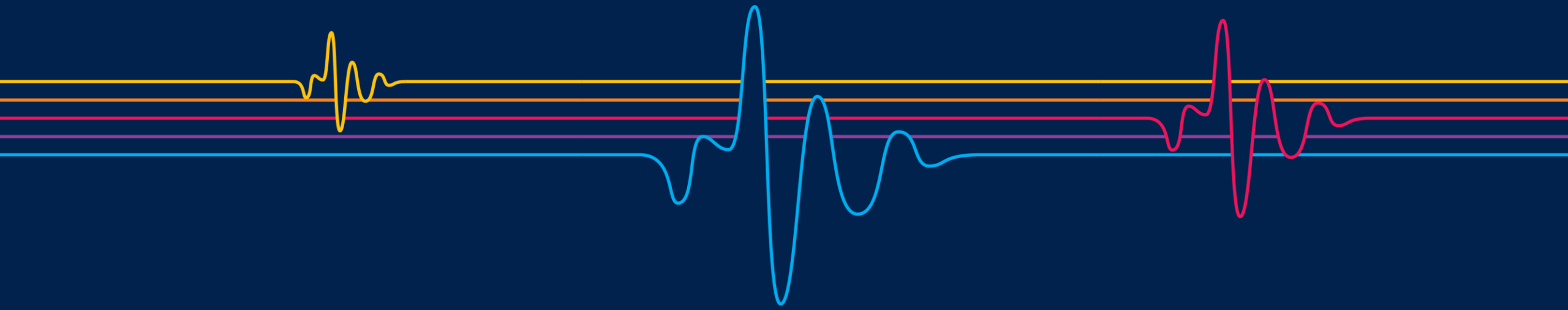
California URGENT CARE ASSOCIATION

2025 WESTERN REGIONAL URGENT CARE CONFERENCE



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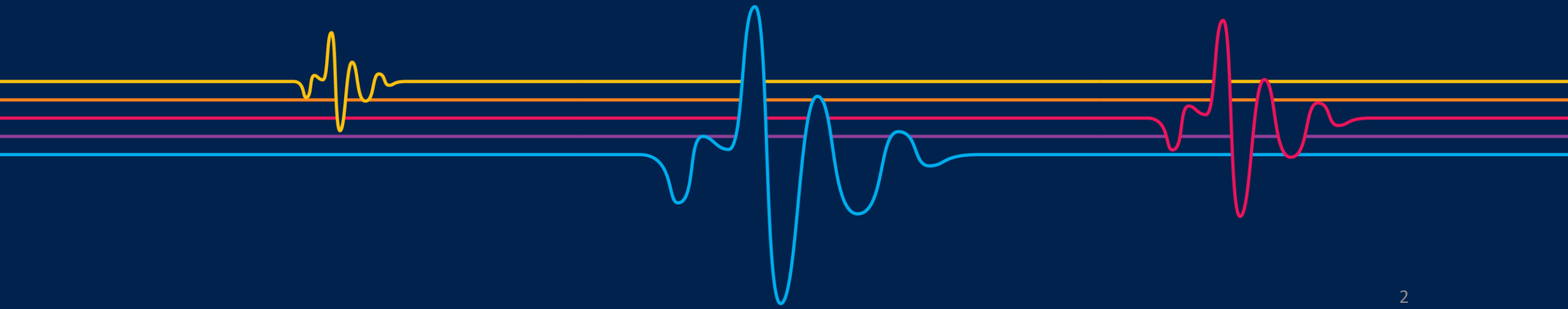
Antibiotic Stewardship Programs

Reducing Resistance and Enhancing Outcomes in Urgent Care



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Clinician, UofL Health, Louisville, KY
Chief Medical Officer, HealthTrackRx

Agenda

- Program Resources
- Scope of Challenge
- Respiratory Illness
- Adult Bronchitis
- Pediatric Pneumonia
- ASP Program Implementation
- Clinician Perspective
- Wrap Up

Stewardship Strategies in Urgent Care [3,5,6]

Audience Question

Does your practice have a formal antibiotic stewardship program?

A. All components

B. Most components

C. Some components

D. No

- Clinician & patient education
- EHR decision support with best-practice alerts
- Audit & feedback, peer benchmarking
- Public commitment posters
- Pharmacist- & lab-led stewardship interventions [31]

Antibiotic Stewardship Resources

URGENT CARE ASSOCIATION®

Antibiotic Stewardship

CDC

Core Elements of Outpatient Antibiotic Stewardship | Antibiotic Prescribing and Use | CDC [2,4]

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Antibiotic Stewardship – CA Focus

California requires hospitals and SNFs to adopt stewardship programs
Urgent care centers are not yet mandated

CDPH (CA Department of Public Health) developed a stewardship toolkit with IEHP (Inland Empire Health Plan) targeting outpatient & urgent care settings

LA County launched initiatives (e.g., TAP OUT – **T**argeting **A**ppropriate **P**rescribing in **O**utpatient **S**ettings) to reduce inappropriate prescribing

