HEALTHY CHICAGO
CHICAGO DEPARTMENT OF PUBLIC HEALTH

Candida auris
Emergence and Containment Efforts in the Chicago Region

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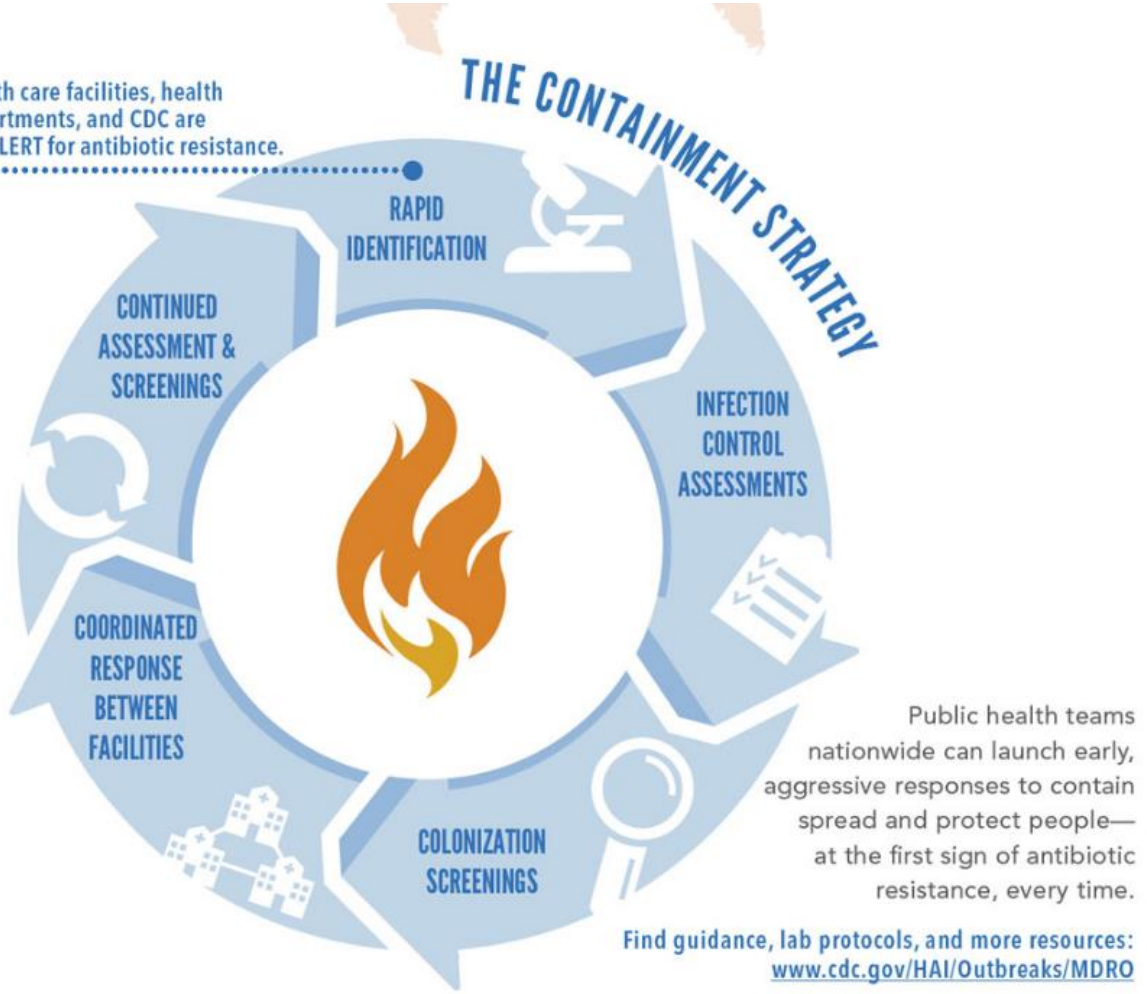
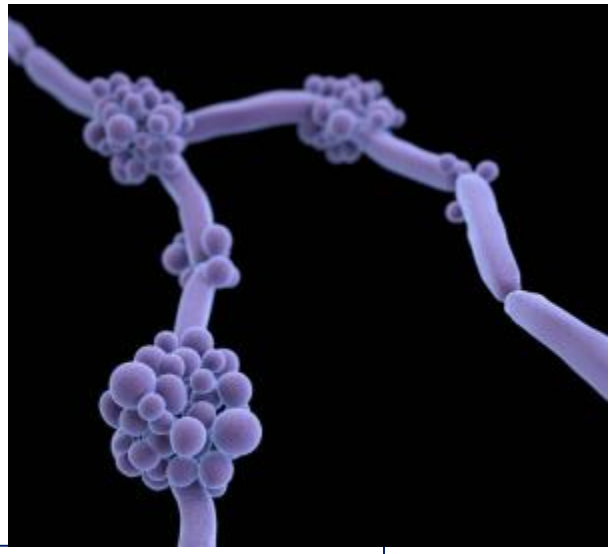
MDRO Containment Strategy



https://www.cdc.gov/hai/outbreaks/docs/Health-Response-Contain-MDRO.pdf

Emerging Multi-drug Resistant Yeast



Microbiol Immunol 2009; **53**: 41–44
doi:10.1111/j.1348-0421.2008.00083.x

ORIGINAL ARTICLE

Candida auris sp. nov., a novel ascomycetous yeast isolated from the external ear canal of an inpatient in a Japanese hospital

Kazuo Satoh[1,2], Koichi Makimura[1,3], Yayoi Hasumi[1], Yayoi Nishiyama[1], Katsuhisa Uchida[1] and Hideyo Yamaguchi[1]

