administration training program has been completed for every employee giving medications. Permission valid only for one school year. Each school board must certify training one (1) employee in each school on duty every school day to administer medications for students with diabetes in an emergency.
Louisiana	RS 17:28 (1995) State Policy on Medication: Chapter 11 of Bulletin 741 (2005) RS 17:436.1 (2001)	Not addressed	Insulin may <u>not</u> be administered by anyone other than licensed medical personnel	Each school system must employ a certified school nurse, not to exceed one nurse for every 1,500 students. See <i>The Administration of Medication in Louisiana Public Schools</i> (LA State Board of Elementary and Secondary Education & LA State Board of Nursing, 1994).

Table 1 (cont.)

State	Pertinent Laws	Self Administration of Insulin Allowed	Staff Administration of Insulin Allowed	Notes
Massachusetts	General Law 71.54B (2002) 105 CMR 210.003 (1994) 105 CMR 210.005 (1994) 05 CMR 210.006 (1994)	Yes, if requirements met	Yes, if requirements met	State board of education, in consultation with local school boards, must establish policies governing use of medications in schools by authorized personnel.
Maryland	State Board of Education Regulation 13A.05.05.08 (1995)	Yes, if requirements met	Yes, if requirements met	See <i>Management of Students with Diabetes Mellitus in Schools</i> (MD State Dept. of Education & MD Dept. of Health 2006) See also <i>Delegation of Nursing Functions in a School Setting: Maryland State School Health Services Guideline</i> (MD State Dept. of Education & MD Dept. of Health, 2006)
Maine	Statute Title 20-A 6403-A (1985) Statute Title 20-A 254, Section 5A Title 20-A 254, Section 5B Dept of Education Rules on Medication Administration, Chapter 40 (2006).	Yes, if requirements met	Yes, if requirements met	Maine state law requires each school board to appoint a registered nurse to supervise and coordinate health services and health-related activities.

Table 1 (cont.)

State	Pertinent Laws	Self Administration of Insulin Allowed	Staff Administration of Insulin Allowed	Notes
Michigan	Code 340.1163 (1979) MCL 380.1178a (2002) MCL 380.1178 (2000)	Yes	Yes	State law requires the Department of Education to make a medication administration “model policy” available to all local school boards, and specifically addressing the role of school employees in medication administration <i>See Policy on Coordinated School Health Programs to Support Academic Achievement and Healthy Schools</i> (Michigan State Board of Education, 2003)
Minnesota	Statute 121A.22 (2004)	Not addressed	Yes, if requirements met	Each local school district must consult with a licensed school nurse or public health nurse to develop policies addressing medication administration in schools <i>See Guidelines for Medication Administration in Schools</i> (MN Dept. of Health, 2005)
Missouri	Revised Statute 167.621.1 (2002) 167.630 (2006)	Not addressed	Yes, if requirements met	See also Missouri School Improvement Program (MSIP): http://dese.mo.gov/sites/default/files/Fourth%20Cycle%20Standards%20and%20Indicators.pdf <i>See Medication Administration in Missouri Schools</i> (MO Department of Health and Senior Services, 2005)
Mississippi	Code 41-79-5 (2000)	Not addressed	Yes, if requirements met	Each school district is authorized to have a “health service coordinator” (aka “school nurse”) who coordinates care with the State Department of Health.

Table 1 (cont.)

State	Pertinent Laws	Self Administration of Insulin Allowed	Staff Administration of Insulin Allowed	Notes
Montana	Board of Nursing Rule 24.159.1616	Not addressed	Yes, if requirements met	
Nebraska	Statute 71-6722 Statute 71-6723 Statute 92 NAC 59.003 Statute 79-225 (2006)	Yes, if requirements met	No	Staff administered medication limited to oral, inhalation, topical, and instillation into the eyes, ears, and nose; no insulin injections allowed.
Nevada	NRS 391.208 (2001)	Not addressed	Not addressed	State law requires school nurses to design and implement care for students with special needs, under instructions from a physician, with approval of parent or guardian
New Hampshire	RSA 200:27 (1971) State Board of Education Rule Ed 311.02 (2004)	Not addressed	Only by school nurse	State law requires local school boards to develop policies providing for written authorization detailing specific nursing and physician care to children.
New Jersey	N.J.S.A. 18A:40-1 State Board of Education Administrative Code N.J.A.C. 6A:16-1.4 (2001) New Jersey Administrative Code N.J.A.C. 6A:16-2.1(a) 2 N.J.S. A. 18A: 40-14	Children must be approved to self-administer	Only by school physician, certified or non-certified school nurse, or substitute school nurse,	Each school is required to provide at least one certified nurse. Only the school physician, a certified or non-certified school nurse, a substitute school nurse, the student's parent or guardian, and the student (if approved to self-administer) are allowed to administer insulin The school nurse is authorized to determine and train personnel who may administer glucagon in hypoglycemic emergency Policies available: http://www.nj.gov/education/edsupport/diabetes/

Table 1 (cont.)

