

## Physicians' Corner

### The Perfect Storm?

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For many of us who don't work in long-term care (LTC) facilities, the concept of dealing with this environment seems as far away as the next thunderstorm. Even though I see a few patients in a local life-care center and follow them as they progress through the assisted-living and skilled-care facilities, I still don't feel that the LTC environment is strongly impacting my professional life. But, much like *The Perfect Storm*, the captivating story authored by Sebastian Junger,<sup>1</sup> 3 influences brewing just over the horizon are likely to combine to create a "perfect storm" in patient care. My first clue came when a contemporary recently gave his wife an LTC insurance policy for a birthday present (I never said he was a romantic). It was a sudden reminder that the swollen ranks of the aging baby-boomer generation are soon to face some new challenges. Second, in my community of ~300,000, seven internists have left private practice in the past 12 months, leaving ~20,000 people without a personal physician. The ranks of primary care providers are shrinking, so there will be fewer providers for more aging patients.<sup>2</sup> Finally, the incidence of diabetes is increasing at an alarming rate.<sup>3</sup> Twenty percent of LTC admissions are diabetes related,<sup>4</sup> and these numbers threaten to continue rising. Clearly, more patients, fewer providers, and an increasing incidence of diabetes threaten to slam the LTC environment with a devastating perfect storm.

#### ILL WINDS BLOWING

As a sailor, I know that many things must be done when a storm is bearing down and you can't outrun it. We surely can't decrease the number of aging "boomers," but we can prepare them for the storm by addressing the benefits of aggressive lifestyle management, similar to the beneficial interventions of the Diabetes Prevention Program.<sup>5</sup> Because there are no real costs or adverse effects associated with such intervention, why shouldn't all our patients be instructed and encouraged to follow a plan of regular physical exercise, prudent diet, and weight management? It seems unlikely in the short term that we will produce more primary care physicians, so perhaps the best approach to weathering the developing storm is to be wide open about redesigning how primary care is delivered. Some very bright minds are doing just that right now, looking at how nurse practitioners, physician assistants, and certified diabetes educators can be more effectively brought into a redesigned method of delivering primary care.<sup>6</sup> Clearly, new approaches that deliver quality care with fewer trained physicians are needed to meet the increasing demands. Finally, there is no indication that type 2 diabetes mellitus (DM) is going away any time soon! The good news is that we have never had a better array of therapeutic options to treat type 2 DM,<sup>7</sup> but neither has the need ever been greater for effective and cost-efficient deployment of these tools.

#### BATTEN DOWN THE HATCHES

Because it seems inevitable that this storm will bear down on the LTC arena, just as it will on all of primary care, it is important for this community to be prepared and well equipped to weather the storm. I interviewed the nursing director of the LTC facility where I see patients (M. Thomas, oral communication, November 2008) and distilled from our conversation that 3 factors in our LTC community need to be optimized to project good diabetes care into the future. First, the inherent nature of an LTC facility poses some unique barriers. Often the patients can no longer advocate for themselves, and they depend wholly on the health care staff, who themselves may not fully understand the management strategies and treatment goals for type 2 DM. Staff education and understanding are obviously critical, because they serve as the patient's voice. Second, the patterns of staffing may be quite different from those seen in the usual hospital setting. There are likely more patients per nursing staff, who themselves may be less well-trained than nurses in the hospital setting. There are likely to be fewer registered nurses and more licensed practical nurses and medical assistants with greater responsibilities in carrying out critical roles. The physician staff functions less as a cohesive unit than one would find in an organized department of medicine in a hospital. This can lead to a variety of disconnected therapeutic approaches in a single facility being carried out by staff who may not fully grasp "the plan." Often physicians see a few residents in several facilities, so there is less of a personal investment in the function of any one facility and, therefore, less ability on the part of the nursing and medical directors to leverage unified medical staff behavior. Although the facility's medical director may "get it" when it comes to effective diabetic management, he or she is truly in a position of "herding cats" when trying to develop a cohesive plan of diabetes management for the medical staff.

There clearly needs to be a dedicated advocate for diabetes care within the LTC facility who will take on the responsibility of unifying physician action and thereby simplifying the task of the nursing staff.

Finally, the long-term aspect of LTC is likely to create pressures to use low-cost therapeutic options rather than the most cost-effective options. Because the cost of treating complications of type 2 DM isn't seen immediately on the LTC balance sheet, it may be easier to accept less than goal-oriented treatment outcomes, which call for a glycosylated hemoglobin (A1C) level of <7.0% for all residents unless life expectancy is seriously limited, in which case an A1C level of <8.0% is acceptable.<sup>8</sup> As the pharmacy pushes for the least expensive therapy, it is doubtful that equal consideration is given to ease of treatment when it comes to administering insulin. The flexibility of timing, dosing frequencies, and reduced risk of hypoglycemia may make a more expensive product more cost-effective. Newer insulin analogues may actually be a better option for LTC than older, low-cost insulins.