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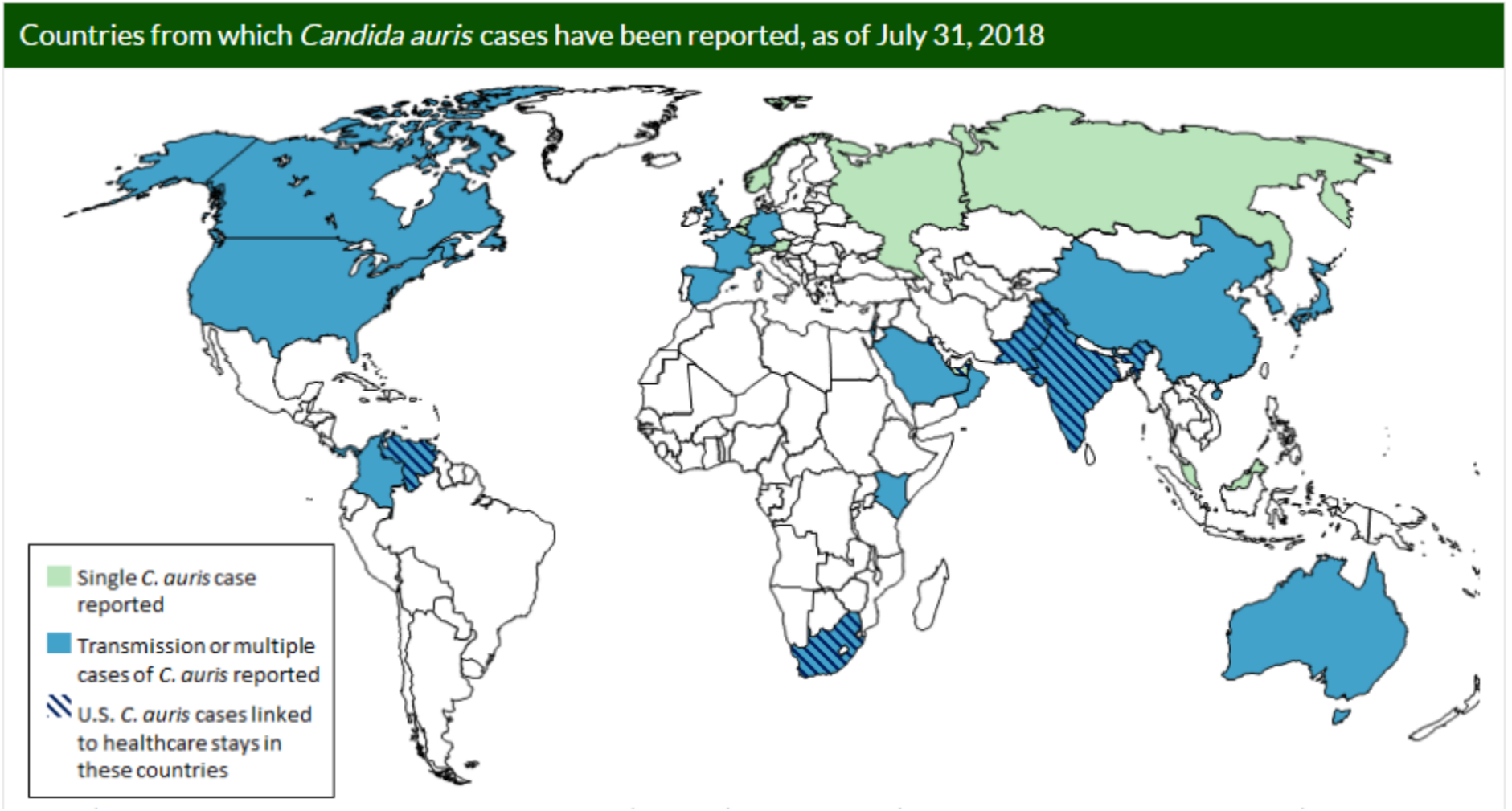
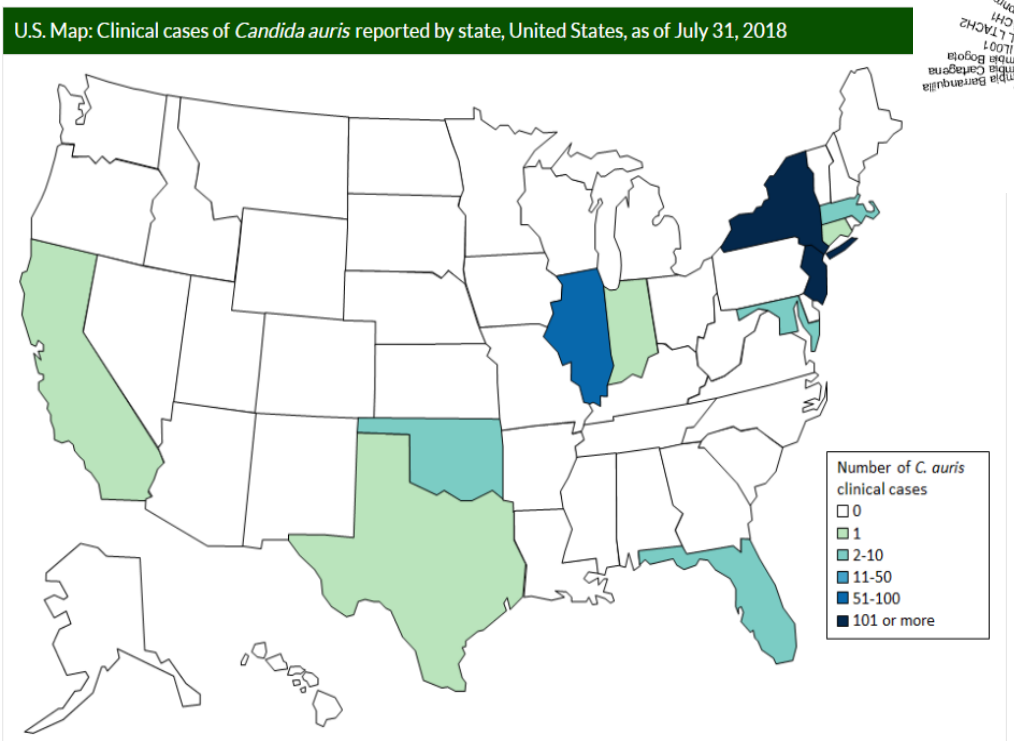
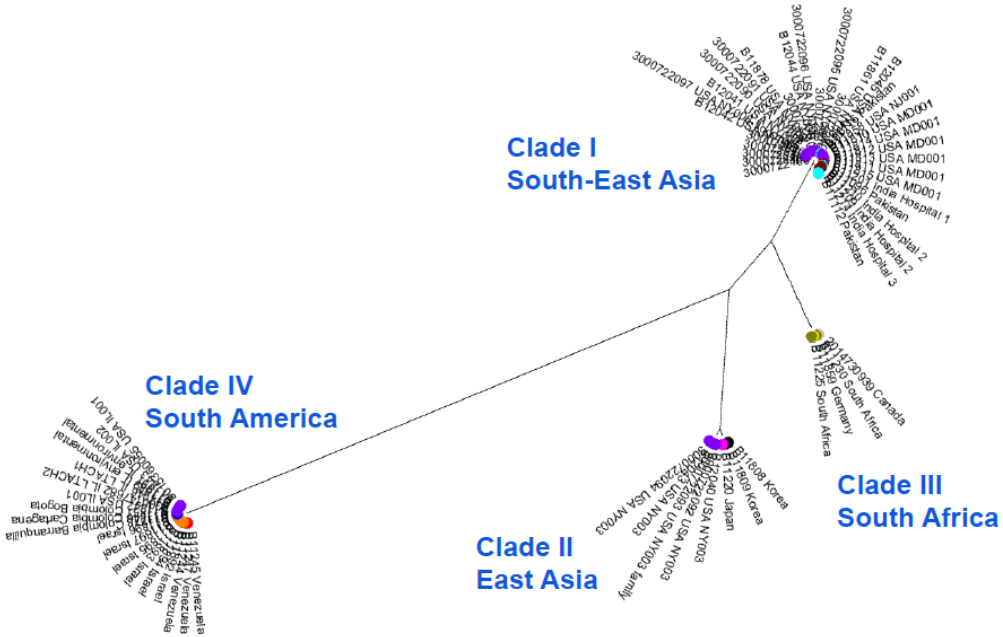
Global Emergence



