

Antibiotic Stewardship in a Total Virtual Care™ Model

Kristin Dean, MD
Associate Medical Director, Doctor On Demand

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Agenda

- Total Virtual Care™ Delivery
- Antibiotic Stewardship: Education vs Clinician Feedback for Acute Respiratory Infections in Telemedicine
- Telemedicine During COVID-19
- Responsible Virtual Care Delivery

***Speaker Disclosure:**

Kristin Dean, MD is an employee of Doctor On Demand

Doctor On Demand Virtual Care



Employed Clinician Model

- Employed practice with virtual care expertise
- Average 17 years experience
- Diverse clinical practice:
 - 43% BIPOC
 - 20% LGBTQ
 - 60%+ female



Credentialing, Ongoing Training and Certification

- Virtual care training
- Double-blind peer review
- Antibiotic stewardship
- Continuing Medical Education Program
- NCQA, URAC, ADA



Virtual Care Delivery

- Synchronous video visits
- Continuity of care, follow-up visits
- Self-guided clinical examination
- Evidence-based telemedicine guidelines to ensure high-quality care
- Integrated labs, electronic prescribing, referrals, imaging
- Primary care, urgent care and behavioral health



Study Design

Education vs Clinician Feedback for Acute Respiratory Infections in Telemedicine: a Randomized Controlled Trial

- **Timeline**

- Jan 1, 2018 to Nov 30, 2018

- **Measure**

- Antibiotic prescription for visits with any of the target conditions

- **Target conditions**

- URI
- Bronchitis
- Sinusitis
- Pharyngitis

- **Control arm**

- Education (n= 30,521)

- **Intervention arm**

- Education + Antibiotic Prescribing Dashboard (n= 24,843)

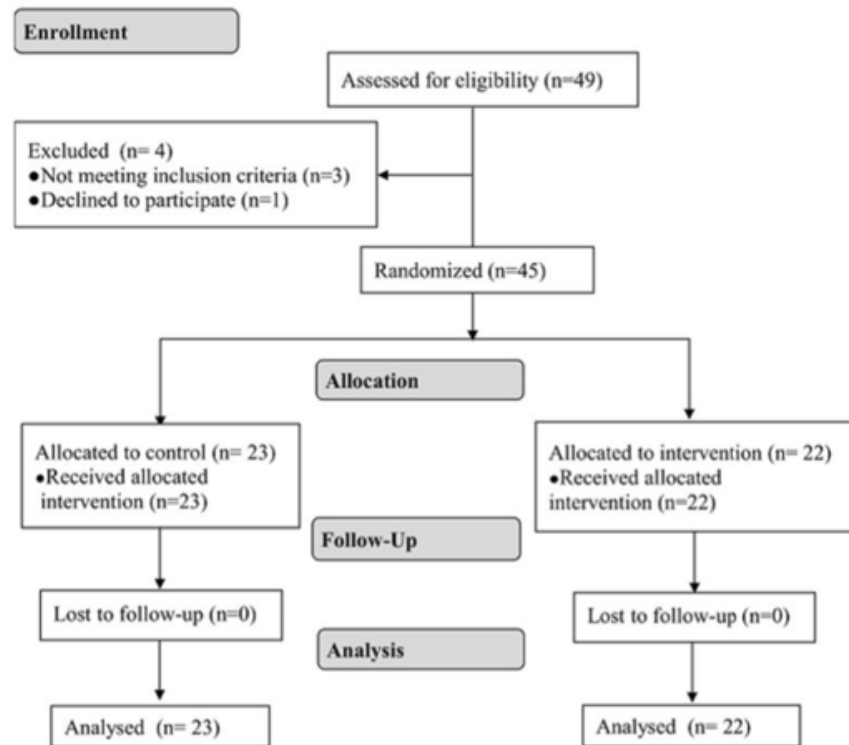


Figure 1 Participant flow diagram.

