

# Characterization of Antibiotic Timeout Program Strategies Across the United States

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## Background

- The CDC and Joint Commission recommend an antibiotic-timeout (ATO) as an antimicrobial stewardship program (ASP) action to support optimal antibiotic use
- ATOs provide an ideal opportunity to improve antibiotic prescribing and outcomes related to infections, decrease morbidity from inappropriate antibiotic utilization, and evaluate the effectiveness of interventions to optimize efforts to improve patient care
- The lack of a standard methodology for implementing an ATO coupled with variable reporting of patient and quality outcomes leaves room for additional optimization based upon hospital size, patient characteristics, ASP and technological resources

## Objective

- Describe different antibiotic timeout models established in a wide-range of hospitals across the United States

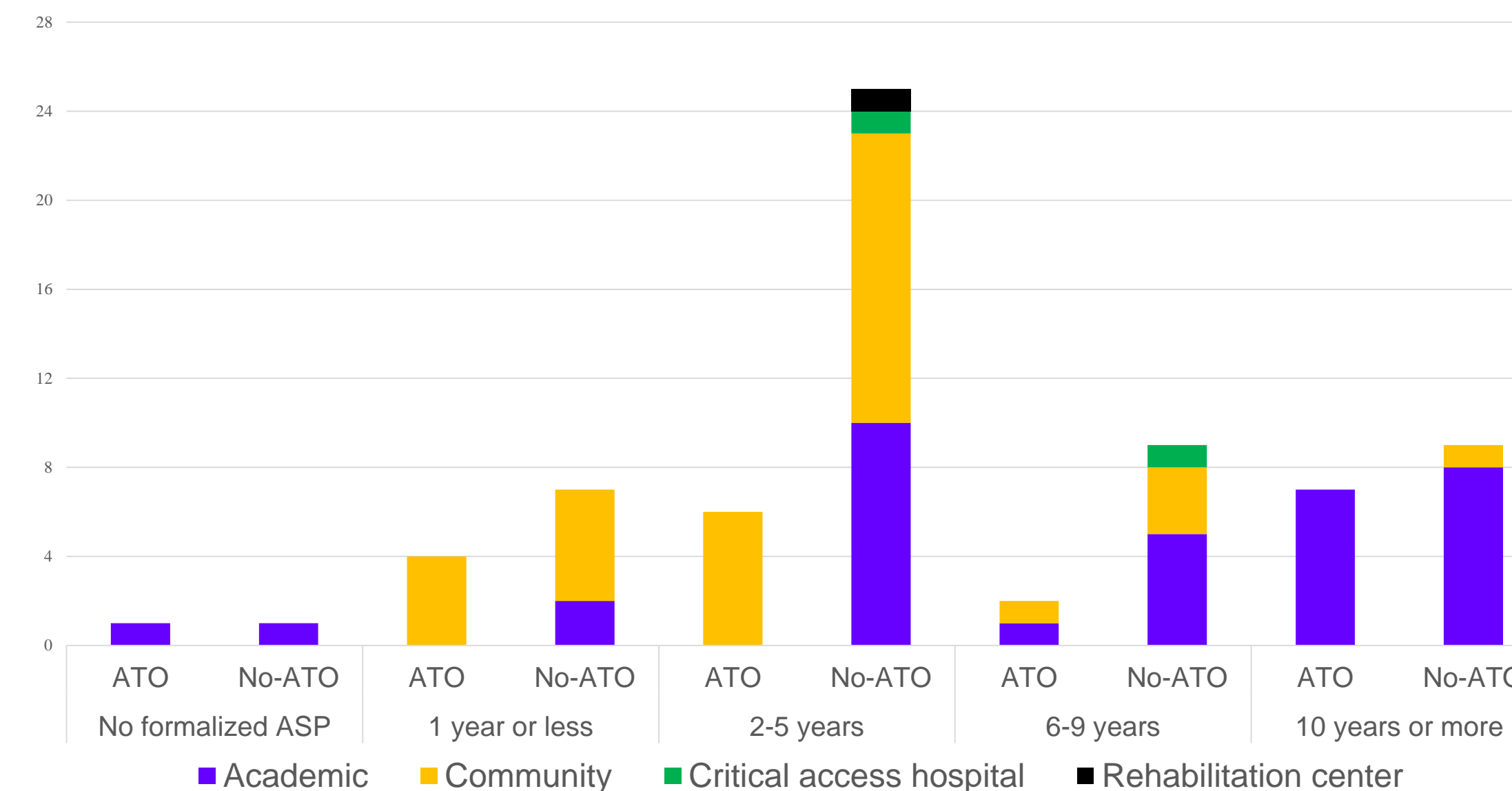
## Methods

- This study is part of a multicenter, point-prevalence study that was conducted among Vizient member hospitals between Oct. 16 – Nov. 17, 2017
- Data describing ATO strategies and ASP efforts were collected via a Qualtrics survey, including:
  - Demographics (hospital type, electronic health record, and trainee type)
  - ASP information (duration of ASP program, number of team members, Full-Time Equivalents [FTEs], antibiotic tracking, and rapid diagnostics involvement)
  - ATO characteristics (time since implementation, when the ATO occurs, antimicrobials included, responsible personnel, description of the ATO procedure, and location of ATO)

## Results

- Seventy-one Vizient member hospitals responded to the survey.
- Twenty (28%) had a formalized ATO. Sixty percent of hospitals with ATO (n=12) were academic and 40% (n=8) were community hospitals.

Distribution of Hospital Type and Duration of ASPs by Presence of ATO



- Community hospitals ATO characteristics:**

Institution #	Duration of ASP (years)	# ASP FTEs	When does ATO occur? (hours)	Type of ATO	Type of antimicrobials involved	Who is responsible for ATOs?