https://www.cdc.gov/fungal/candida-auris/tracking-c-auris.html

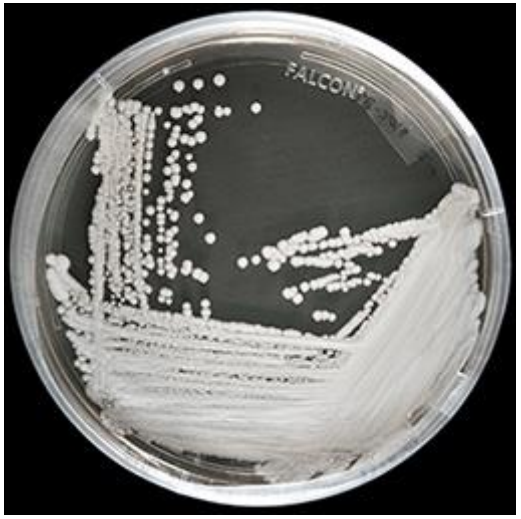
C auris Emergence in the US





https://www.cdc.gov/fungal/candida-auris/tracking-c-auris.html

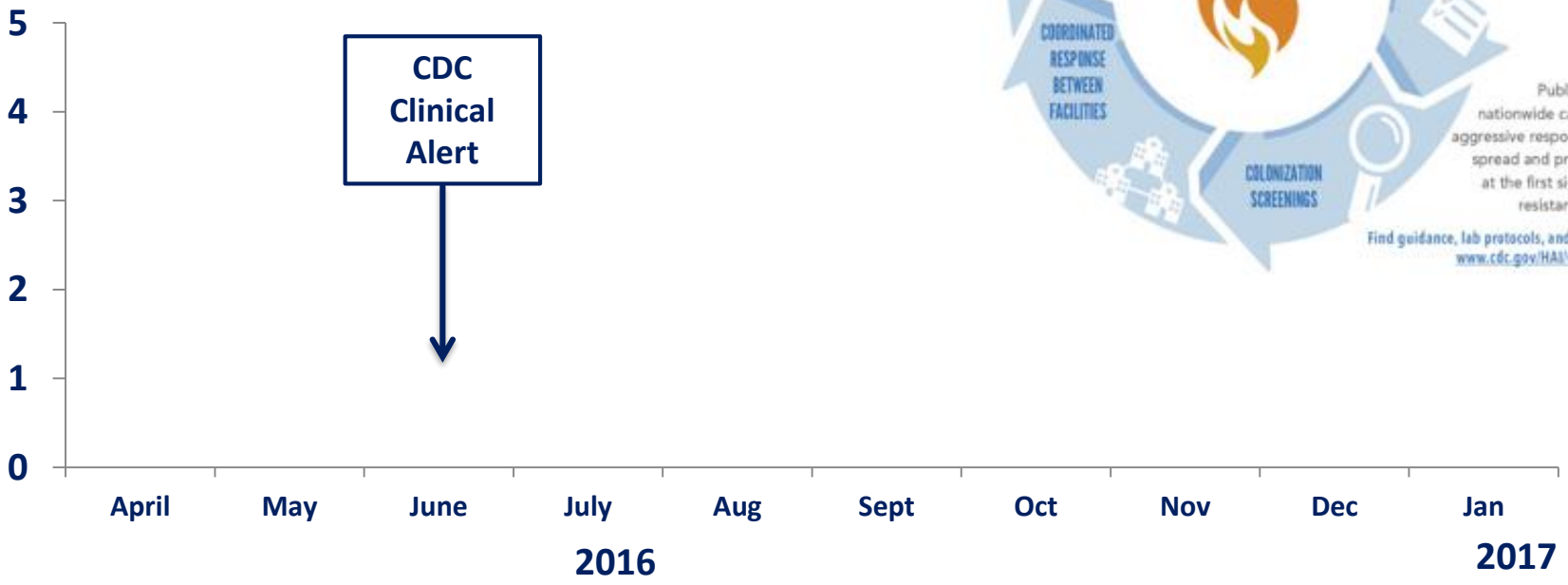
Why is *C auris* a Problem?



- It causes serious infections
- Antifungal resistance
- Healthcare-associated outbreaks
- Lab misidentification
- Requires disinfection with sporicidal agent
- Persistent colonization
- Persistence in environment

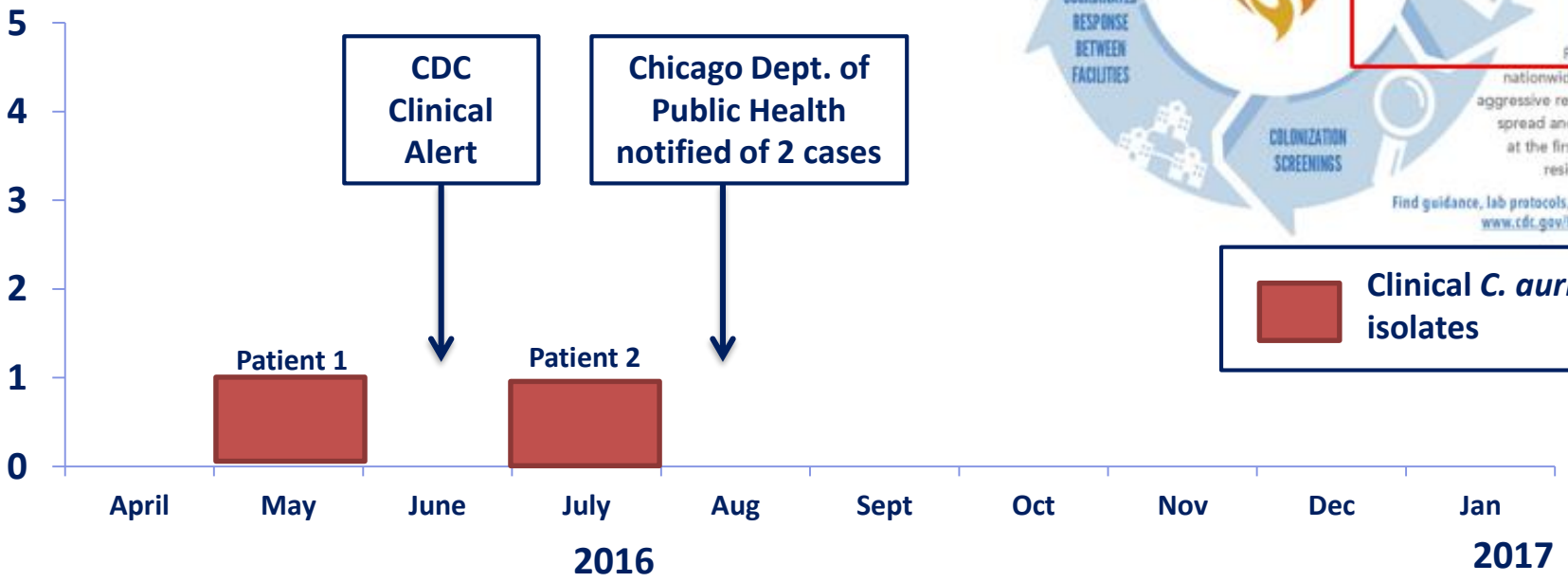
https://www.cdc.gov/fungal/candida-auris/candida-auris-qanda.html

C. auris Emergence in the Chicago Region



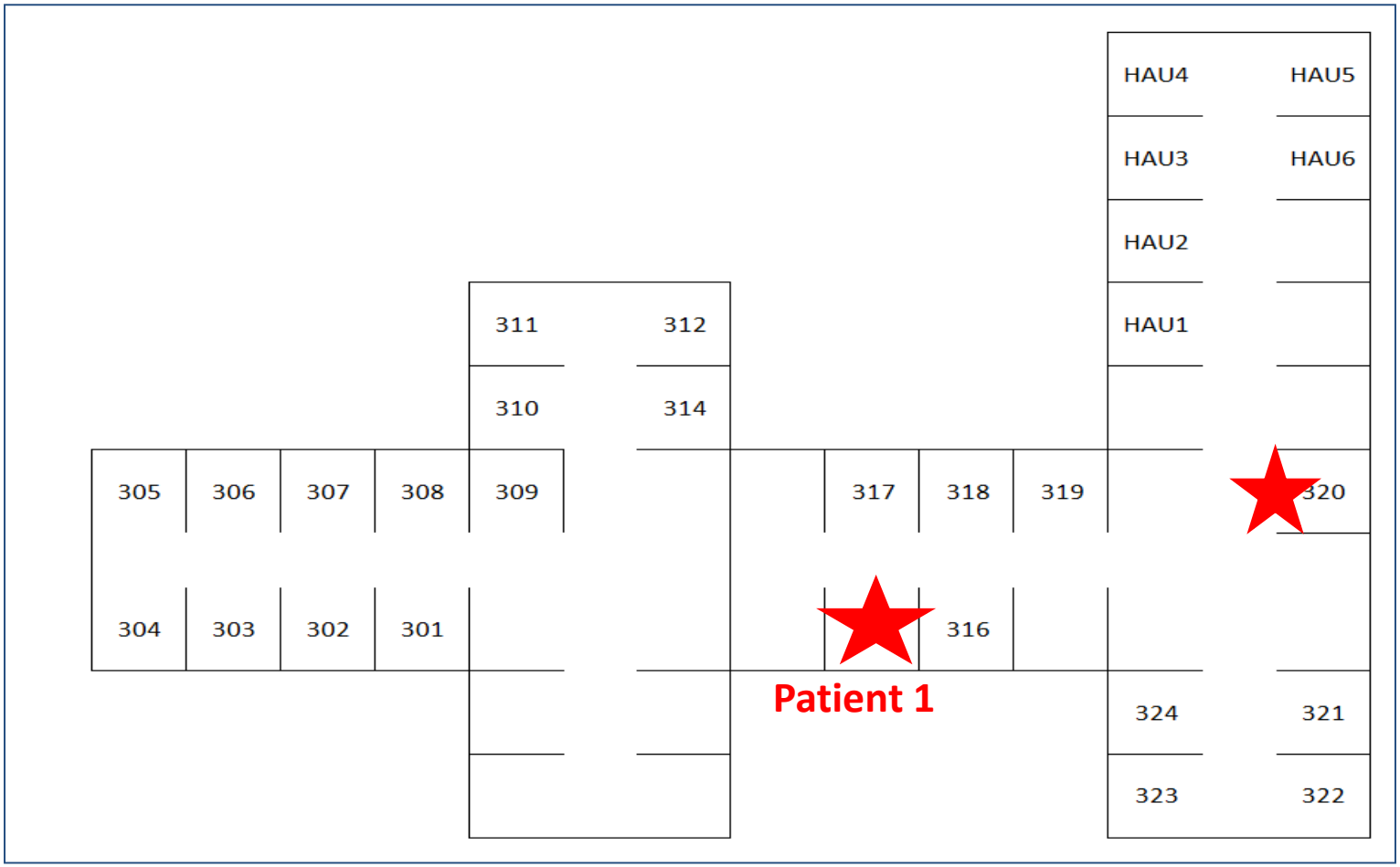
Adapted slide courtesy of Janna L. Kerins, VMD, MPH

