

Sticking it to them: Infection-control practices in Virginia assisted living facilities

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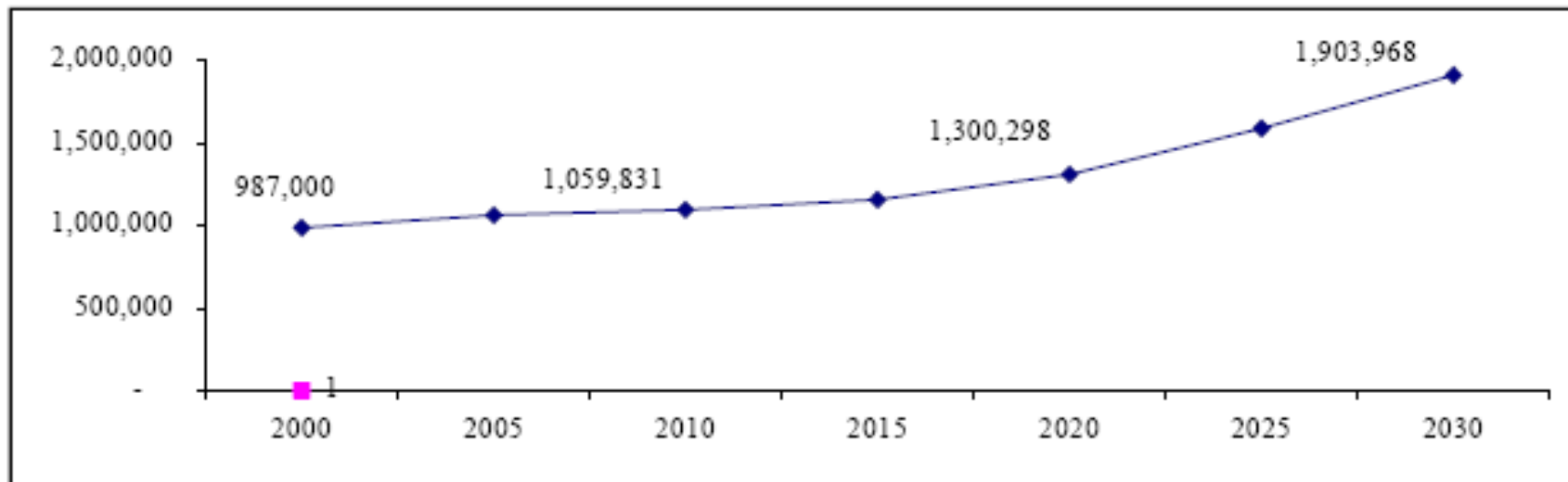
Assisted Living Facilities (ALFs)

- Different from nursing homes
- Facilities for persons needing assistance with activities of daily living
- Offer intermediate level of long term care for adults
- Operate under a social model

Increase in ALFs

613,000 beds in 1991 → 938,000 beds in 2004

Figure S-2: Projected Growth of Assisted Living Beds Based on Population Growth for Those 75 Years and Older



Source: NCAL analysis of data from US Bureau of the Census, 1999 Statistical Abstract of the United States, No. 17, Resident Populations by Age 1999 to 2050, page 17, middle series.

Governance over ALFs

- **No federal oversight**
- **Regulations vary by state**
- **Virginia**
 - **Licensed by the Department of Social Services (DSS)**
 - **State regulations did not mention specific infection control requirements**
 - **OSHA bloodborne pathogen standard**

Hepatitis B Outbreaks in Assisted Living Facilities — August 2005

- **Virginia Department of Health (VDH) notified**
- **Outbreak 1**
 - **Assisted living facility with 84 residents**
 - **Two cases of acute hepatitis B (HBV)**
 - **Adjacent rooms**
 - **Diabetic**
- **Outbreak 2**
 - **One acute hepatitis B death**

Outbreak Investigation Results

- **Outbreak 1 serologic testing results**
 - 7/39 persons = 18% positive
 - 7/20 diabetics = 35% positive
- **Outbreak 2 serologic testing results**
 - 4/29 persons tested = 14% positive
- **All cases among diabetic residents who had blood glucose monitored by facility staff**

Infection Control Assessments

- **Glucose monitoring equipment shared among diabetic residents and staff**
- **Glucometers and penlet fingerstick devices were not cleaned between uses**
- **No infection-control policies**