1	3	6	72	Manual	All antibiotics and antifungals	ASP and clinical RPhs
2	5	6	72	Electronic	Broad spectrum antibiotics	Non-ASP RPhs
3	2	1.5	72	Electronic	All antibiotics and antifungals	Non-ASP physicians
4	<1	1.5	72	Electronic	All antibiotics	Non-ASP physicians
5	<1	2	72	Electronic	All antibiotics	Non-ASP physicians
6	<1	NR	72	Manual	Only vancomycin and piperacillin-tazobactam	Non-ASP physicians
7	No formalized ASP		72	Electronic	Only vancomycin and piperacillin-tazobactam	Clinical RPhs
8	9	0.75	48-72	Electronic	All antibiotics	ASP and clinical RPhs
9	2	1.1	72	Electronic	All antibiotics and antifungals	Non-ASP physicians
10	1	1	48-72	Electronic	All antibiotics and antifungals	ASP and clinical RPhs
11	5	3.8	72	Electronic	All antibiotics and antifungals	ASP and clinical RPhs
12	<1	NR	72	Electronic	Selected antibiotics	Non-ASP physicians

## Results

- Academic hospitals ATO characteristics:**

Institution #	Duration of ASP (year)	# ASP FTEs	When does ATO occur? (hours)	Type of ATO	Type of antimicrobials involved	Who is responsible for ATOs?
1	>10	1.3	48-72	Electronic	All antibiotics	Non-ASP physicians
2	8	NR	48-72	Manual	Selected antibiotics	ASP and clinical RPhs
3	>10	2.7	48-72	Manual	All antibiotics	Non-ASP RPhs
4	>10	10	72	Electronic	All antibiotics and antifungals	Non-ASP physicians
5	>10	9.5	72	Electronic	Vancomycin and FQ	Physicians and RPhs
6	>10	9.1	72	Electronic	All antibiotics and antifungals	Non-ASP physicians
7	>10	2.25	72	Electronic	All antibiotics and antifungals	Clinical RPhs
8	>10	2.5	48	Electronic	Selected antibiotics and antifungals	Non-ASP RPhs

## Conclusions

- Largest descriptive study on ATO implementation in the U.S.
- Demonstrates that multiple ATO strategies are used in the U.S.
- Lack of standardized ATO methodology makes it challenging to assess overall ATO impact across multiple organizations
- Most ATOs are performed electronically at 72 hours of antibiotic therapy
- Seventy-five percent of ATOs are conducted 7 days per week
- The majority of ATOs include all antibiotics and are supported by established ASPs

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