As the nursing director and I talked, 3 possible strategies evolved to allow an LTC facility to be better prepared for the upcoming storm. Ongoing educational effort for the LTC staff is critical to producing good diabetes care. Generally, less well-trained staff with frequent turnover may be a barrier to education, but it certainly does not preclude effective training, nor does it diminish the need. The LTC facility needs to allocate time for diabetes training, and the medical staff needs to be willing to teach. The more the staff understands a cohesive plan of diabetes management, the better they will perform. Adoption of a scheme such as the consensus algorithm developed by the American Diabetes Association and the European Association for the Study of Diabetes might serve as an excellent backbone for diabetes care and for teaching.<sup>9</sup>

The LTC medical staff can contribute to better care by implementing a standardized diabetic management practice. Although hospital programs have often been "hard to come by," they seem to improve glycemic control while protecting against hypoglycemia (J. Nesbitt and P. Noland, written and oral communication, March 2009). It seems obvious that a well-crafted, unified, facility-wide protocol will lead to better patient outcomes and fewer wasted staff hours dealing with unnecessary consequences of treatment, such as hypoglycemia. I wonder how many staff hours are wasted on the telephone seeking hard-to-locate providers when a simple protocol might have produced better control with fewer adverse effects, obviating the need for the call in the first place. To accomplish the task of establishing a facility-wide protocol, it is likely that a "diabetes champion" will be needed to lead the development and implementation, as well as long-term oversight, of a diabetes care plan. This diabetes champion may be the medical director or a designee. Such an overarching plan could have huge benefits for hard-working nursing staff who may have only a marginal understanding of diabetes care. Certainly, we have seen diabetes care in the hospital setting improve with such a strategy, and there is no reason to believe that this would not translate to the LTC arena.<sup>10</sup>

Finally, the medical director and diabetes champion need to advocate at every level for the selection of the most overall effective and cost-efficient therapeutic strategies in their facility. The risk of hypoglycemia is significantly lower with a basal insulin strategy that uses an analogue (glargine or detemir) than with the less expensive neutral protamine Hagedorn insulin.<sup>11,12</sup> One can quickly see how the extra cost of a basal insulin analogue may easily be recouped (through reductions in manpower and resources) by not having to treat hypoglycemia. The simple choice of a truly once-daily basal insulin instead of a twice-daily basal regimen (**Table I**) reduces the staff cost of injection by 50%. Rapid-acting insulin analogues allow dosing at mealtimes, and glulisine is even indicated for administration up to 20 minutes after a meal,<sup>13</sup> allowing the dosing decision to be based on actual food intake at that meal (**Table II**). The consequence of better timing plus the opportunity to more accurately calculate the dosage obviously reduces the risk of hypoglycemia and improves glycemic control.

### PREPARATION PAYS OFF

A perfect storm is looming over our LTC facilities. Although our whole medical system may ultimately need revision to weather the storm, there seem to be at least 3 strategies that will improve LTC of patients with diabetes. First, make a commitment to better educate LTC staff regarding diabetes care. Second, create a facility diabetes champion whose goal is to foster and maintain a high-quality, unified diabetes management plan to simplify the strategy of care for the nursing staff. Finally, the medical director, diabetes champion, nursing director, and others need to be powerful advocates for use of the most efficient forms of insulin therapy that are associated with the least burden of administration and the fewest likely adverse effects.

**Table I.** Basal insulin therapies.\*

Insulin Product	Daily Administration	Peaking of Insulin Activity
Neutral protamine Hagedorn†	Twice	Significant
Detemir‡	Once or twice	Dose dependent
Glargine§	Once	Essentially peakless

\* See product-specific prescribing information.

† Multiple brand names.

‡ Trademark: Levemir® (Novo Nordisk Inc., Princeton, New Jersey).

§ Trademark: Lantus® (sanofi-aventis U.S. LLC, Bridgewater, New Jersey).

**Table II.** Mealtime insulins.\*

Mealtime Insulin	Injection Time Before Meal	Give With Meal	Give After Meal
Regular human insulin <sup>†</sup>	30–45 Minutes	No	No
Aspart <sup>‡</sup>	Immediately	Yes	?
Glulisine <sup>§</sup>	Immediately	Yes	Up to 20 minutes
Lispro <sup>  </sup>	Immediately	Yes	Immediately

\*See product-specific prescribing information.

<sup>†</sup> Multiple brand names.

<sup>‡</sup> Trademark: NovoLog<sup>®</sup> (Novo Nordisk Inc., Princeton, New Jersey).

<sup>§</sup> Trademark: Apidra<sup>®</sup> (sanofi-aventis U.S. LLC, Bridgewater, New Jersey).

<sup>||</sup> Trademark: Humalog<sup>®</sup> (Eli Lilly and Company, Indianapolis, Indiana).

If we make adequate preparations and plan wisely, we can avoid being inundated by this perfect storm. Although the LTC environment may pose some unique barriers to diabetes care, this can be overcome with careful planning and a sound strategy. As the numbers of aging and diabetic patients increase, it is clear that many of us, as practitioners, will be in the storm-tossed LTC boat together.

## REFERENCES

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