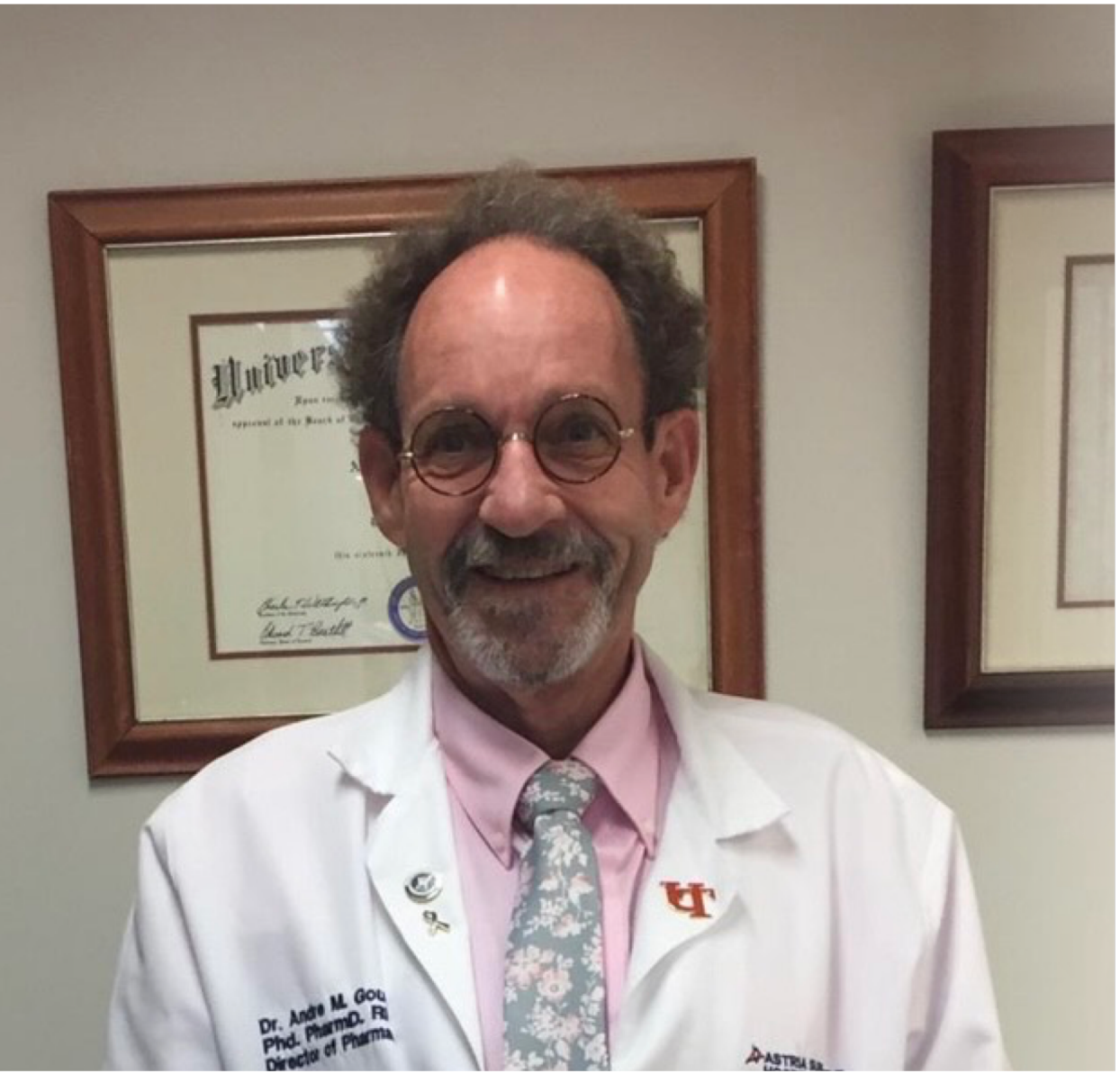


Andre M. Gouws Memorial Lecture in Infectious Disease Pharmacy

MAYO CLINIC

How to Win Stewards and Influence Prescribing:

Building Relationships and Networks in Antimicrobial Stewardship

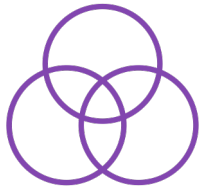
Ryan W. Stevens, PharmD, BCIDP
Infectious Diseases/Antimicrobial Stewardship Pharmacist
Mayo Clinic – Rochester, MN