California-Specific Action Points for UC Centers

Action Steps to Consider – CA Urgent Care Centers

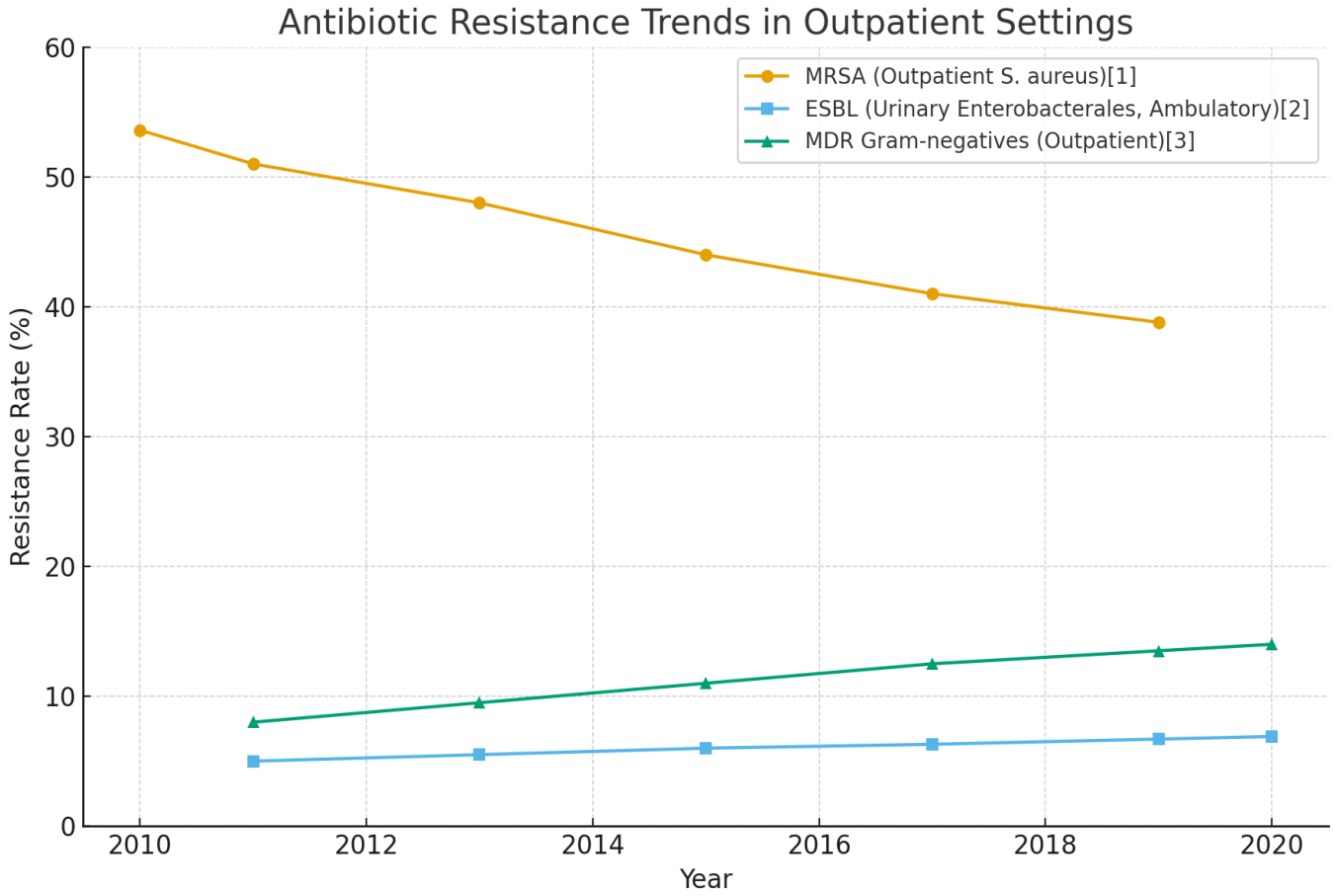
Adopt Voluntary Stewardship Protocols	Align with CDC Core Elements of Outpatient Stewardship
Use California-Endorsed Toolkits	CDPH/IEHP Toolkit; handouts, decision aids, HER prompts
Engage with Local Public Health	County-level support for TAP OUT participation
Track Prescribing Metrics	Monitor prescribing rates and identify improvement areas

CDPH & IEHP. Antibiotic Stewardship Toolkit. Mar 2025. https://cdph.ca.gov/.../CDPH_IEHP_CoreToolkit.pdf

LA Co. TAP OUT Playbook. https://publichealth.lacounty.gov/acd/docs/TAPOUT_Playbook.pdf

Scope of the Problem

- **Over-prescribing** of antibiotics by 30% and for respiratory complaints 50% [1,2]
- **Resistance trends**: MRSA, ESBL, multidrug-resistant Gram-negatives [1]
- **Patient impact**: increase C. difficile, resistant infections, adverse drug events, hospitalizations [13]
- **System impact** (CDC): 2.8 million resistant infections, 35,000 U.S. deaths and $4.6 billion in avoidable expense due to six most common pathogens [4]



[1] Carrel M, et al. JAMA Netw Open. 2024;7(6):e2412345.
[2] Dunne MW, et al. BMC Infect Dis. 2022;22:731.
[3] Representative surveillance data; see CDC AR Threats Report 2019.