Two *C auris* cases in Chicago

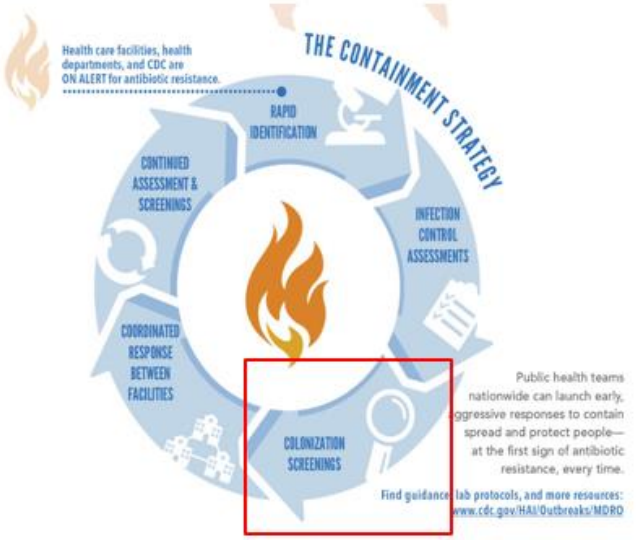


Adapted slide courtesy of Janna L. Kerins, VMD, MPH

Overlap in Location at LTACH A



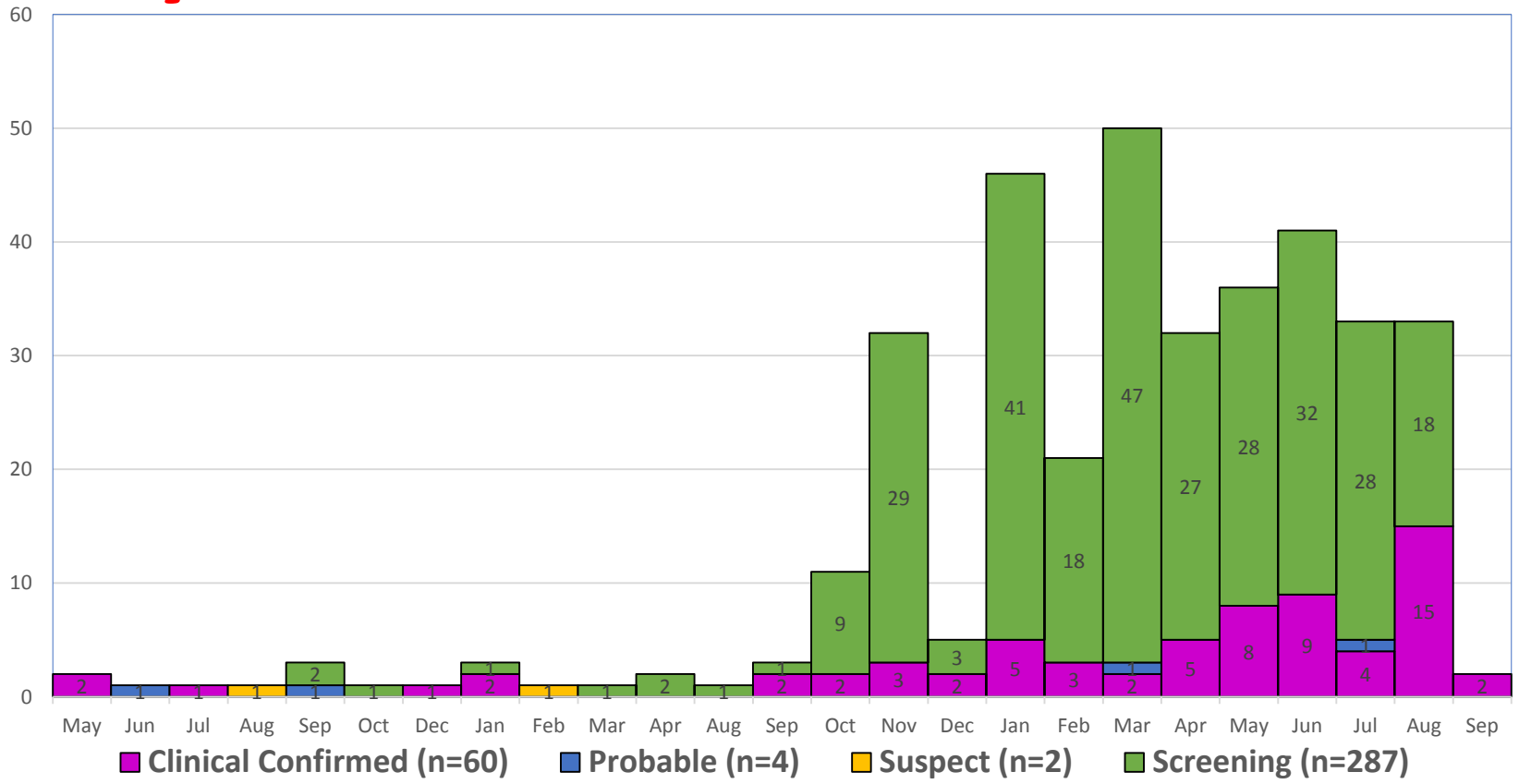
Overlap in Location at LTACH A



Adapted slide courtesy of Janna L. Kerins, VMD, MPH

Update on *C auris* in Chicago Region

IL *C. auris* cases (n=363) by culture date, as of 09/10/18



*Includes 11 colonized to clinical cases

- **Confirmed**: Laboratory evidence of *C. auris* from clinical culture.
- **Probable**: Laboratory evidence of *C. haemulonii* from clinical culture & epidemiologic linkage to confirmed case.
- **Suspect**: Laboratory evidence of *C. haemulonii* from clinical culture & no epi link.
- **Screening**: Laboratory evidence of *C. auris* from screening or surveillance culture.

Adapted slide courtesy of A. Tang

C. auris clinical cases (N=74), Specimen source

	Confirmed, N=60 n/N (%)	Probable, N=4 n/N (%)	Suspect, N=2 n/N (%)	TOTAL, N=66 n/N (%)
Blood	29/68 (43%)	2/4 (50%)	1/2 (50%)	32/74 (43%)
Urine	22/68 (32%)	--	1/2 (50%)	23/74 (31%)
Wound	4/68 (6%)	1/4 (25%)	--	5/74 (7%)
Sputum	2/68 (3%)	--	--	2/74 (3%)
Bronchial Wash	2/68 (3%)	--	--	2/74 (3%)
Other	9/68 (13%)	1/4 (25%)	--	10/74 (14%)

- **Confirmed**: Laboratory evidence of *C. auris* from clinical culture.
- **Probable**: Laboratory evidence of *C. haemulonii* from clinical culture & epidemiologic linkage to confirmed case.
- **Suspect**: Laboratory evidence of *C. haemulonii* from clinical culture & no epi link.