State	Pertinent Laws	Self Administration of Insulin Allowed	Staff Administration of Insulin Allowed	Notes
New Mexico	Nurse Practice Act: http://164.64.110.239/nmac/parts/title16/16.012.0002.htm	Not addressed	Not addressed	The registered nurse is recognized as the appropriate person to administer medications. Delegation is allowed, even to an uncertified person, but delegation protection is not provided. School Health Manual: http://www.nmschool-healthmanual.org/
New York	N/A	Not addressed	Not addressed	No state laws address diabetes care in schools
North Carolina	Statute 115C-375.1 Statute 115C-12(31) Statute 115C-375.2 Statute 115C-12(31) Statute 115C-375.2	Yes	Yes	State law allows any teacher or school employee to administer any prescribed medication if a parental request is on file in writing. The law also provides for immunity from prosecution arising from liability unless gross negligence or intentional wrongdoing is proved.
North Dakota	N/A	Not addressed	Not addressed	
Ohio	ORC 3313.713 (2010)	Not addressed	Highly restricted	State law provides immunity from liability for authorized persons administering medication except in cases of gross negligence or wanton or reckless misconduct

Table 1 (cont.)

State	Pertinent Laws	Self Administration of Insulin Allowed	Staff Administration of Insulin Allowed	Notes
Oklahoma	Statutes 70-1210.196.1 to 70-1210.196.8 (2007) HB 1309 (2007)	Yes	Not addressed	State law requires Department of Education to develop guidelines for training volunteer diabetes care aides. School employees who complete training are provided immunity from liability.
Oregon	ORS 339.869 (2013) OAR 581-021-0037 (2010) ORS 339.870 (2001) and ORS 339.871 (2007) ORS 339.869 (2009) . OAR 581-021-0037 (2010)	Yes	Yes	State law requires Department of Education to develop rules for medication administration, and requires local school boards to follow these rules. Protection from liability is provided to school employees who administer medications under instruction of licensed medical provider, or assist a student in self-administration of medications.
Pennsylvania	022 PA Code 12.41 (2005)	Not addressed	No	State law requires Department of Education to develop policies and procedures for medication administration in schools. However, the PA Nurse Practice Act specifically forbids medication administration by unlicensed personnel; delegation is not permitted. See Guidelines for Pennsylvania Schools for the Administration of Medications and Emergency Care (PA Dept. of Health, 2010). See also School Health Program Manual (PA Dept. of Health, 2013).

Table 1 (cont.)

State	Pertinent Laws	Self Administration of Insulin Allowed	Staff Administration of Insulin Allowed	Notes
Rhode Island	Statute 16-21-7 (2007) Section 20.0 of the Rules and Regulations for School Health (2009) Statute 16.21.28.2 (2008) Statute 16.21.28.2 (2008)	Not addressed	Yes, if requirements met	Every school required to have a "Health Program" with certified nurse-teachers who will provide health care under direction of physician, including medication administration
South Carolina	Regulation 61-42, Section XII	Not addressed	Not addressed	Schools are required to have one person trained to recognize "medical distress" and trained in both First Aid and CPR. "Medical Distress" is presumed to include signs and symptoms of hypoglycemia
South Dakota	Statute 13-33A-1 (1993)	Not addressed	Yes, if requirements met	Each school system is required to provide health services to children, including medication administration, but these must be coordinated by a registered nurse
Tennessee	Code 49-5-415 (2011) Code 49-5-415 (2011) Code 49-5-415 (2011)	Yes	Yes, if requirements met	Law allows for "assistance with medication administration" under following conditions: (a) school employee must be a licensed health care professional; (b) student is competent to administer medication with assistance; (c) student's medical condition is stable; (d) self-administration is documented; (e) guidelines for self-administration are followed and parents have granted permission; (f) "assistance" is defined primarily as the storage and timely distribution of medication. Meeting all conditions removes liability in case of injury.

Table 1 (cont.)

State	Pertinent Laws	Self Administration of Insulin Allowed	Staff Administration of Insulin Allowed	Notes
Texas	Education Code 38.012 (1999)	Not addressed	Yes	By law, each school district is required to provide medication to students with chronic illness or disability. How schools will meet this requirement is to be determined via public meetings. <i>Guidelines for Administering Medications in Schools</i> (TX Dept. of State Health Services, 2009) provides an outline for this process.
Utah	Code 53A-11-601 (1988)	Not addressed	Yes, if requirements met	School boards are allowed to adopt policies that guide the administration of medications during the school day. The policies identify which employees will do this, medication storage, and records keeping. A physician's prescription and written parental permission are required. With these requirements met, employees are protected from liability.
Vermont	16 VSA 212 (2006) 16 VSA 563 (2006) School Board Rule 2120 School Board Rule 4222 (2003)	Yes, if requirements met	Yes, if requirements met	Vermont law requires annual updates by Commissioners of Health and Education to superintendents and principals regarding policies addressing needs of children with chronic illnesses. Schools are required to appoint a school nurse (or associate) who has the duty to administer medications to children with life-threatening or chronic illness. With signed physician order, children may self-administer medications but medicines must be in a locked storage cabinet.