May 9th, 2023

@Stevens_AK

 |

Objectives:



Describe key commonalities and differences between inpatient and outpatient antimicrobial stewardship

Discuss strategies to build ASP networks

Design collaborative efforts which leverage ASP networks and improve antimicrobial utilization

Geographic Journey

PGY1:
Alaska Native Medical Center
Anchorage, AK

Undergraduate:
Carroll College
Helena, MT

PharmD:
U. Montana
Missoula, MT

Hometown:
Colstrip, MT

2011-2019:
Providence Alaska Medical Center
Anchorage, AK

Currently:
Mayo Clinic
Rochester, MN

Antimicrobial Stewardship Journey

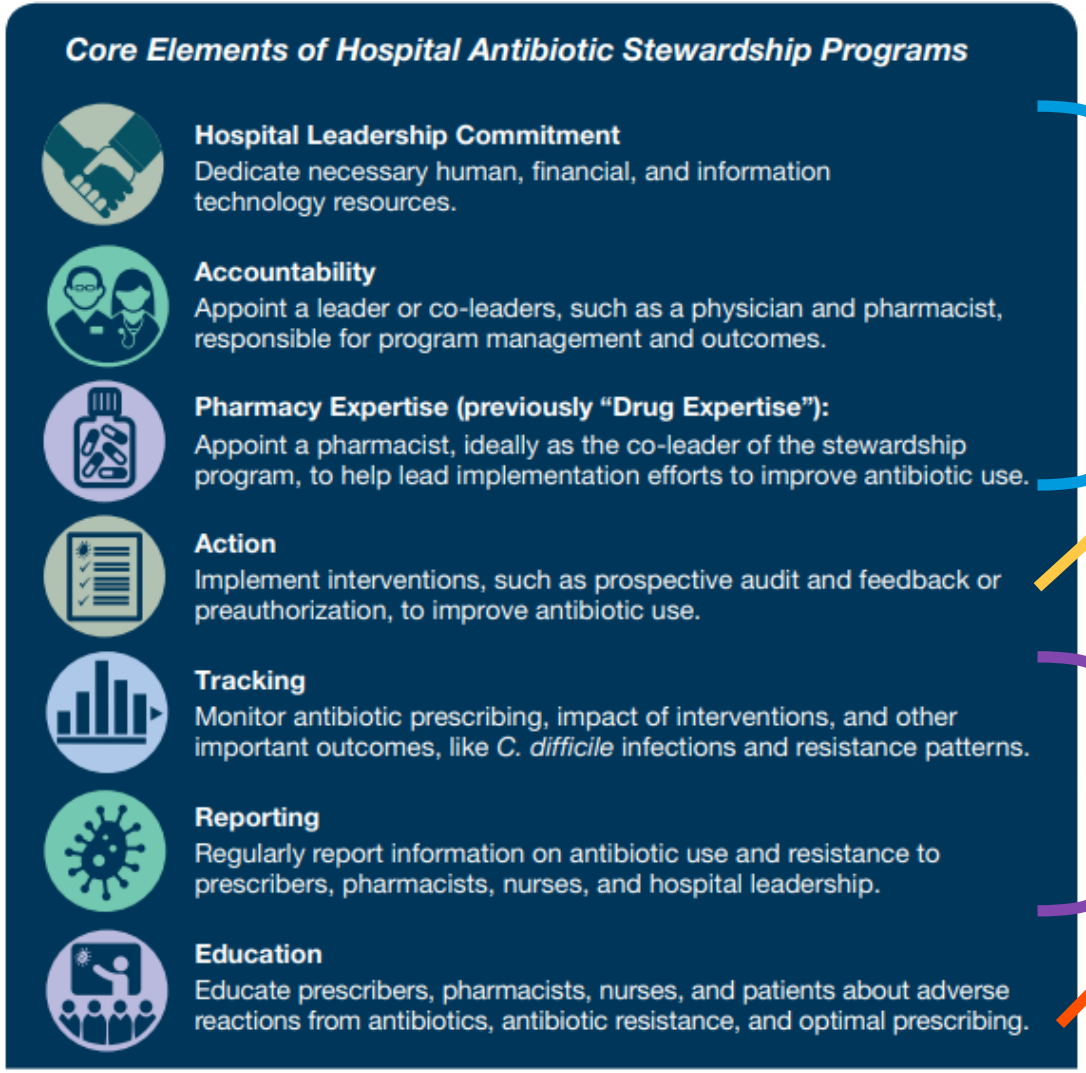
2011-2019
Institution: Providence Alaska
Institution Size: 401
Setting: Inpatient
Role: Co-chair
Primary Targets: • Medicine teams (contracted) • Surgical teams (contracted)
Primary Methods: • Prospective audit and feedback • Education
Program Age: 0 years