Clinical Cases' Characteristics (N=59), as of 9/10/18

Characteristic	N (%)
IV device	49 (83%)
Wounds	46 (78%)
Bed-bound	44 (75%)
Feeding tube	40 (68%)
Mechanical Ventilation	35 (64%)
Tracheostomy	37 (63%)
Urinary catheter	35 (59%)

Co-colonization with other MDRO (N=353), as of 9/10/18

	CA and CPO N (%)	CA only n (%)	Total
Screening	88 (31)	191 (68)	279
Clinical	7 (9)	67 (91)	74
Total	95	258	353

Regional Response/Containment

RUSH UNIVERSITY MEDICAL CENTER

IDPH
ILLINOIS DEPARTMENT OF PUBLIC HEALTH

COOK COUNTY HEALTH & HOSPITALS SYSTEM
CCHHS

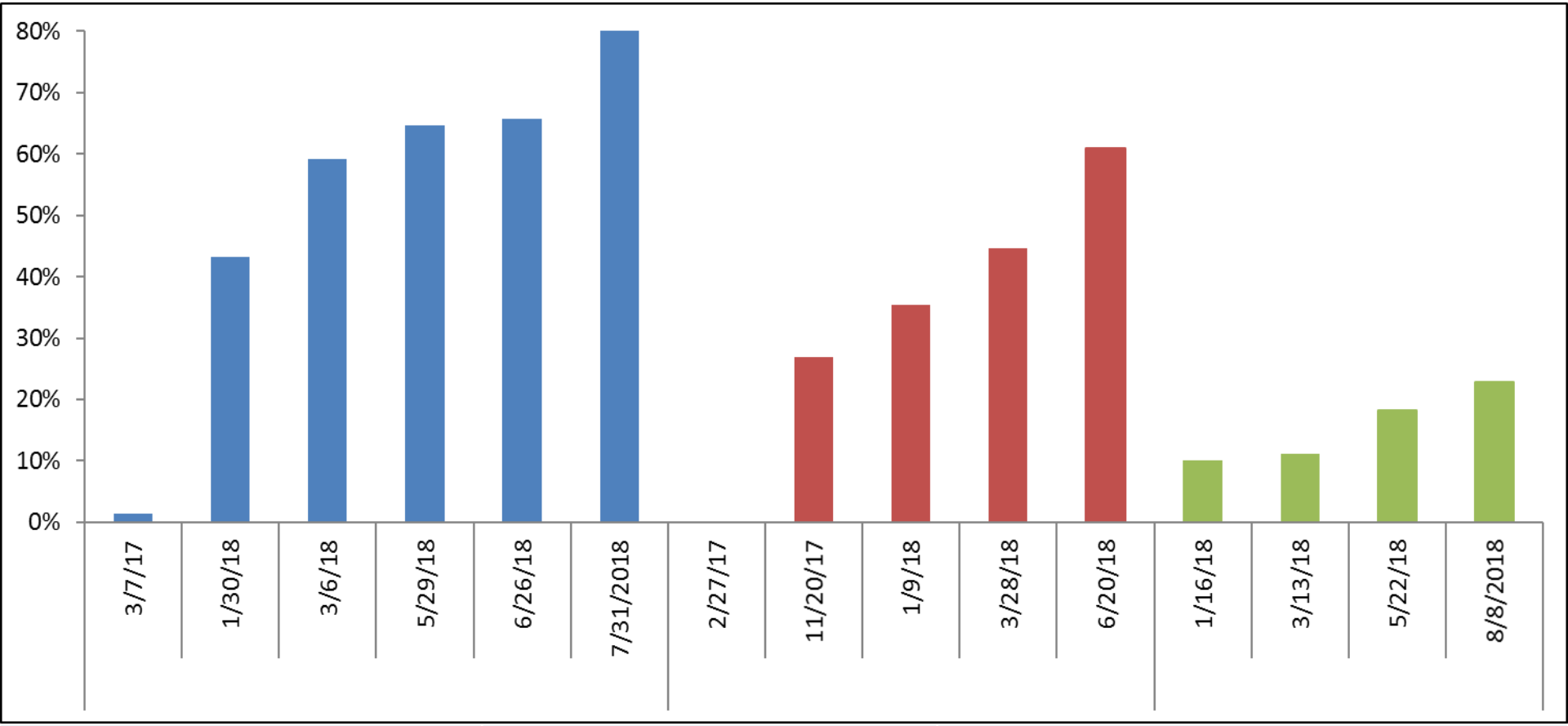
APIC

C. auris Point Prevalence by Facility Type, 2016 - 2018

Facility type	# facilities	# surveys	Median Prevalence (range)*
Acute care hospitals (ICUs)	7	7	0% (0 - 14%)
Long-term acute care hospitals	5	12	6.5% (0 - 19%)
Skilled nursing facilities caring for vent patients-vSNF (vent floor)	10	16	35% (0 - 71%)
vSNF (non-vent floor)	1	2	0% (0 – 0%)
Skilled nursing facilities	3	3	1% (0 – 1.5%)

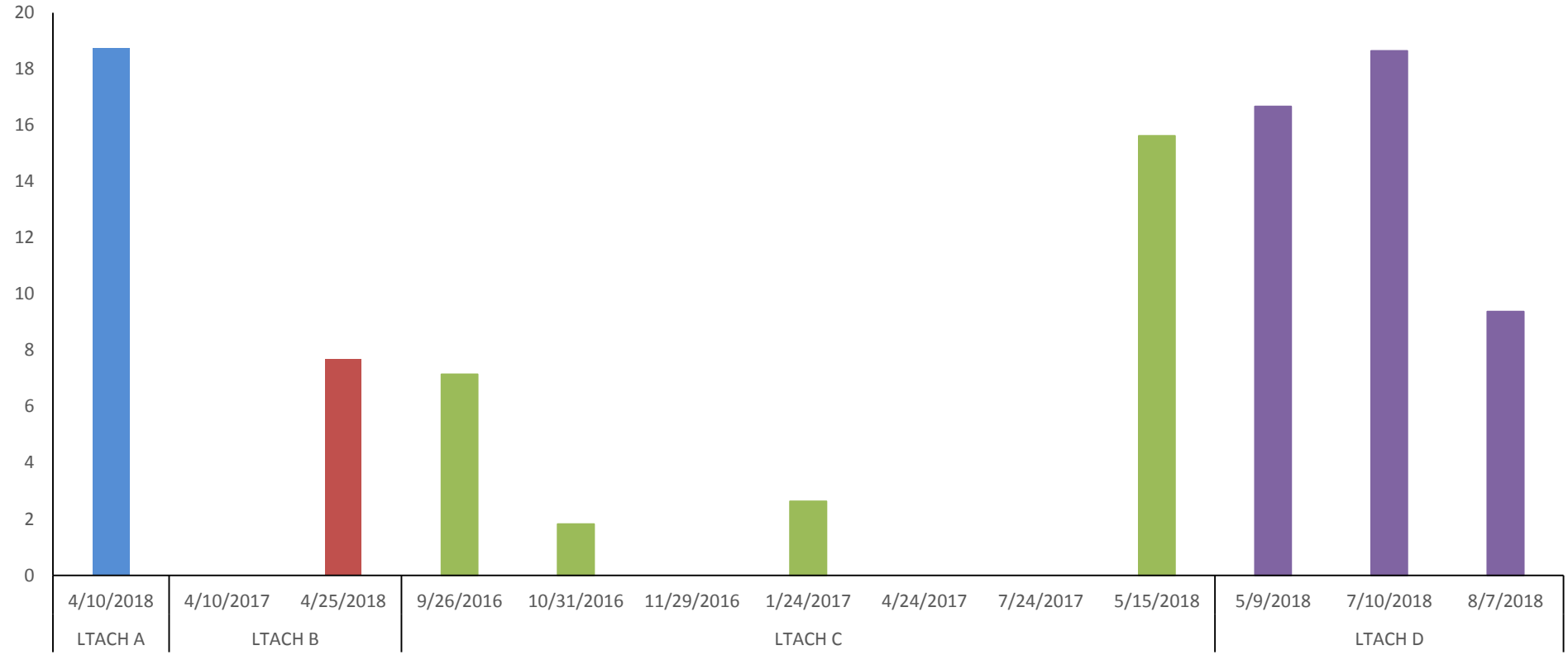
*Prevalence calculated as (# positive screenings/total # residents on census)