Table 1 (cont.)

State	Pertinent Laws	Self Administration of Insulin Allowed	Staff Administration of Insulin Allowed	Notes
Virginia	Code 22.1-274 (1990) 54.1-3408 (2012) Code 22.1-274 (1999)	Yes, if requirements met	Yes, if requirements met	School districts must make policy concerning administration of medications by students themselves as well as school staff. <i>The Manual for the Training of Public Employees in the Administration of Medication</i> (VA Dept. of Education, 2012) describes processes to follow. In any school with ten or more instructional and staff, at least two must be trained in the administration of both insulin and glucagon. Staff/teachers may refuse this education, and if they assent and are trained, they are protected from liability. See <i>Manual for Training of Public School Employees in the Administration of Insulin and Glucagon</i> (VA Dept. of Education, 2011).
Washington	RCW 28A.210.260 (2000) RCW 28A.210.270 (2000)	Not addressed	Not addressed	State law requires the board of directors of a school district to create and adopt policies addressing: (1) designated employee to administer oral medications (this excludes injectable medicines, e.g. insulin and glucagon); (2) storage of these medications; and (3) documentation of physician orders, parental permission, and schedule of administration of medicine. State law protects designated school employees from liability. Employees may opt out of administering medicines to students with advance written notice to parent or guardian.

Table 1 (cont.)

State	Pertinent Laws	Self Administration of Insulin Allowed	Staff Administration of Insulin Allowed	Notes
Wisconsin	Statute 118.29 (2011)	Not addressed	Yes, if requirements met	State law allows staff to administer “over the counter” medicines to students as long as written parental permission is provided and on file. With written parental permission and a physician order, staff may administer prescription medications. Insulin is not specifically noted in the law, but glucagon administration to a “known diabetic” is approved for volunteers and staff.
West Virginia	Code 18-5-22a	Not addressed	Not addressed	State law gives county boards of education the responsibility to develop medication administration policies. School Board Policy 2422.8 (2004) requires written permission from parents/guardians and a physician order for any medicines. This same policy allows non-certified school personnel who have received appropriate training to administer prescription and non-prescription medications to students.
Wyoming	Rule 4362, Chapter VI, Section 17 (2001)	Not addressed	Yes, if requirements met	School districts are required to provide for storage and administration of medications, both over the counter and prescription, to students who need them.

The Way Forward

As Table 1 demonstrates, the laws surrounding insulin administration differ for each state. Some states have clear provisions for delegation and training for school staff who are not licensed medical professionals; others are silent on these issues. In this confusing national landscape regulating insulin administration for children with type 1 diabetes, Catholic school personnel are left with the following question: what *can* legally be done to help children who need insulin? One of the most important responses is education on the laws in place in one's state, followed by an assessment of school policies and procedures and make certain they align with the laws and are sensible and enforceable.

Some educators have approached their state nursing organizations for support in changing laws to allow insulin administration by non-licensed medical personnel. The response of nursing organizations has not been supportive. Indeed, it is the stated policy of the American Nurses Association that, as insulin injections require nursing assessment and judgment, non-licensed persons must not perform this act (American Nurses Association, 2009).

Advocacy groups focused on advancing awareness and support for research on type 1 diabetes can be a good source of information for school personnel looking to develop or revise school policies around the treatment of students with type 1 diabetes (See, for example Wolff, 2012; Schreiner, 2014). While the available resources generally focus on public schools, they can provide a starting point for Catholic schools seeking to understand the scope of the issue and create or adjust school policies and procedures accordingly.

In the remainder of this section, I suggest four approaches Catholic school leaders should take in efforts to improve the legal climate related to care of students with type 1 diabetes in Catholic schools.

Work with state Boards of Nursing

Catholic school administrators must talk with executive directors of their state Board of Nursing. Every Board of Nursing has a legal counsel; this individual will be able to provide a summary of options available to Catholic schools unable to afford a registered nurse, as well as schools where parents are not available to administer insulin or where children cannot do so themselves. While approaches may differ, common ground is easy to find in this

area: the safety of the child. This goal forms a strong foundation to move forward together. Boards of Nursing may have helpful suggestions for methods or resources.