Respiratory Illness in Urgent Care

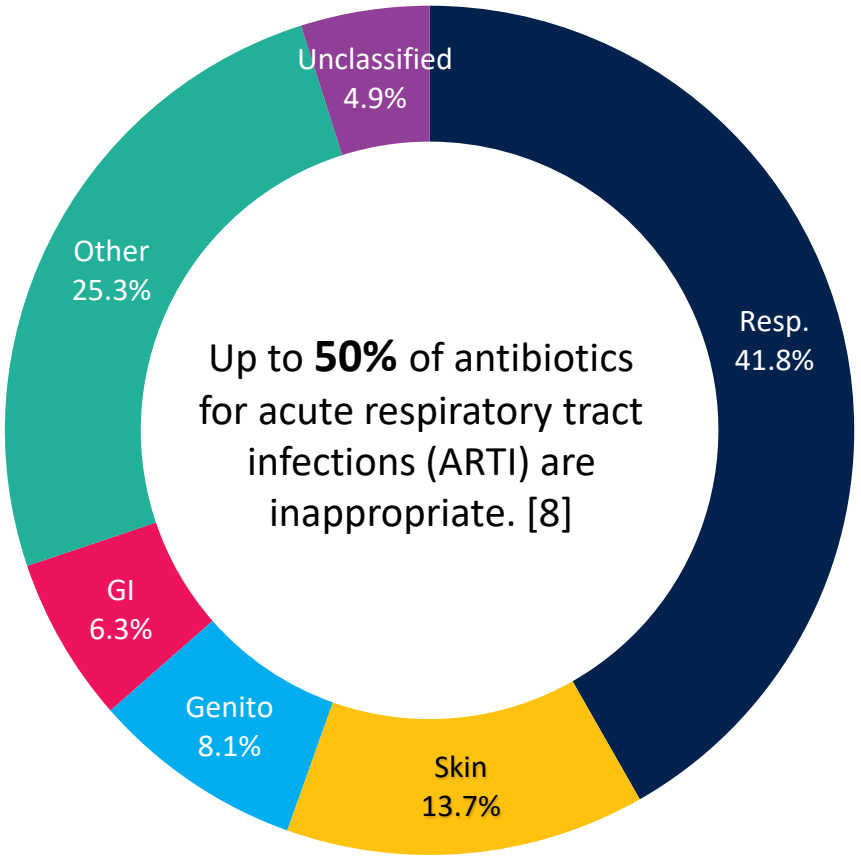
Acute Bronchitis Incidence (Community-Level, U.S.)
~5% of U.S. adults experience acute bronchitis annually. [9]

Acute respiratory infections represent a significant public health concern [5]

- **Deaths:** 13.6 deaths per 100,000 people in U.S.
- **Disability:** 384.9 disability-adjusted life years per 100,000 people in U.S.
- **Costs:** $8.0 billion annually in the U.S

Most common clinical category for UC encounters:

**2019 data (not skewed based on COVID public health emergency) [6,7]



ASP Implementation Barriers [6,19.20]

- Limited UC lab infrastructure
- Provider habits & resistance to change
- Workflow integration challenges
- Cost of rapid tests & resources

Audience Question [9]

How often do you prescribe antibiotics for acute bronchitis without COPD?

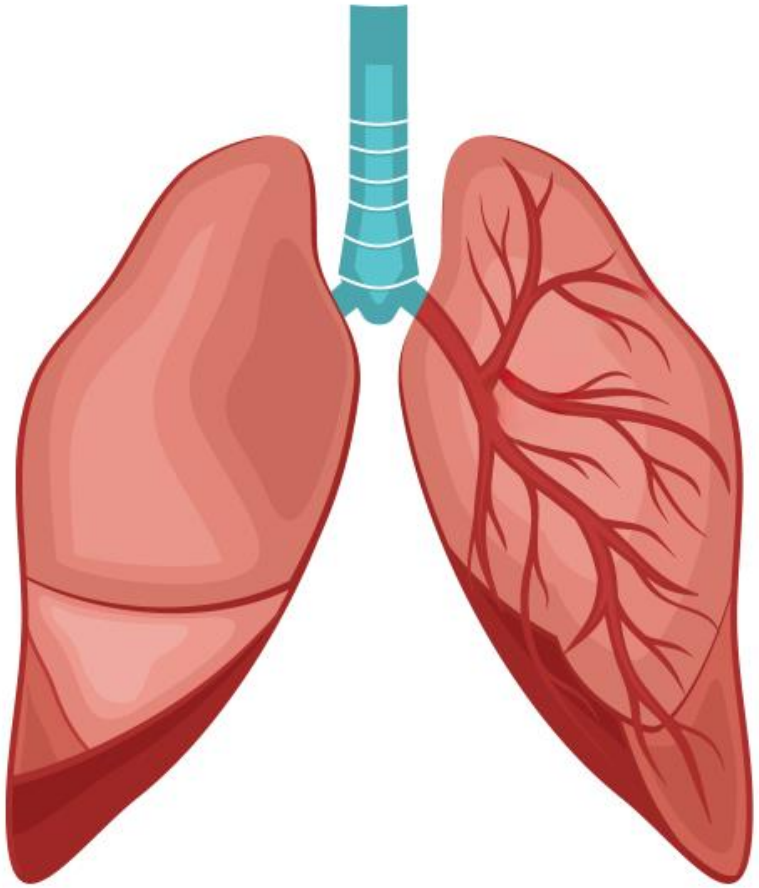
A. "Average" (30% - 50%)

B. Selectively (< 25%)

C. Infrequently (< 10%)

D. Never (<5 %)

Evaluation of Acute Bronchitis in Adults [9]



Features
- Patient without COPD
- Acute onset
- Persistent cough
- 5 days to 3 weeks
- With or without sputum
- Current or recent URI
- May have wheeze or dyspnea