Chicago vSNF Prevalence, as of 9/10/2018



Facility	# surveys	Highest Prevalence, % (n/N)
vSNF A	6	71% (44/62)
vSNF B	5	61% (36/59)
vSNF C	4	23% (16/70)

Chicago LTACH Prevalence, as of 9/10/2018



Facility	# surveys	Highest Prevalence, % (n/N)
LTACH A	1	19% (12/64)
LTACH B	2	8% (2/26)
LTACH C	7	16% (5/32)
LTACH D	3	19% (11/59)

C. auris vSNF A Outbreak Case Study

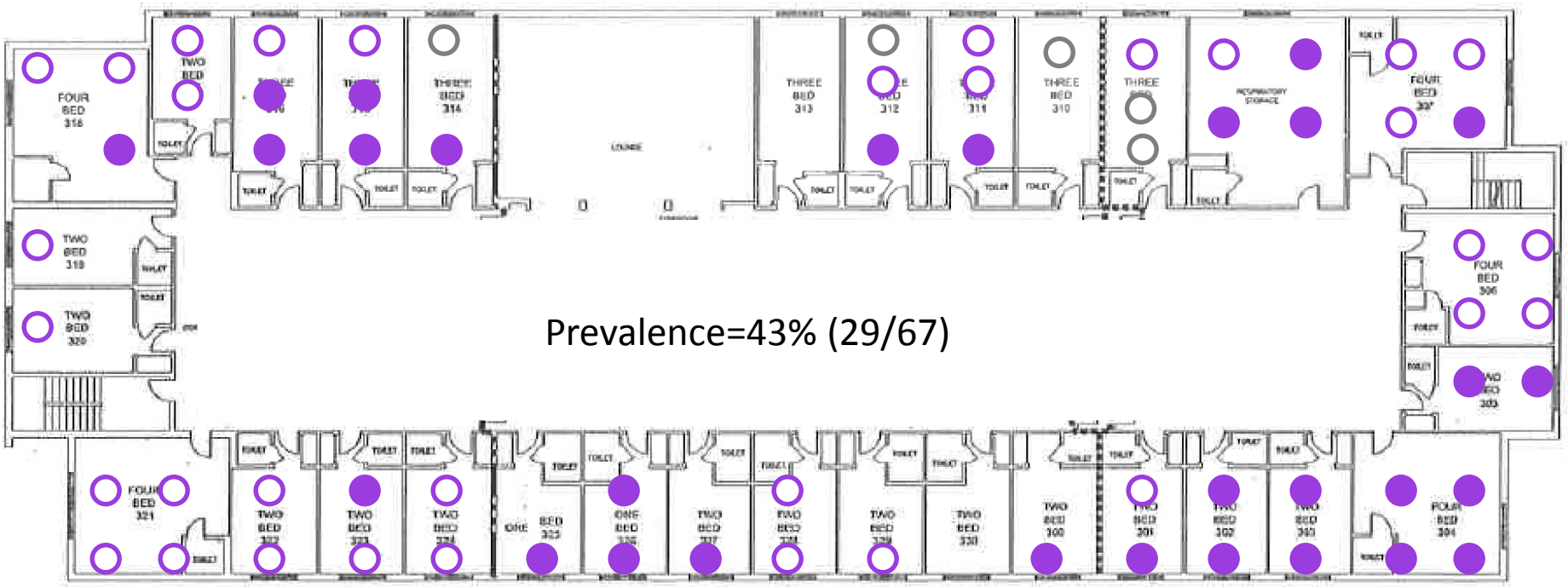
vSNF A Vent-Floor
March 2017 *C. auris* Prevalence

- *C. auris* positive (1)
- Screened negative for *C. auris* (65)
- Not tested for C. auris (refused or not in room) (3)

Infection Control Recommendations

- XDRO querying and implementation of contact precaution
- Place patients/residents in private rooms
- Assess and enhance PPE use and adherence to appropriate hand hygiene practices
- Ensure the patient care environment is cleaned with disinfectants effective against *C. auris*.

vSNF A Vent-Floor
1/20/18 *C. auris* Prevalence



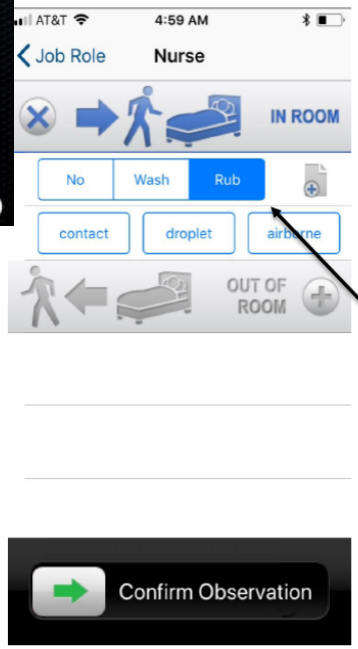
- *C. auris* positive (29)
- Screened negative for *C. auris* (33)
- Not tested for C. auris (refused or not in room) (5)

vSNF A Vent-Floor
3/6/18 *C. auris* Prevalence

- Screened negative for *C. auris* (23)
- New *C. auris* positive (16)
- Previous *C. auris* positive (23)
- Not tested for *C. auris* (4)
- Room previously held positive patients