Intervention

Antibiotic Prescribing Dashboard

- Personalized for each clinician in the intervention group
- Distributed monthly
- Practice Summary: practice-wide antibiotic prescription rates for target conditions
- Your Results: individual clinician prescription rates

Practice Summary					
Chart Icd Antibiotics Stewardship Diagnosis Category ^					Antibiotics Prescription Rate
1	BRONCHITIS				33%
2	PHARYNGITIS				56%
3	SINUSITIS				70%
4	URI				6%

Your Results						
Provider Last Name	Provider First Name	Chart Icd Antibiotics Stewardship Diagnosis Category ^	Call Prescriptions Aggregate Antibiotics Calls	Call Count	Antibiotics Prescription Rate	
1		BRONCHITIS		2	50	4%
2		PHARYNGITIS		2	7	29%
3		SINUSITIS		1	6	17%
4		URI		3	150	2%

Your Difference From Practice				
Last Name	First Name	Antibiotics Stewardship Diagnosis Category	Email	Difference From Practice
		BRONCHITIS		-29%
		PHARYNGITIS		-27%
		SINUSITIS		-53%
		URI		-4%

Results

Significant decrease in antibiotic prescriptions post-intervention versus pre-intervention in both control and intervention groups:

URI

Intervention 95% CI [0.32, 0.73]

Control 95% CI [0.69, 0.95]

Bronchitis

Intervention 95% CI [0.15, 0.40]

Control 95% CI [0.49, 0.73]

Sinusitis

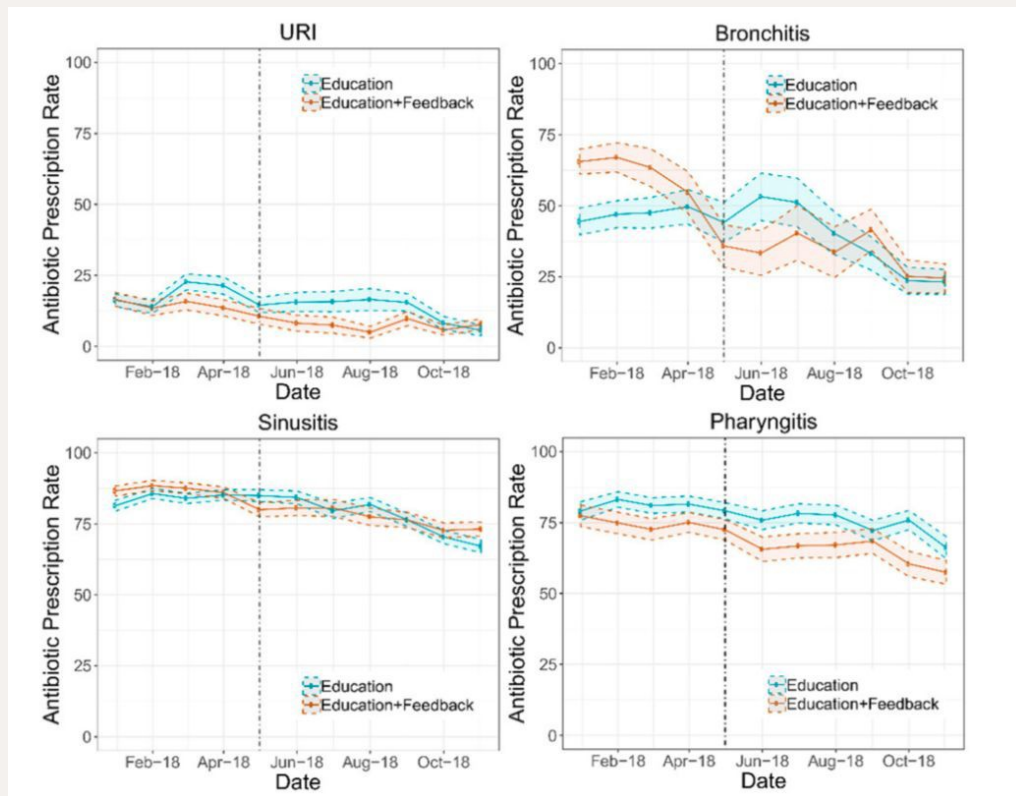
Intervention 95% CI [0.51, 0.81]

Control 95% CI [0.56, 0.67]

Pharyngitis

Intervention 95% CI [0.48, 0.90]

Control 95% CI [0.64, 0.83]



Antibiotic Stewardship Continued

- Patient satisfaction ratings remain high when antibiotics are not prescribed for an ARTI.
- Antibiotic Prescribing Dashboards provided practice-wide on a monthly basis.
- Study evaluating geographic variability of antibiotic prescribing patterns across a national telemedicine practice.
- Continuing education on antibiotic stewardship best practices.