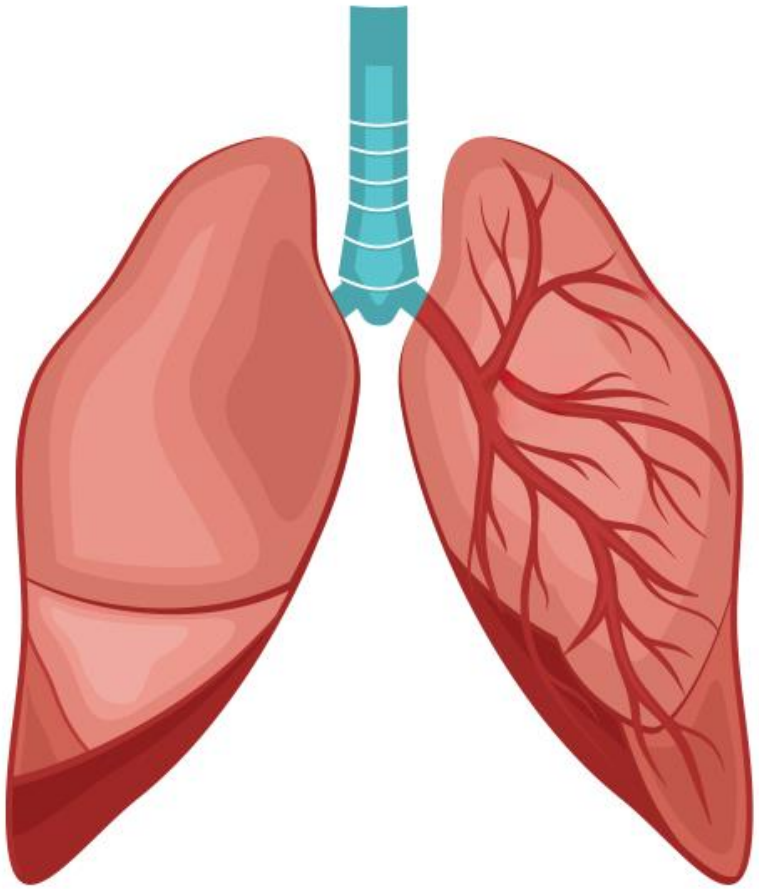
Concern for Pneumonia
- Temperature > 100.4
- Pulse > 100
- Respiratory > 22
- Hypoxia (< 95%)
- Rales, egophony, and tactile fremitus
- Consolidation on CXR
- Altered mental status > 75

NO

POC Diagnostic Insights
- Influenza A/B
- Persistent cough
- COVID-19
- RSV
- Other causes (HF, GERD, post-nasal drip, ACE inhibitor, other)

Send out

Bronchitis: Without COPD – Antibiotics? [9]



❌ Routine acute bronchitis (healthy adults/children):
- Antibiotics NOT indicated (>90% viral)

✓ Indications:
- Suspected/confirmed pertussis (macrolide)
- Misdiagnosed pneumonia (fever, focal findings, CXR infiltrate)
- Frail elderly, immunocompromised, or high-risk patients (case-by-case)

❌ Purulent sputum alone is NOT an indication

References: ACP/CDC 2016; IDSA/ATS CAP 2019; CDC Pertussis Guidelines

Brief: Pediatric Respiratory Illness [10,11,12]

Feature	Bronchiolitis	Bronchitis	Pneumonia (Pediatric)
	Infants <2 years (peak <12 months)	Older children, teens, adults	Viral is more common in <5 yrs
Site of inflammation	Small airways (bronchioles)	Larger bronchi	Alveoli and lung parenchyma
Main cause	RSV, other viruses	Viruses (influenza, rhinovirus), rarely bacteria	**Viruses "70%"** (RSV, human metapneumovirus, influenza virus, parainfluenza virus, and rhinovirus) or **Bacteria 15%** (S. pneumoniae, H. influenzae, Mycoplasma)
Symptoms	Wheezing, tachypnea, retractions, hypoxemia, crackles	Cough ± sputum, mild wheeze/rhonchi, no major hypoxemia	Fever, cough, tachypnea, localized crackles, decreased breath sounds, hypoxemia
Severity	Can be severe; hospitalization sometimes needed	Usually mild, self-limited	Mild to severe; can be life-threatening in infants/young children
Treatment	Supportive care; no proven role for bronchodilators/steroids	Supportive care; antibiotics rarely used	Supportive; **antibiotics if bacterial**; oxygen, fluids if severe

Pediatric Stewardship

Common Causes of Pneumonia in Children (0–18 years)[10]

Preschool (3 months – 5 years):

- **Predominantly viral (60-80%):** RSV, influenza, rhinovirus, parainfluenza, adenovirus, human metapneumovirus
- **Bacterial (less common):** *Streptococcus pneumoniae*, *Haemophilus influenzae type b* (rare where vaccinated), *Staphylococcus aureus*

