

Automated Medication Dispensing in Long Term Care

Gerontological Society of America

Boston, Massachusetts

November 24, 2002

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BACKGROUND

- ❖ **Florida State legislature 2000**
- ❖ **Demonstration project (SB1280 section 10)**
- ❖ **AHCA and Board of Pharmacy – Feasibility Study approved**
- ❖ **Requires report to State legislature**
- ❖ **RFP sent to State NH Administrators July 2000**



IMPETUS for CHANGE

- ❖ **Automated systems not allowed in LTC**
- ❖ **Patient specific vs. non-patient specific medications**
- ❖ **Destroying unused medications – current system**
- ❖ **Administrative costs**
- ❖ **Medical process issues – physician's perspective**



NARCOTICS as a SPECIAL ISSUE

- ❖ **Controls/Inventory**
- ❖ **Security**
- ❖ **Cost savings**
- ❖ **Liability – additional narcotics on site**



MORSE GERIATRIC CENTER

- ❖ **Location/History**
- ❖ **Services – Highlights**
- ❖ **Institute of Geriatric Research & Training**
- ❖ **Full-time Geriatric physician**
- ❖ **Selected as demonstration site**

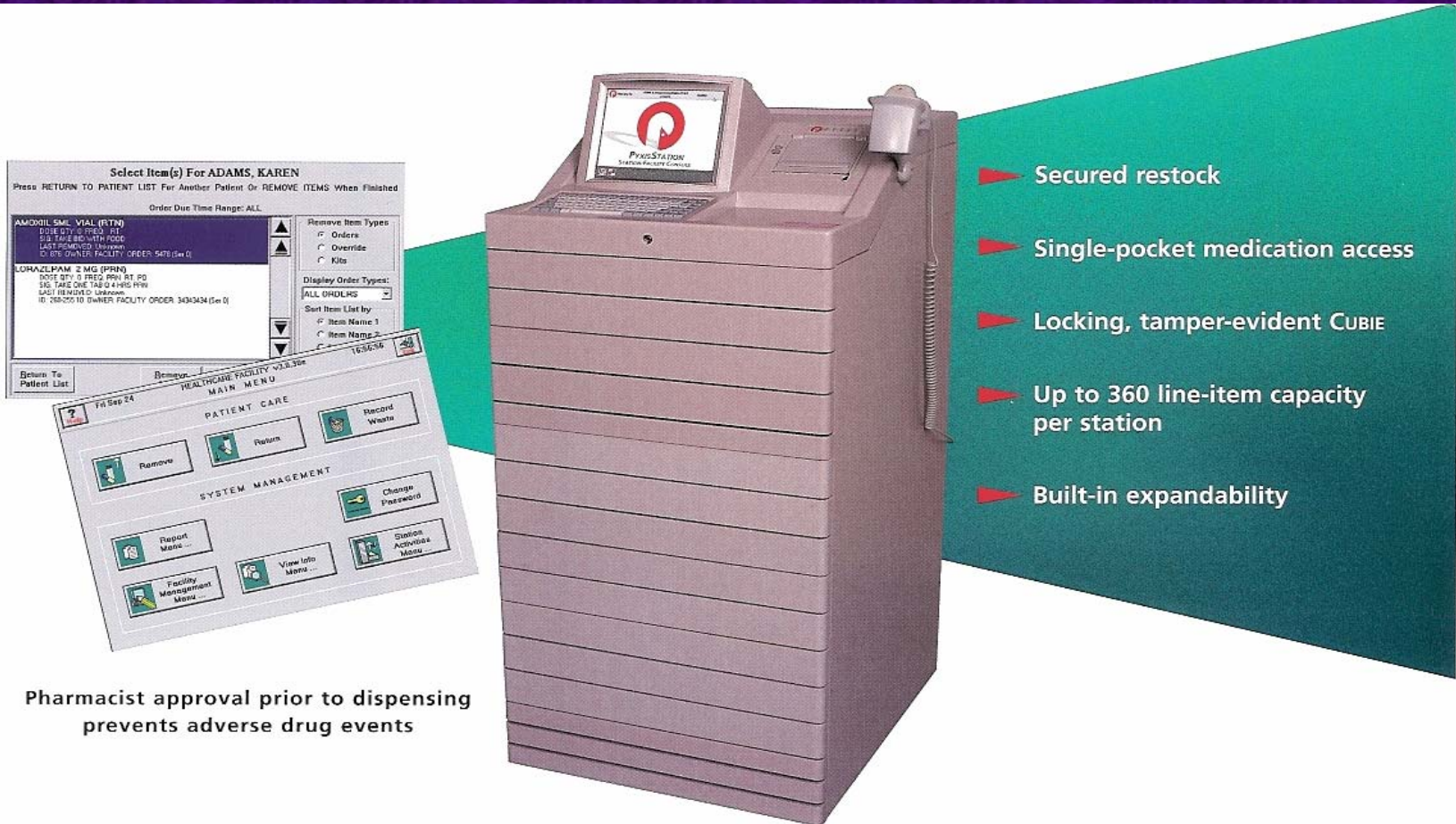


PYXIS

- ❖ **San Diego based company**
- ❖ **4,000 systems installed nation-wide**
- ❖ **Smart CUBIE system**
- ❖ **Central console**
- ❖ **Pyxis, nursing station, and pharmacy electronically linked**
- ❖ **Report capabilities**



PYXIS ILLUSTRATION



The image shows a Pyxis medication dispensing station, a tall, beige, multi-drawer unit with a screen and keypad at the top. To the left, two screenshots of the Pyxis software interface are overlaid. The top screenshot is titled "Select Item(s) For ADAMS, KAREN" and shows a list of medications with checkboxes for "Remove Item Types" (Orders, Override, Kits) and "Display Order Types" (ALL ORDERS). The bottom screenshot is titled "HEALTHCARE FACILITY v3.3.30" and shows a "MAIN MENU" with buttons for "Remove", "Return", "Record Waiver", "Report Menu...", "Facility Management Menu...", "View Info Menu...", "Change Password", and "Station Activities Menu".