HH Adherence Education and Resources

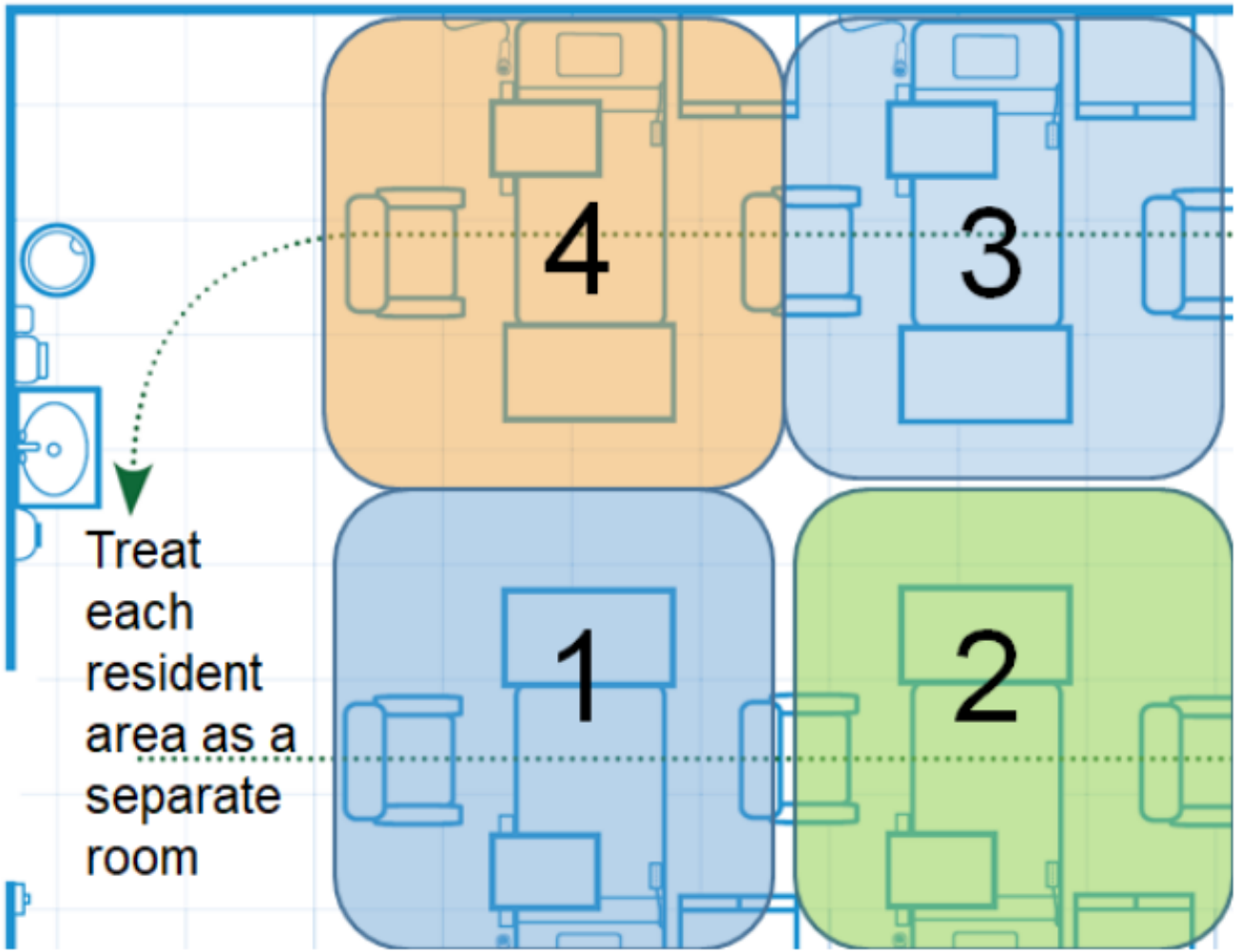
Record Observations



- Select either in room or out of room, which ever activity you are observing. Note: I selected IN ROOM.
- Then select:
  - ➢No, if hand hygiene was not performed.
  - ➢Wash, if soap and water was used upon entering.
  - ➢Rub, if alcohol based handrub was used upon entering. NOTE: I selected Rub.

Slide courtesy of Mary Alice Lavin, APIC

How to Clean a Quad Room



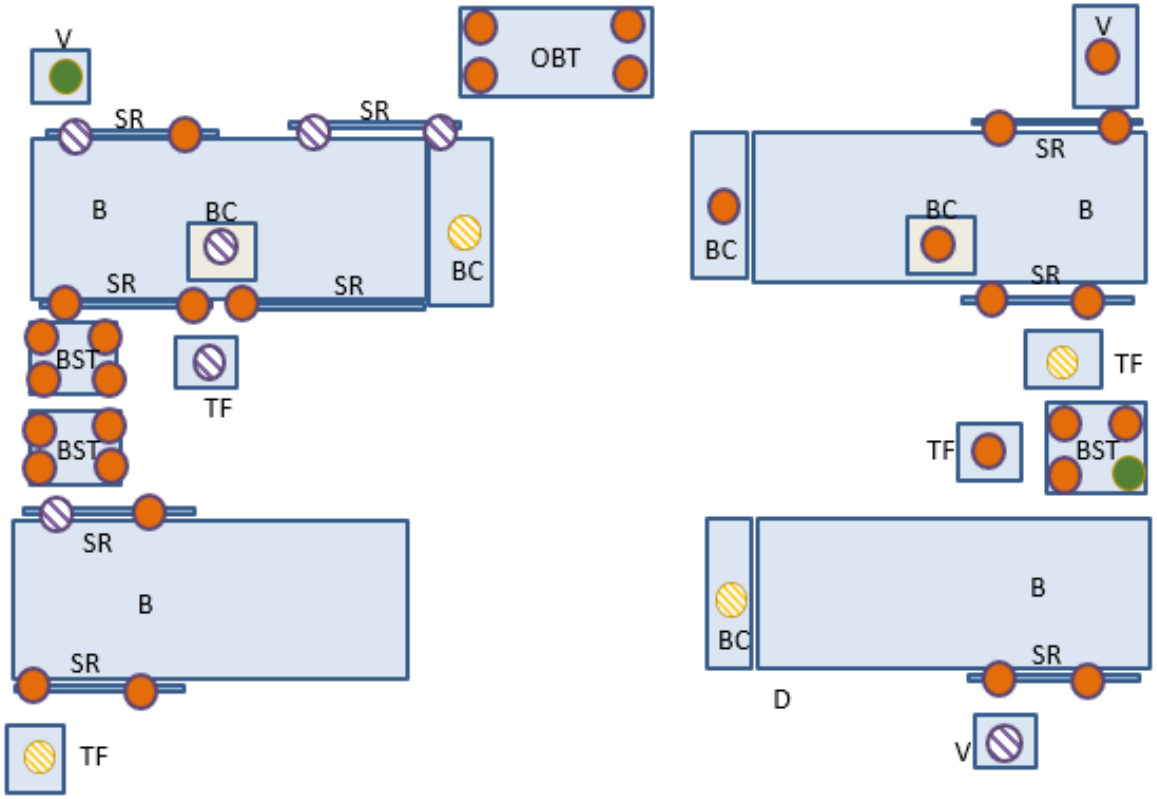
Slide courtesy of Deb Burdsall, APIC

EVS Environmental Marking

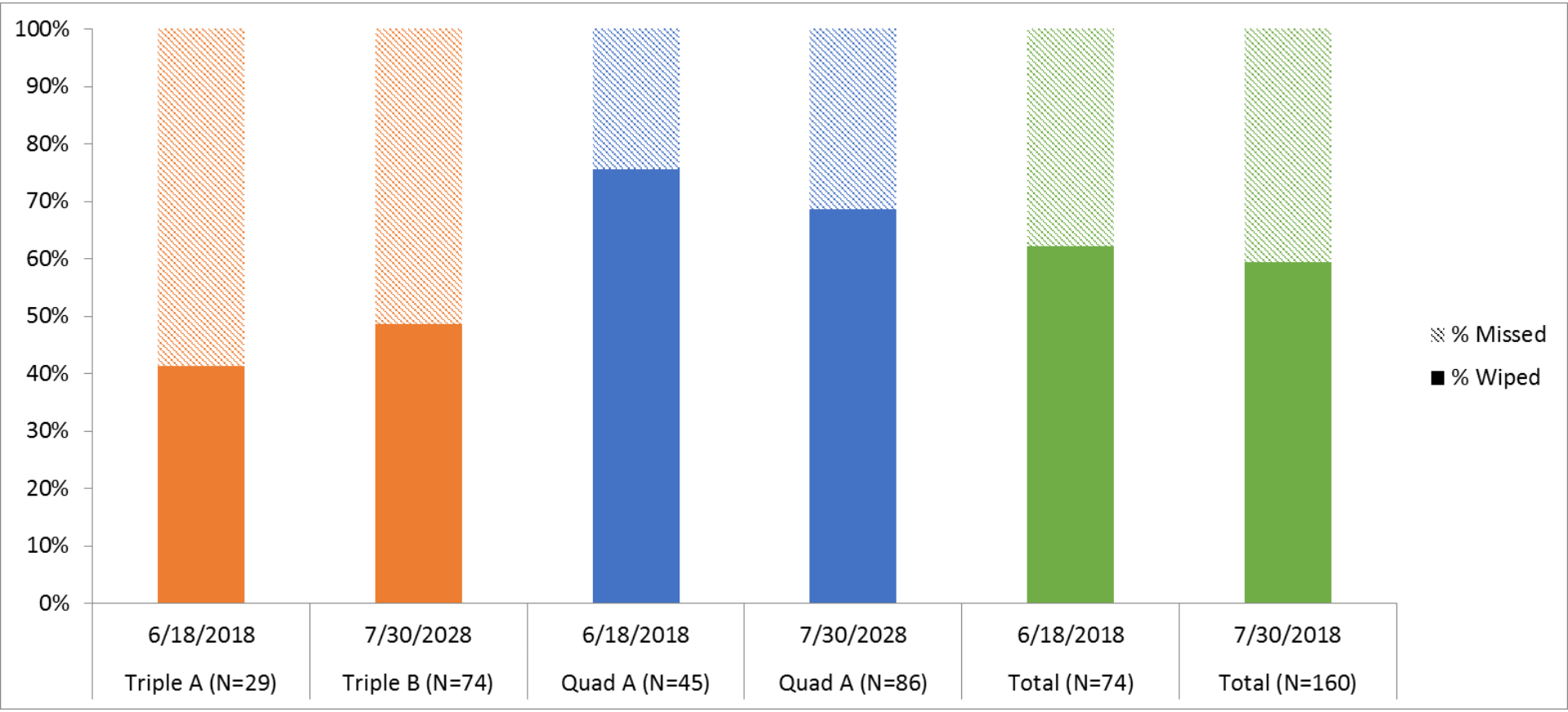
- Fluorescent marking with Tide Free and Gentle ®

