

June 11, 2003

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Dinah Skrnick
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Department of Health
Florida Board of Pharmacy
4052 Bald Cypress Way, Bin #C-04
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RE: REPORT TO LEGISLATURE PURSUANT TO SB 1280

Dear Madams:

Senate Bill 1280 (2000) authorized a Demonstration Project for Automated Dispensing machines to be used in nursing homes. A consortium consisting of Morse Geriatric Center's Institute for Geriatric Research and Training, Pyxis Corporation (suppliers of automated dispensing machines), NeighborCare Pharmacy, and Compscript Pharmacy have voluntarily spent in excess of \$200,000 to bring the project to completion. Operationally, there were some delays as a result of a change in pharmacies and some computer interface issues; however, the demonstration project has now produced data about the use of automated dispensing machines in long-term care settings.

The company selected for supplying the machines, Pyxis is well known for automated dispensing in hospitals and the legislation permitted installation of Pyxis into a skilled nursing facility. As a brief review, the machines contain medicines that are not patient specific. Security to the system is provided by passwords. Narcotic medicines must be accounted for in real time and these medicines require the user to input the actual number

in the specified storage bin referred to as a CUBIE (Computerized Unit Based Information Exchange). For narcotic medicines, the user is required to actually hand count the number of pills in the CUBIE as a further check on the system. The system also enables managers to print discrepancy reports at any time to insure that all medicines are accounted for and reconciled. These discrepancy reports were printed routinely during the demonstration project.

Perhaps the most critical issue for nursing homes regarding narcotic medications is the waste of medications caused by resident death, change in condition, adverse reaction, and a variety of clinical issues that would cause a physician to change a medication order. Morse Geriatric Center collected data for all medicines on two separate units since mid-September, 2002 and data collection was completed March 21, 2003. Having now collected the data, we know unequivocally that the system works! There is virtually no waste of narcotics with the automated dispensing system. It does take time to train staff on the use of the system and there is clearly a learning curve for effective operation, however, there is a consensus here that the operational barriers can be mitigated with proper training. The issues learned at Morse during this demonstration project can be applied to other sites in the future.

To calculate the specific effect of automated dispensing statewide we have collected data from Morse Geriatric Center and extrapolated these findings for the state. Morse Geriatric Center destroyed 4,955 narcotic medications during the previous six months. With the automated dispensing system, no narcotic medications were destroyed. Taking the number of available beds at Morse (259) and annualizing the number of narcotic medicines destroyed we determine that 9,910 narcotic medicines were destroyed in the past year at Morse. We know that there are 81,000 skilled nursing home beds in the state of Florida, so if we apply the numbers of destroyed narcotic medicines each year, we project that 3,099,266 doses of narcotic medicines were destroyed statewide. We further assume that 65% of the occupied beds are Medicaid beds so the 65% of the 3,099,266 statewide doses destroyed translates to 2,014,523 Medicaid paid doses destroyed in a year.

To compute the costs associated with this destruction of narcotic medication, the most frequently used narcotic medicines (N=26) at Morse were reviewed and analyzed to determine an average cost per dose. The average cost per dose was estimated at \$.95. If this average cost per dose is applied statewide, then the cost to the state for Medicaid destroyed narcotic medicines is \$1,913,797.

The costs identified in the above discussion do not consider the filling fees also paid for by Medicaid. While we are unable to calculate the cost to the state for this charge, it is clear that on a statewide basis, the cost is substantial. Automated dispensing also eliminates the need to return non-narcotic medications. The costs of restocking fees would also be eliminated.

Automated dispensing has some additional benefits that we can report based on anecdotal experiences noted during the course of the pilot study. The availability of first dose medication is consistent with good resident care. This is particularly true for antibiotic medications where the ability to initiate medication almost immediately can stem the progression of infection. When medicine is delivered in a timelier manner, it leads to more speedy recuperative time and can reduce the number of hospitalizations and/or hospital days that Medicaid pays for. Similarly, availability of anti-psychotic medication on site can reduce the need to Baker Act individuals who are a danger to self, others, or gravely disabled. The presence of the automated dispensing machines also lowers the pharmacy costs associated with delivering medicine and the time costs associated with the physical destruction of the medication. The experience with automated dispensing and Pyxis clearly leads to better controls over the medicine. The password security system translates to increased safety for residents. The computerized inventory and report features of the system convert to increased accuracy with billing as it insures elimination of non-narcotic returns for credit.

Correspondence: Pyxis Report to the Legislature
January 25, 2007
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Limitations/Discussion

The data presented in this report is limited to one skilled nursing facility in South Florida. One should exercise caution before applying these numbers statewide, as it is possible Morse Geriatric Center may be somewhat atypical. Morse does not presently perform short term or sub acute rehabilitation services and this may, if anything, deflate the actual reported numbers of destroyed medications because the short term stay population is more clinically prone to be prescribed narcotic medication. In addition, Morse Geriatric Center has two full time physicians dedicated to the residents. These physicians have such close proximity to the residents, so their prescription patterns may, in fact be, somewhat parsimonious, further deflating the numbers of destroyed medications at Morse.

I am available to discuss the contents of this letter with you in greater detail.

Sincerely,

Alan D. Sadowsky, Ph.D.
Vice President Research & Training

ADS:jm

Pc: E.Scott Boord
Senior Vice President, Chief Operating Officer
Morse Geriatric Center