- ▶ Secured restock
- ▶ Single-pocket medication access
- ▶ Locking, tamper-evident CUBIE
- ▶ Up to 360 line-item capacity per station
- ▶ Built-in expandability

Pharmacist approval prior to dispensing prevents adverse drug events



AUTOMATED DISPENSING

- ❖ **Levels of security built-in only authorized users allowed**
- ❖ **CUBIE – Access to a single medication during removal process**
- ❖ **CUIBE can be used over and over for the same medications**
- ❖ **Communicates with Pyxis stations**



PROPOSED PROJECT

❖ Phase I (3 months)

- **First dose**
- **Emergency dose PRN**
- **Missing doses to residents for no more than 72 hours per drug/per resident**
- **Only meds removed will have MD orders**

❖ Phase II (6 months)

- **All meds to be dispensed**
- **Interface to pharmacy clinical system**
- **Complete pt. Profile will be maintained on system**
- **Only meds removed will have MD orders**



RESEARCH QUESTIONS

- ❖ **Total costs of all medications control vs study group**
- ❖ **Cost of Medicaid medications control vs study groups**
- ❖ **Time elapsed from initial medication order to first dose (control vs. study group)**
- ❖ **Capture all costs associated with destroying unused medications**
- ❖ **Compare administrative costs restocking-delivery-control vs. study**



OPERATIONAL CHALLENGES

- ❖ **Downloading resident pharmacy information**
- ❖ **Computer issues – interfaces**
- ❖ **Communication in-house and with pharmacy**
- ❖ **User training**
- ❖ **Pharmacy approvals**
- ❖ **Fiscal issues**
- ❖ **Change in pharmacy**



CURRENT STATUS

- ❖ **“Go Live” date**
- ❖ **All approvals secured**
- ❖ **3-month window to collect data – full profile**
- ❖ **Legislative report**



IMPLICATIONS

- ❖ **Cost-benefits to be determined**
- ❖ **All costs- including admin costs to be evaluated**
- ❖ **Problems encountered – routine or project specific**
- ❖ **Policy issues – discussion to include, cost, error rate, security, control**