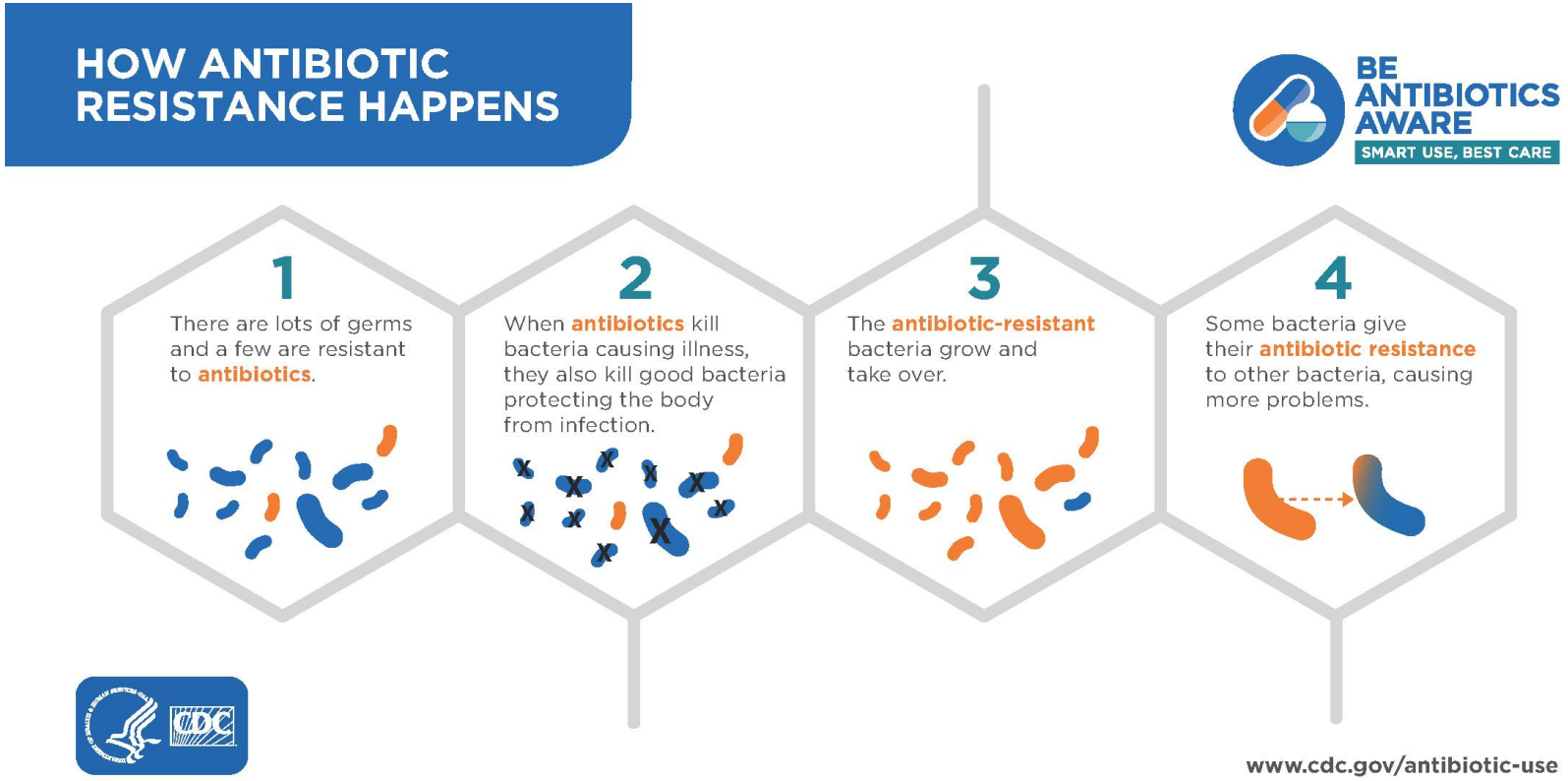
School-Age (5–18 years):

- **Viral (30-50%):** Influenza, adenovirus, rhinovirus, RSV (less frequent with age)
- **Bacterial:** *Mycoplasma pneumoniae* (especially 5–17 years), *Streptococcus pneumoniae*, *Chlamydophila pneumoniae*
- **Others (adolescents):** Less common but possible — *Staphylococcus aureus* (including MRSA) post-influenza

- Children disproportionately prescribed antibiotics for viral illnesses [5,10,11]
- Protocols improve antibiotic choice, dose, duration [5]
- Satisfaction and safety preserved

Patient Communication: "Why *not* antibiotics" [16]

- Explain the 'why not' when withholding antibiotics
- Clear viral vs bacterial explanations maintain satisfaction
- Shared decision-making & reassurance reduce return visits



Components for Success in Antibiotic Stewardship

- Leadership commitment & organizational buy-in [19,20]
- Multidisciplinary collaboration: providers, pharmacists, nurses
- Technology support: EHR prompts, benchmarking dashboards
- Implementation science: frameworks sustain adoption [21]

Audience Question [6]

Where is antibiotic stewardship for respiratory complaints prioritized in your organization?

High

Medium

Low

Recent publication – Multisite, Urgent Care ASP initiative

Urgent Care Antibiotic Stewardship (Multi-Network Collaborative)

Setting: 49 urgent care centers across 27 networks in 18 U.S. states (incl. 1 telemedicine site).

Population: Urgent care clinicians (MD/DO/APP) treating bronchitis or viral URTIs; ~15k encounters analyzed.

Timeframe: Baseline 3 mo (Sep–Nov 2022); Intervention 9 mo (Dec 2022–Aug 2023).

Key findings among actively engaged clinicians:

- **~48%** relative decrease in inappropriate antibiotics for bronchitis (aOR ≈ 0.52; 95% CI 0.33–0.83).
- **~33%** relative decrease for viral URTIs (aOR ≈ 0.67; 95% CI 0.55–0.82).
- Non-actively engaged clinicians showed no significant change.

Source: Park DE, et al. Infection Control & Hospital Epidemiology. 2025;46:266–271.