2019 – Current
Institution: Mayo Clinic
Institution Size: 2059 beds (2 hospitals)
Setting: Inpatient
Role: Team member
Primary Targets: • Medicine teams • Surgical teams
Primary Methods: • Prospective audit and feedback • Semi-restricted formulary
Program Age: 22 years

2019 – Current
Institution: Mayo Clinic
Institution Size: VERY large
Setting: Outpatient
Role: Co-chair
Primary Targets: • Family Medicine • Community Internal Medicine • Urgent Care/ED • Pediatrics
Primary Methods: • Education • Clinical Decision Support • Data Modeling/Reporting
Program Age: 0 years

CDC Core Elements Inpatient vs. Outpatient

CDC Core Elements - Inpatient



C

A

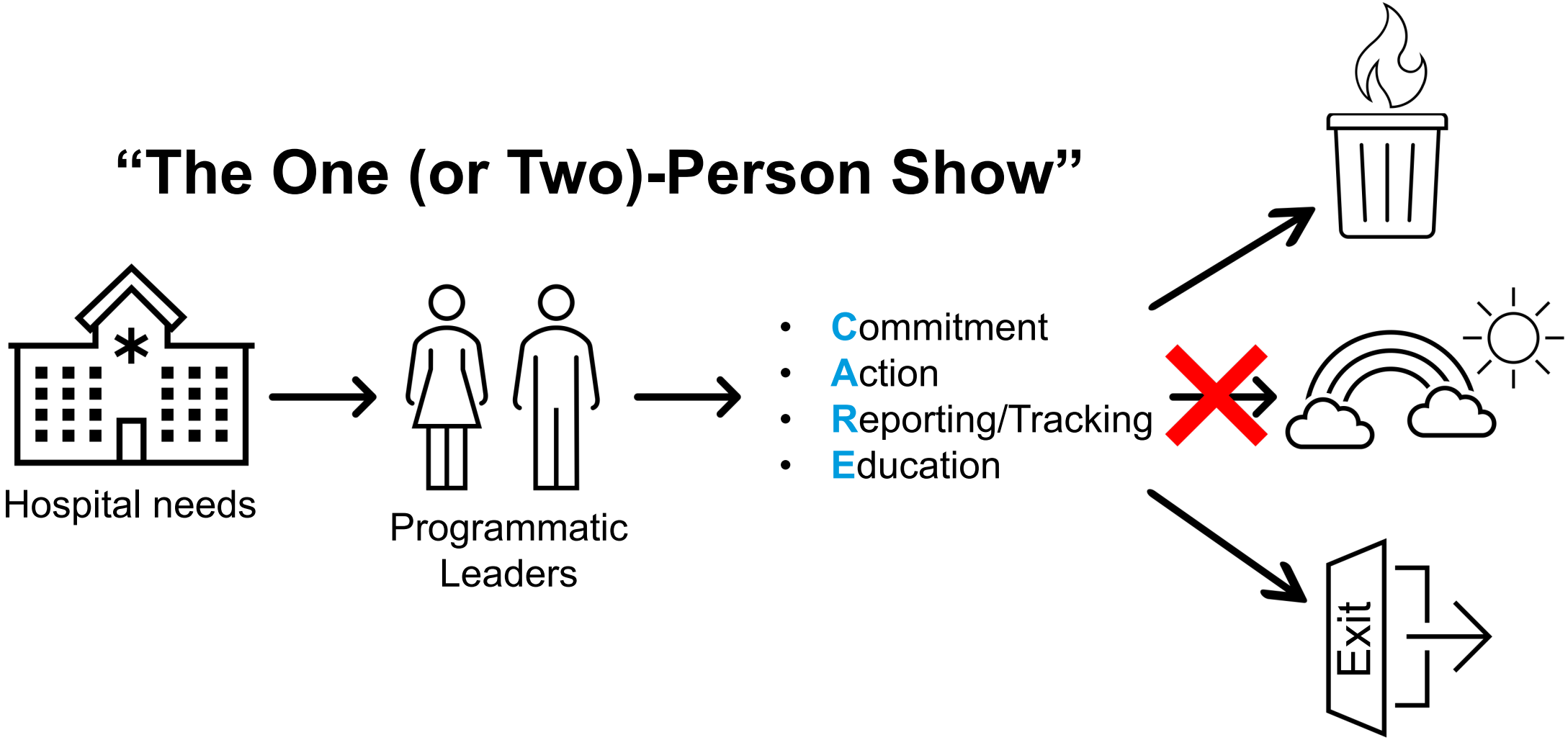
R

E

CDC Core Elements - Outpatient

Do I Need a Network?