Figure 2. Mean Star Rating

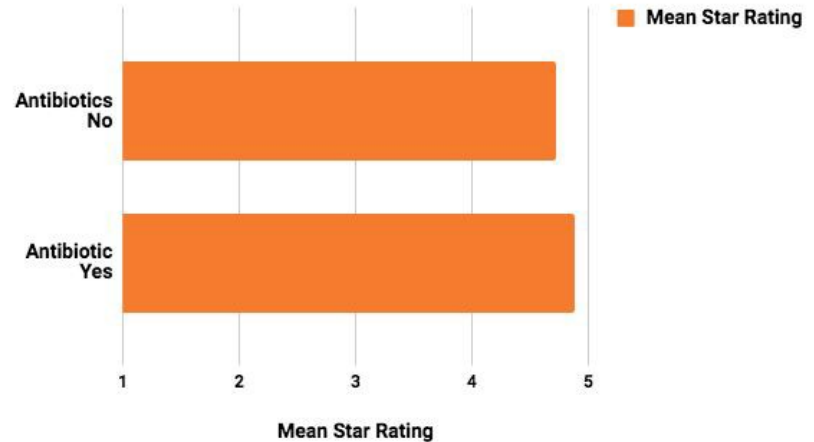


Figure 2: Mean star patient satisfaction rating on a 5-point scale with and without antibiotic prescriptions (n=51,272)

Access to Care during COVID-19

- New patients increased from 40% in Feb to 53% in Apr 2020
- Overall growth 59% above baseline:
 - Behavioral health and chronic illness contributed
 - ARI / ILI / COVID-19 did not contribute
- Difference in visit trends by patient location observed:
 - Urban residents: 58% above baseline
 - Rural residents: 64% above baseline
- Individuals residing in low-income regions accounted for:
 - 47% of all visits in Jan and Feb 2020
 - 50% of all visits in Apr 2020

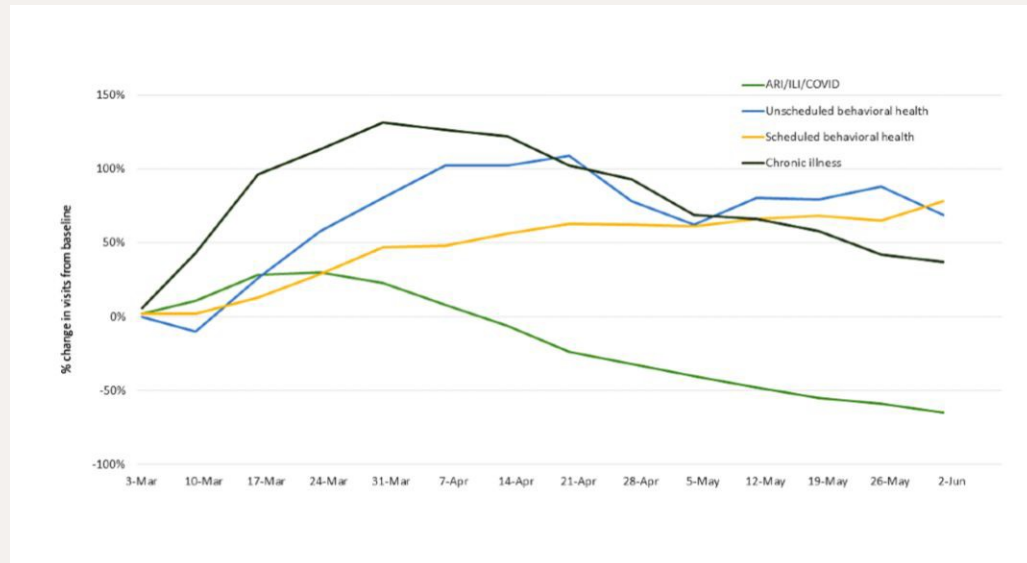


Figure 2: Percentage change in the total volume of virtual visits by type of visit from the baseline week in 2020. ARI: acute respiratory infection, ILI: influenza-like illness.

Responsible Virtual Care Delivery

Areas of Concern

- Care fragmentation; disintegration of patient-provider relationship
- Reduced focus on preventive care
- Increased focus on antibiotic drug prescribing instead of comprehensive care management and consideration of alternative treatments/interventions
- Business models offering subscription-based services

Future Directions

- Clinical quality improvements through oversight and enhanced quality measure programs that discourage and penalize the improper use of antibiotics
- Viewing telehealth as part of wider ecosystem
- Alignment with accrediting bodies
- Trained virtualists with accountability
- Reformed telehealth coverage and payment policy under Medicare to hold all providers accountable for the same gold standard

Thank You