Intervention Components & Participation

- **Commitment Statement**: Clinicians signed an urgent-care antibiotic stewardship pledge.
- **PDSA cycles**: Three Plan-Do-Study-Act cycles with site-selected tactics (5 option categories).
- **Options included**: patient-education handouts; patient-engagement aids (videos/letters); clinician education (webinars); treatment guidelines/protocols; signage/social-media messaging.
- **Active engagement**: regular webinar participation, monthly feedback reports, and data submission.
- **Measurement**: outcomes stratified by diagnosis (bronchitis vs viral URTI) and by engagement level.
- **Incentive:** Maintenance of Certification Credits

Source: Park DE, et al. Infection Control & Hospital Epidemiology. 2025;46:266–271.

Antibiotic Stewardship Programs – Closing Performance Gaps [22,24,25,26,27]

Components of Successful Clinician Programs

Prospective Audit & Feedback
To review antibiotic prescriptions and provide feedback to prescribers in real-time.

Preauthorization
For approval before certain antibiotics can be prescribed.

Guideline Development & Implementation
Tailored to local resistance patterns.

Education & Training
For healthcare providers through formal training sessions, academic detailing, and informal rounds.

Computer-Assisted Decision Support
To provide real-time guidance on antibiotic prescribing.

Antibiotic Time-Outs
To reassess ongoing antibiotic therapy to ensure its continued appropriateness.

Gaps remain

Antibiotic stewardship programs were associated with a:

- **10%** reduction in antibiotic prescriptions
- **28%** reduction in antibiotic consumption

Yet, overprescribing still exists despite programs

This raises the opportunity for further improvement

Shared decision-making based on test insights provides an opportunity to inform treatment planning

Molecular testing can be seen at a part of a "continuum" of ASP*

Evidence of Effectiveness of Antibiotic Stewardship Programs [6,17,19,20,22,24,25,26,27]

- Urgent Care ASPs reduce prescribing **15–22%**
- Not correlated with an increase in ED visits or hospitalizations
- Pharmacist-led programs improve concordant therapy
- Patient satisfaction stable or improved

Diagnostics in ASP: Comparing Outpatient Infectious Disease Techniques

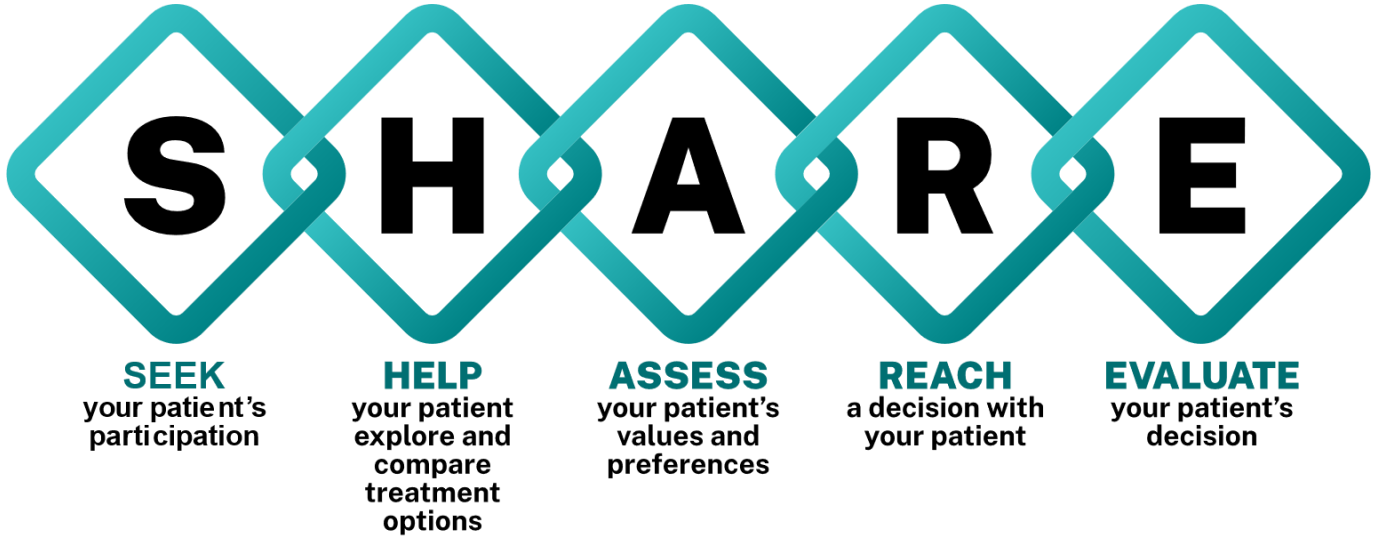
Option	Diagnostic Test	Pros	Cons	Common Use Cases
Direct Testing	Direct Visualization (Wet Prep)	• Result in minutes • Lowest cost	• Low sensitivity • Inefficient time and equipment requirement	• Bacterial vaginosis • Trichomonas • Candidiasis
	Antigen Testing	• Result in minutes • Can support treatment decisions during patient visit	• Variable Sensitivity & Specificity • Only available for select pathogens	• Influenza • COVID • RSV • Group A Strep
	Molecular Testing	• Highly Sensitive & Specific • Results in minutes to hours • POC • Send Out	• Can be more costly • Requires clinician understanding of syndrome specific infections	• Respiratory • Vaginitis • STIs • GI • Other
	Culture	• Unbiased detection • Antibiotic susceptibility testing • Supported by guidelines	• Results in 3+ days • Prone to contamination • Requires multiple transport medias	• UTI • Wound • Blood
Indirect Testing	Antibody testing (IgG, IgM)	• Highly sensitive & specific • Can inform prior exposure	• Results in days • Not always indicative of active infections	• HIV • Syphilis