“The One (or Two)-Person Show”

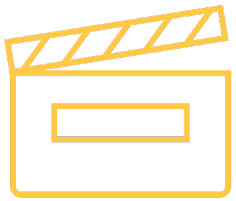


The People Behind the Core Elements

Leadership Commitment

- Hospital leadership
  - "C-suite"
- Programmatic leaders
  - PharmD
  - MD

Action



- Programmatic leaders
- ASP team members
- Key stakeholders
  - MDs/APPs
  - PharmDs
  - RN
  - Microbiology
  - Patients
  - IPAC

Tracking/ Reporting

- Hospital leadership
- Programmatic leaders
  - PharmD
  - MD
- Drug expertise
- Informatics
- Microbiology
- IPAC

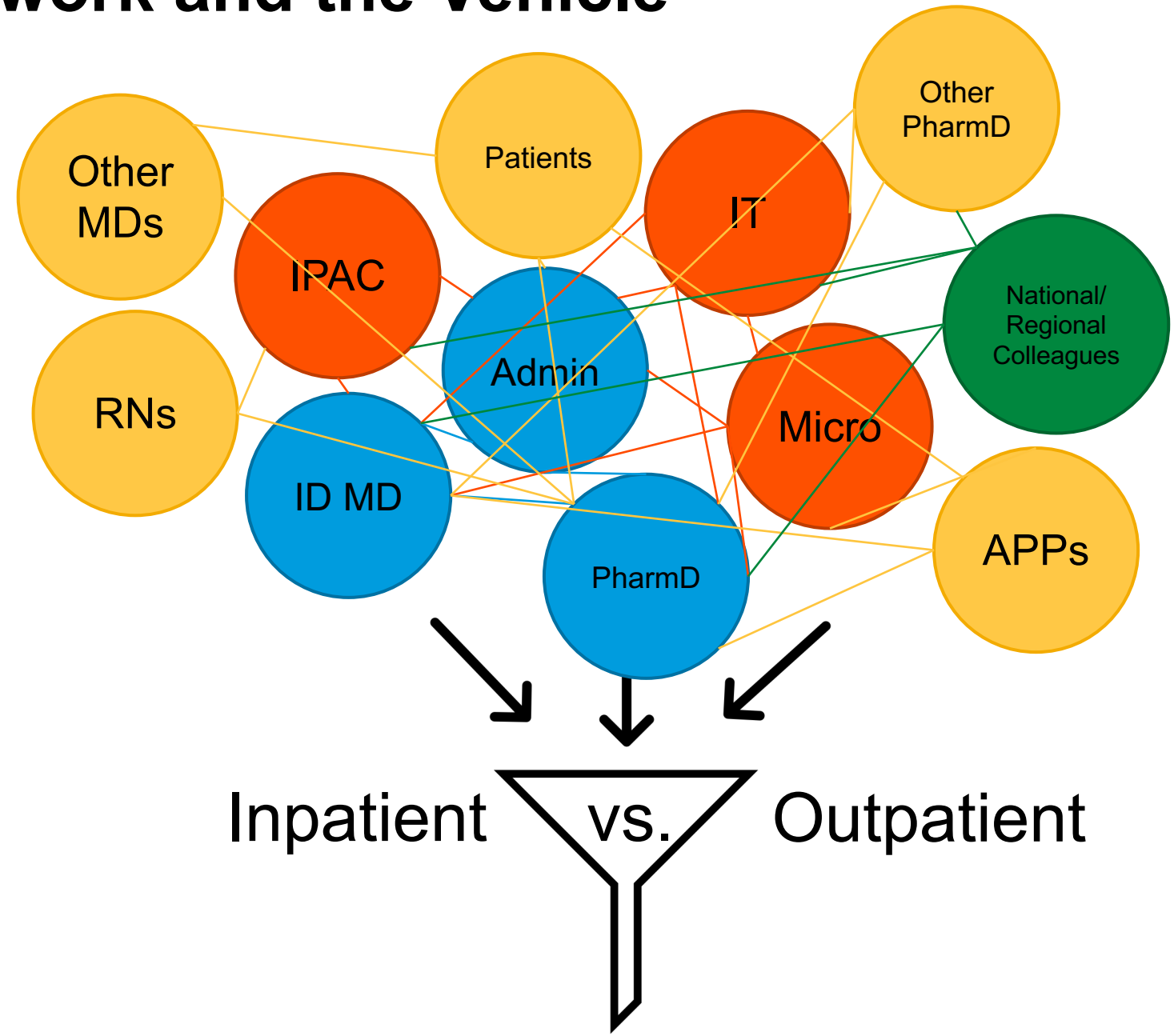
Education

- Programmatic leaders
- Key stakeholders
- End users
- National/regional collaborators
- Patients