Outbreak Response

- **Outbreak facilities educated**
- **Collaboration with Virginia Department of Social Services and CDC**
- **Educational mailing to all 640 Virginia assisted living facilities**
- **Follow-up survey**

Survey Objectives

- **Characterize existing glucose monitoring and infection control practices**
- **Promote safe procedures**
 - **OSHA bloodborne pathogen standard compliance**
- **Identify educational and policy needs**

Survey Sample

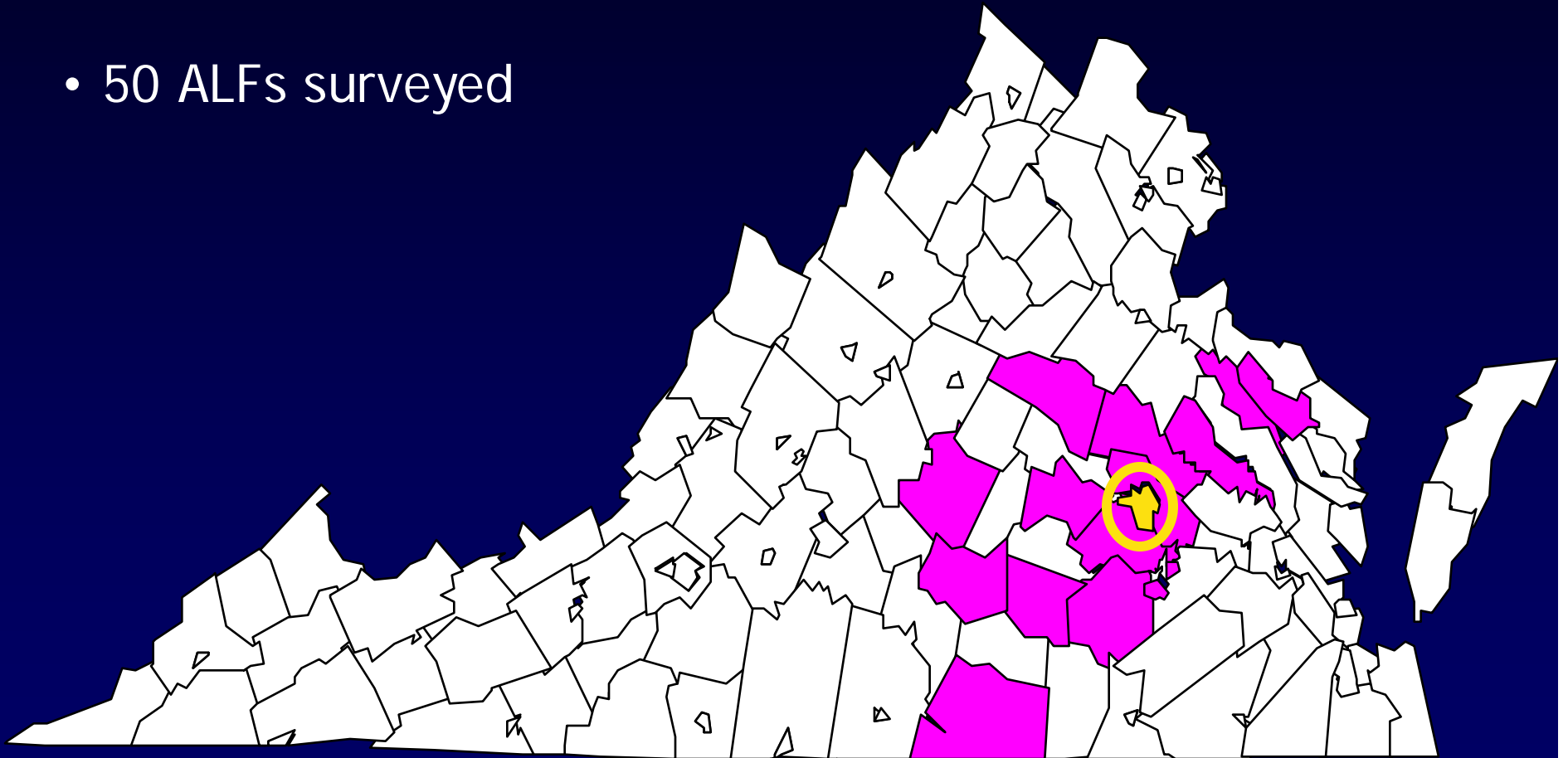
- **155 ALFs in central Virginia**
- **Random sample**
- **Sampled ALFs were contacted by mail and telephone**
- **Target sample size = 50 ALFs**