Diagnostics in Antibiotic Stewardship: Part of the Continuum [19]

- Rapid identification of pathogens enables targeted therapy
- **Reduces unnecessary broad-spectrum** antibiotic use
- **Improves clinical outcomes** by guiding appropriate treatment
- **Supports de-escalation** of antibiotics when results available
- **Enhances surveillance** of resistance patterns
- **Cost savings** through reduced treatment failures and hospitalizations

Shared Decision-Making [14,15,16]

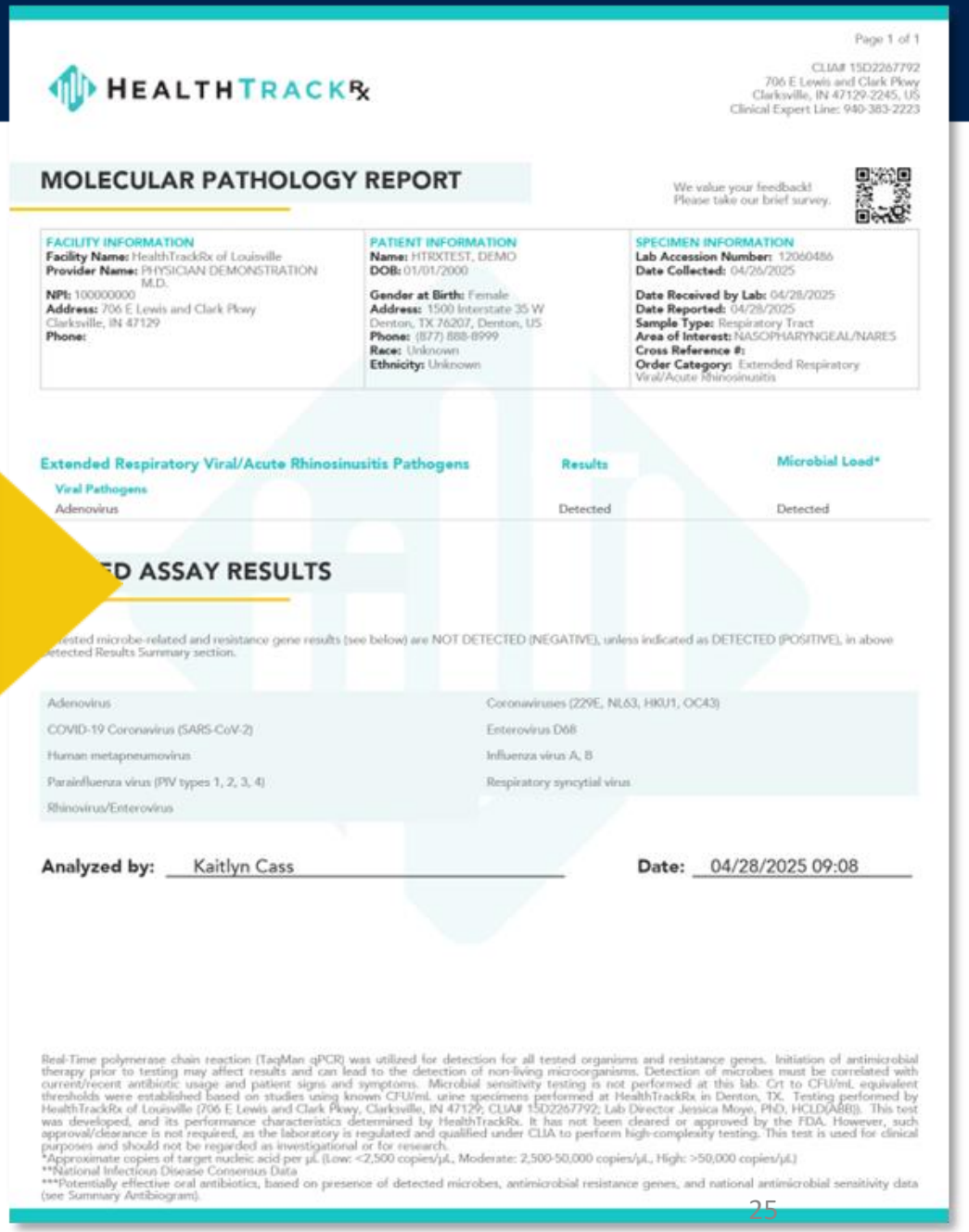
1. Clarity in Diagnosis
2. Strengthening Trust
3. Address Concerns
4. Drive Evidence-Based Solutions [17,18,19]



The SHARE Approach | Agency for Healthcare Research and Quality

Shared Decision-Making [14,15,16]

- For example, this diagnostic results confirm a viral infection.
- A specific pathogen (e.g., adenovirus) is identified
- Based on this, antibiotics are not indicated
- The patient can be advised on symptom treatment and supportive care.
- This approach of leveraging diagnostic findings in a **shared decision-making conversation** can prevent antibiotic misuse, which helps combat resistance, a growing public health crisis! [13]



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HEALTHTRACKRx

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MOLECULAR PATHOLOGY REPORT

We value your feedback!
Please take our brief survey.