The Network and the Vehicle

The Network

The Vehicle

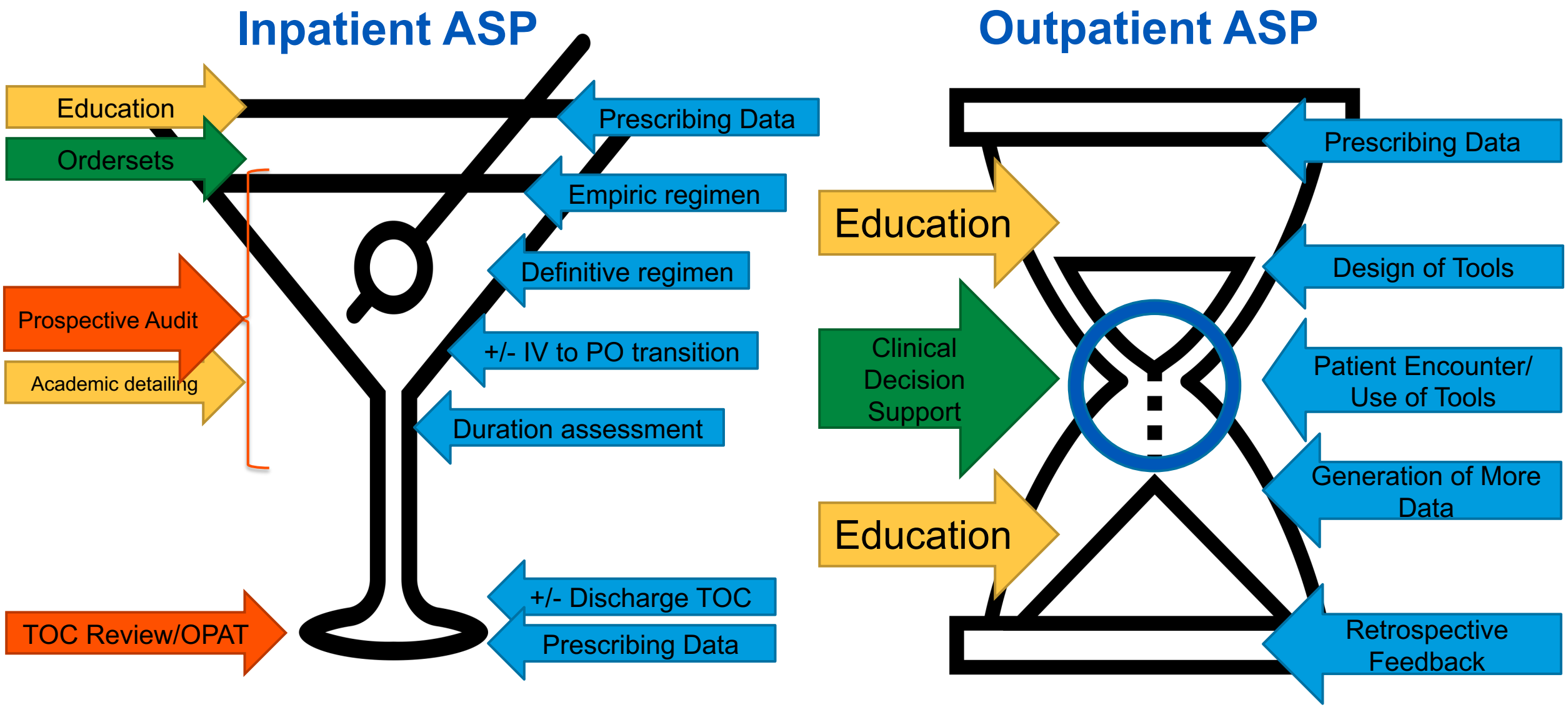


Inpatient vs. Outpatient

	Inpatient	Outpatient
Length of Encounter	Day to Weeks	Minutes
Volume of Encounters	+	+++
Antimicrobial Routes of Administration	IV/PO	Largely PO
Available Data	Robust clinical, laboratory, radiographic, and microbiologic data	Data limited to patient assessment/pre-appointment laboratory work
Internal Control Over Dispensing	High (reliance on staff) • Formulary restriction • In-house pharmacy verification • Automatic route switches • Real-time ASP intervention	Low (reliance on systems) • Use of external pharmacies • Lack of in-house pharmacist verification (?) • Disconnect between dispensing pharmacist and chart review (?) • Primarily retrospective feedback
Adaptability for Regimen Re-design	Prospective audit with intervention and feedback	Less ability to change regimens