Missed

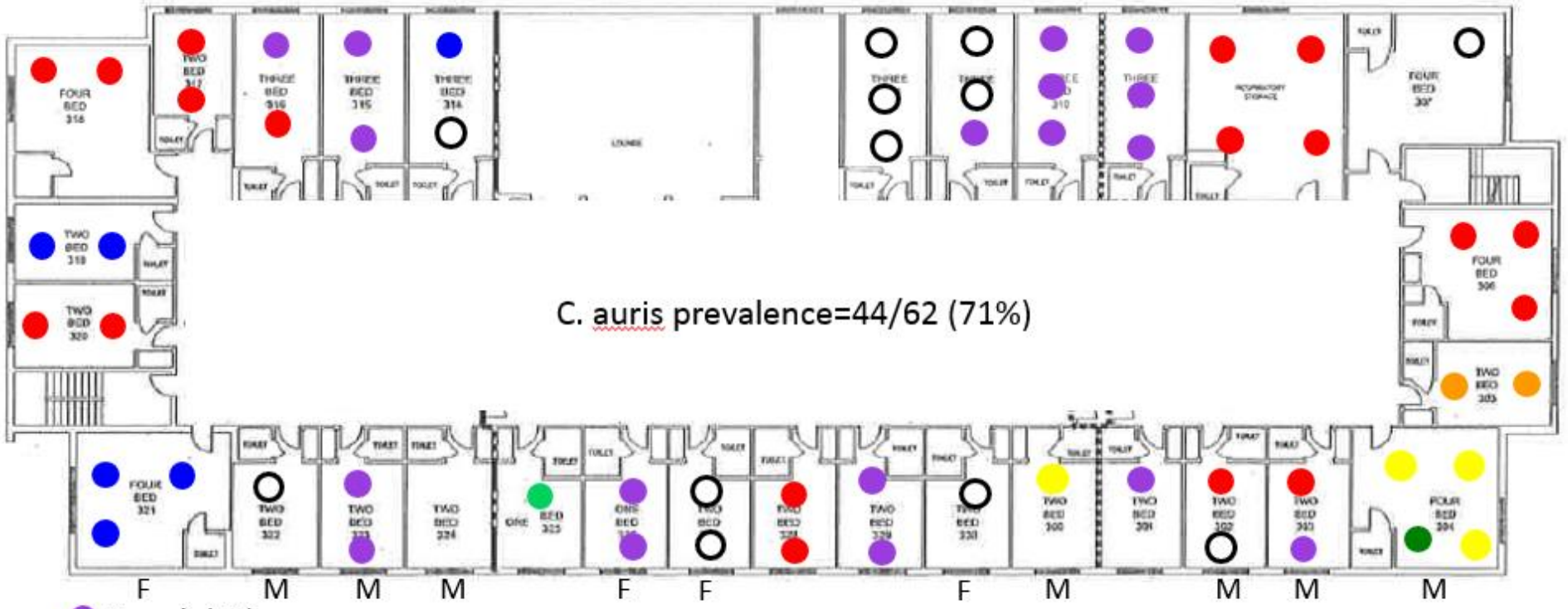
Wiped



EVS Feedback – vSNF A



vSNF A Vent-Floor
7/31/2018 MDRO Prevalence



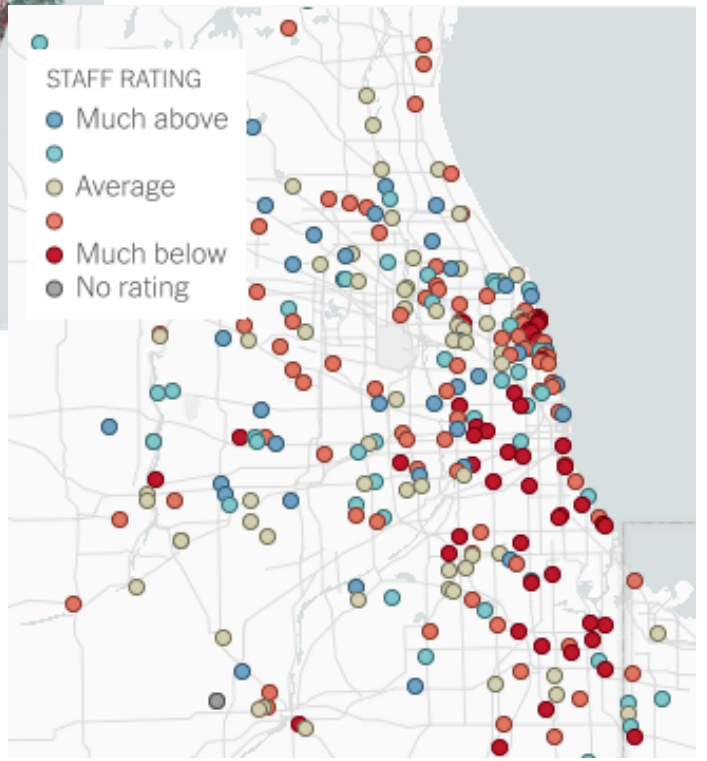
- *C. auris* (18)
- *C. auris* and KPC CRE (18)
- KPC CRE or CRE with unknown mechanism of resistance (6)
- *C . auris*, KPC, and NDM (2)
- *C. auris*, VIM, and KPC (4)
- *C. auris* and KPC-CRPA (1)
- No known *C. auris*/Not tested on 07/31/2018(12)
- NDM and C.Auris(1)

Staffing Levels According to CMS Payroll Records

How Staffing Fluctuates at Nursing Homes Around the United States

The number of workers at more than 14,000 nursing homes across the nation varies drastically.

July 7, 2018



https://www.nytimes.com/2018/07/07/health/nursing-homes-staffing-medicare.html

Conclusions

- Continued regional collaboration is fundamental to limit MDRO spread
- Sustained facility support should emphasize the importance of hand hygiene compliance and appropriate environmental cleaning
- Additional attention should be placed on contributing factors to MDRO control in vSNFs:
  - reimbursement for higher acuity patients such as those requiring ventilator support
  - appropriate regulation of long term care settings where these patients receive care.

Collaboration

Chicago Prevention and Intervention Epicenters

RUSH UNIVERSITY MEDICAL CENTER

COOK COUNTY HEALTH & HOSPITALS SYSTEM
CCHHS

PROTECT and REALM

IDPH
ILLINOIS DEPARTMENT OF PUBLIC HEALTH

XDRO registry

CDC

APIC

ARLABnetwork

HEALTHY CHICAGO
CHICAGO DEPARTMENT OF PUBLIC HEALTH

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Rory Welsh

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Ann Valley

David Warshauer

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Michael Lin

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Robert Weinstein

vSNF A staff

Questions

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- Katrina Espiritu – Infection Prevention Specialist