It is important to remember however that Boards of Nursing regulate nursing; they have no direct effect over private citizens. As such, it would be impossible for a Board of Nursing to approve a plan where non-nurses are trained to inject insulin. However, the Board could be a strong ally in approaching the state legislature to amend a law expanding permission for insulin injections by, for example, private individuals who attend a specialized training program. Boards of Nursing could also support legislation seeking delegation protection for registered nurses who educate laypersons to safely administer insulin. None of this will occur without a strong commitment to the safety of the children involved. Focusing on the outcome of safety will advance the conversation in ways nothing else will.

Advocate at the state level

Catholic school administrators must work with state-level elected officials to help them understand the unique needs of Catholic schools. These are the individuals who may have voted for laws restricting insulin use in the first place, and they will be the only persons able to change the law. Working with state legislatures should always include outreach to the Governor's office, as it is this individual who may oppose or approve legislative intent. It is also this person who must ratify legislation with a signature, or at least not veto the law.

Advocacy organizations can provide great support for citizens who work with legislators and Governor's offices. For example, the American Diabetes Association has a position paper on this issue (Rapp, Arent, Dimmick, & Jackson, 2007). This organization has publicly stated it does not support state laws limiting insulin administration only to registered nurses and other licensed medical personnel. Information from these national organizations is important leverage for advocacy groups as they approach state lawmakers.

Collaborate with parents/guardians

A third area where school administrators can pursue resolution to this issue is by working carefully and constructively with parents or guardians, who can in every case legally administer insulin to their child with type 1 diabetes. Some schools have policies that restrict parental involvement in the class-

room. However, assessment of blood sugar and insulin injections do not have to occur in the classroom; these can be done in reserved, private areas and during times that do not interrupt teaching and learning. Some states have laws that actually require this. As an example, it is standard procedure in type 1 diabetes to assess blood sugar after every meal. If the school serves breakfast, a parent or legal guardian who brings the child to school may stay through breakfast. Once the blood sugar reading is obtained and insulin injected, the child is free to attend class. This may be repeated after lunch, during which again the parent or legal guardian assesses blood sugar and administers insulin or checks the insulin pump for proper operation.

One of the most important reasons to involve them in the child's care is the following: Type 1 diabetes can be a traumatic diagnosis for an entire family. Families learn to cope together in ways that can be of great benefit to the school environment and which can heighten the child's safety. Admitting a parent or legal guardian to school for the purpose of monitoring and treating type 1 diabetes does not extend a blanket invitation for every other activity in which the child is involved. Administrators can and should place reasonable boundaries around parental involvement.

Learn from success stories

Finally, a fourth suggestion is to identify advocacy groups and Boards of Nursing personnel from other states that have passed laws that positively affect students with type 1 diabetes. Reinventing the wheel is a tiresome task, and if school personnel can find a process that has been successful in another state, and which can translate to their own needs, the process may move more quickly and smoothly.

Conclusion

This article has presented an initial investigation into the legal landscape that influences the treatment of students with type 1 diabetes in Catholic schools. More systematic research is needed to determine the scope of the issue and the unique ways it impacts schools at different levels (i.e. elementary, secondary), schools in different parts of the country, and schools that serve different populations of students.

At the same time, this article has advocated for school administrators (as well as other school staff) to become highly educated on the laws governing insulin administration in their state. Knowledge of these laws and their im-

pacts on Catholic schools should help guide administrative decisions. For example, if the law absolutely forbids delegation, forbids training of unlicensed personnel, a registered nurse is unavailable to the school, and a student's parents are not able to come to the school as frequently as needed, the child with type 1 diabetes will not be safe. In these circumstances, school administrators may face the difficult decision to defer the student's enrollment. In the case of a currently enrolled child who develops type 1 diabetes and where resources for treatment are similarly unavailable, administrators may face the even more difficult task of asking the student to leave the school. However, it is imperative that school leaders always keep the safety of students—and staff members—in the forefront. The legal guidelines related to insulin administration in schools will continue to be debated and updated; as such leaders have an ongoing responsibility to keep up-to-date on changes to the laws that impact their schools, to participate in advocacy activities, and to communicate clearly with staff, students, and parents about the school's policies, procedures, and expectations related to the care of students with diabetes.

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Helpful Resources for Catholic School Administrators

National Diabetes Education Program School Guide

<http://ndep.nih.gov/publications/PublicationDetail.aspx?PubId=97#main>

National Association of State Boards of Education: State School Health Policy Database

http://www.nasbe.org/healthy_schools/hs/bytopics.php?topicid=4110

Juvenile Diabetes Research Association School Advisory Toolkit for Families

http://jdrf.org/wp-content/docs/JDRF_School_Advisory_Toolkit.pdf

American Diabetes Association Safe at School Guide

<http://www.diabetes.org/living-with-diabetes/parents-and-kids/diabetes-care-at-school/>

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