FACILITY INFORMATION
Facility Name: HealthTrackRx of Louisville
Provider Name: PHYSICIAN DEMONSTRATION M.D.
NPI: 1000000000
Address: 706 E Lewis and Clark Pkwy Clarksville, IN 47129
Phone:

PATIENT INFORMATION
Name: HTRXTEST, DEMO
DOB: 01/01/2000
Gender at Birth: Female
Address: 1500 Interstate 35 W Denton, TX 76207, Denton, US
Phone: (877) 888-8999
Race: Unknown
Ethnicity: Unknown

SPECIMEN INFORMATION
Lab Accession Number: 12060486
Date Collected: 04/26/2025
Date Received by Lab: 04/28/2025
Date Reported: 04/28/2025
Sample Type: Respiratory Tract
Area of Interest: NASOPHARYNGEAL/NARES
Cross Reference #:
Order Category: Extended Respiratory Viral/Acute Rhinosinusitis

Extended Respiratory Viral/Acute Rhinosinusitis Pathogens	Results	Microbial Load*
Viral Pathogens		
Adenovirus	Detected	Detected

ED ASSAY RESULTS

ested microbe-related and resistance gene results (see below) are NOT DETECTED (NEGATIVE), unless indicated as DETECTED (POSITIVE), in above etected Results Summary section.

Adenovirus	Coronaviruses (229E, NL63, HKU1, OC43)
COVID-19 Coronavirus (SARS-CoV-2)	Enterovirus D68
Human metapneumovirus	Influenza virus A, B
Parainfluenza virus (PIV types 1, 2, 3, 4)	Respiratory syncytial virus
Rhinovirus/Enterovirus	

Analyzed by: Kaitlyn Cass **Date:** 04/28/2025 09:08

Real-Time polymerase chain reaction (TaqMan qPCR) was utilized for detection for all tested organisms and resistance genes. Initiation of antimicrobial therapy prior to testing may affect results and can lead to the detection of non-living microorganisms. Detection of microbes must be correlated with current/recent antibiotic usage and patient signs and symptoms. Microbial sensitivity testing is not performed at this lab. Crt to CFU/mL equivalent thresholds were established based on studies using known CFU/mL urine specimens performed at HealthTrackRx in Denton, TX. Testing performed by HealthTrackRx of Louisville (706 E Lewis and Clark Pkwy, Clarksville, IN 47129; CLIA# 15D2267792; Lab Director Jessica Moye, PhD, HCLD(ABB)). This test was developed, and its performance characteristics determined by HealthTrackRx. It has not been cleared or approved by the FDA. However, such approval/clearance is not required, as the laboratory is regulated and qualified under CLIA to perform high-complexity testing. This test is used for clinical purposes and should not be regarded as investigational or for research.
*Approximate copies of target nucleic acid per µL (Low: <2,500 copies/µL, Moderate: 2,500-50,000 copies/µL, High: >50,000 copies/µL)
**National Infectious Disease Consensus Data
***Potentially effective oral antibiotics, based on presence of detected microbes, antimicrobial resistance genes, and national antimicrobial sensitivity data (see Summary Antibiogram).

Future Directions [29,30]

- Point-of-care molecular & host-response diagnostics [29,30,31]
- AI-driven EHR decision support
- Expanded quality metrics & public reporting
- Integration with telehealth & home testing kits

Summary

- UC is a frontline battleground for stewardship.
- Multifaceted programs reduce resistance & costs [6].
- Education + diagnostics + communication = safe, sustainable care.
- Antibiotic stewardship in urgent care is achievable and impactful.
- Combine education, decision support, diagnostics, and communication strategies in a programmatic intervention.
- Urgent care centers can reduce resistance, improve patient safety, and preserve antibiotic effectiveness. [7,8,26]

Take Home Points

- Antibiotic Resistance is a major clinical problem
- Stewardship of antibiotics is an effective strategy
- Programmatic approaches can be effective
- Diagnostic Testing is part of the solution continuum
- Shared Decision-Making is an effective tool at the clinician-patient level [14,15,16]

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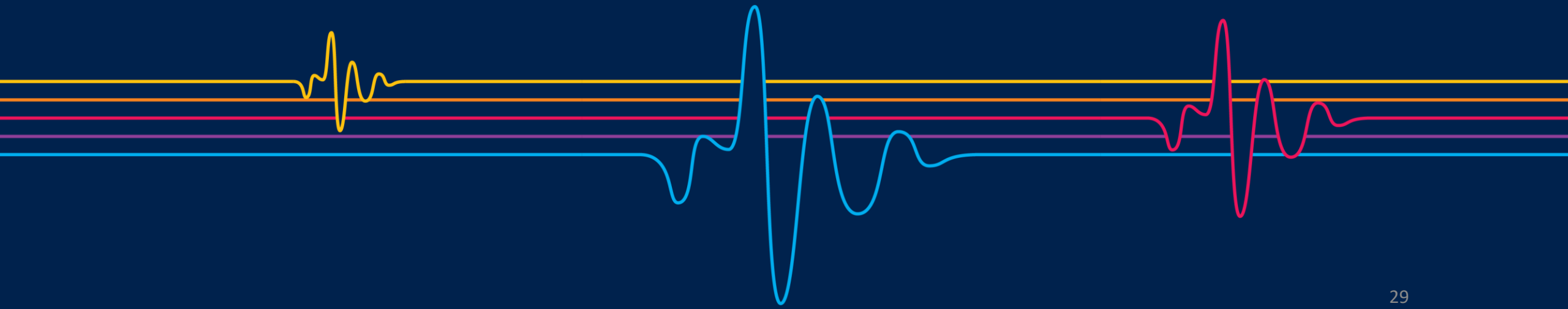
Q&A



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