ALF Site Visits

- **Conducted April – November 2006**
- **Questionnaire**
 - Resident and staff characteristics
 - Diabetes management practices
 - Infection control practices
- **Observational/walk-through survey**
- **Educational discussion**

Location of Surveyed ALFs in Virginia

- 50 ALFs surveyed



Facility Characteristics

- **Ownership**
 - **32% Individual**
 - **68% Corporation**
- **12% affiliated with nursing home**
- **Median number residents = 41 (3–111)**
- **Median percentage of diabetics = 14 (0–50)**

Median Number of Full-Time Health-Care Staff by ALF Size

	< 17 beds n = 10	17-50 beds n = 15	>50 beds n = 25	Total n = 50
Licensed nurses	0	0	2	1
Certified Nursing Assistants	0	0	9	2
Medication Technicians	2	4	8	5

Shared Devices

- **7/45 (16%) shared penlet fingerstick devices**
 - **0/7 (0%) cleaned between residents**
- **8/50 (16%) shared glucometers**
 - **4/8 (50%) cleaned between residents**
- **Sharing practices did not differ by facility**
 - **Size**
 - **Ownership**

Safety Equipment

- 31/50 (62%) did not use safety lancets
- 11/49 (78%) did not use safety needles
- Use of safety devices (lancets or needles)
 - Did not differ by ownership (Fisher's Exact $P = .70$)
 - Larger ALFs more likely to use safety devices (Fisher's Exact χ^2 d.f. 2, $P = .01$)



Bloodborne Pathogen Standard Compliance by ALF Size

	< 17 beds n = 10	17-50 beds n = 15	>50 beds n = 25
Bloodborne Pathogen Standard Compliance	4 (40%)	6 (40%)	23 (92%)
No Bloodborne Pathogen Plan	6 (60%)	9 (60%)	2 (8%)

Fisher's Exact χ^2 d.f. 2, P -value = <.001

Bloodborne Pathogen Standard by ALF Ownership

	Individual n = 15	Corporation n = 35
Bloodborne Pathogen Standard Compliance	6 (40%)	27 (76%)
No Bloodborne Pathogen Plan	9 (60%)	8 (24%)

χ^2 d.f. 1, P -value = <.001

Walk Through Observations

	Yes n (%)	No % (n)
Regulated sharps container	45 (90%)	5 (10%)
Handwashing supplies at sink	42 (89%)	5 (11%)
Sink near glucose monitoring areas	33 (67%)	16 (33%)

Conclusions

- **Corporate-owned ALFs were more likely to have infection-control plans**
- **Despite outreach**
 - **Greater than one-third noncompliant with federal recommendations**
 - **Glucose monitoring device sharing persisted**
- **Educational need still exists**

Limitations

- **Unable to fully observe practices**
- **Sample limited to central Virginia**
- **ALF licensing regulations vary by state**

Recommendations

- **Educate ALF staff**
- **Promote bloodborne pathogen standard compliance in assisted living**
- **Incorporate specific guidelines into state regulation**

Future Actions/Activities

- **Infection control plans in ALFs now mandated by state regulation**
- **Develop educational materials**
- **Develop train the trainer program**

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- Disclaimer
 - The findings and conclusions in this presentation have not been formally disseminated by the Centers for Disease Control and Prevention and should not be construed to represent any agency determination or policy.

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BACK UP SLIDES

Characteristics of Facilities Sharing Penlets

- 7 Facilities shared penlet devices
- 71% affiliated with corporation
- Facility size 16 – 94 beds
- Penlets shared among 2 – 24 diabetics
- None used safety lancets

Bloodborne Pathogen Standard Compliance

- **65% ALFs offered employees hepatitis B virus vaccine**
- **Post-vaccination testing not performed**
- **Post-exposure follow-up after sharps injury**
 - **84% follow-up**
- **10% did not have a regulated sharps container**