Staff Factors	Centrally located staff	Staff distributed over multiple clinics

JACCP 2021;4(12):1583-93.

ASP Glasses



Objective 1: IP vs. OP Commonalities and Differences

- **Differences…**
  1. Abound…
  2. Include…
     - Syndromes encountered
     - Duration of encounter
     - Data availability
     - Mechanisms of intervention
     - Centrality of staff

- **Commonalities…**
  1. Patients
  2. Antibiotics
  3. C.A.R.E.
     - Commitment
     - Action
     - Reporting
     - Education
  4. A HUGE burden of work
  5. Human behavior

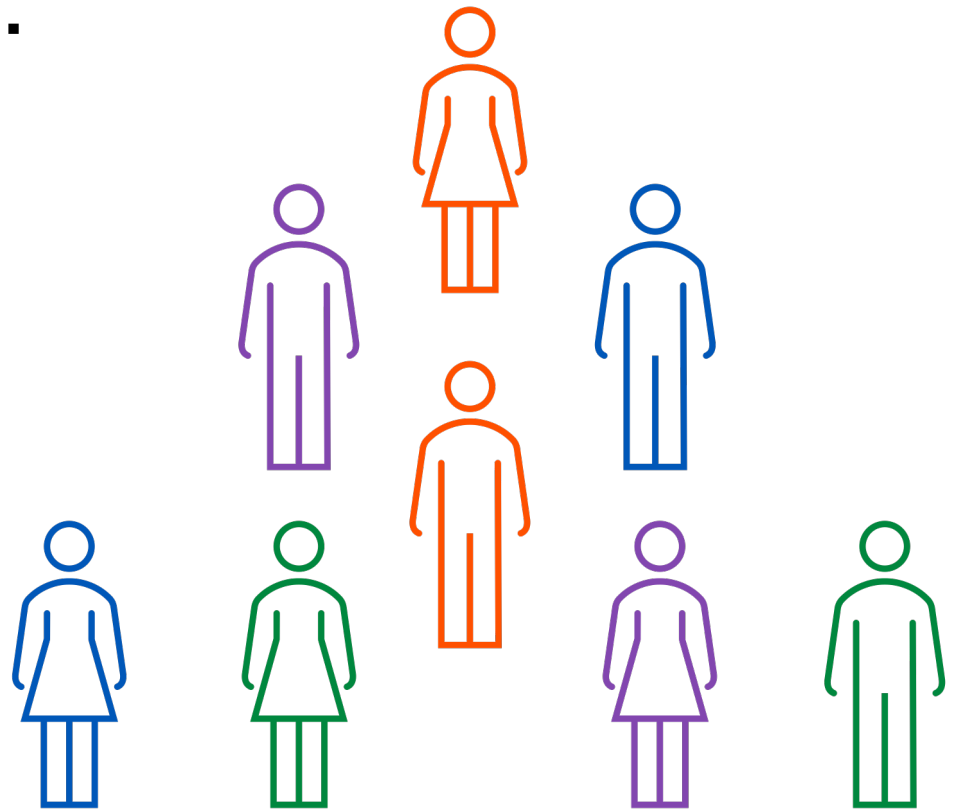
1) Relationship building
2) Professional Networking

Relationship Building:

A SOCIAL **NETWORK** IS COMPRISED OF **INDIVIDUALS**

Team dynamics…

1) Value diversity
2) Facilitate teamwork
3) Encourage connection

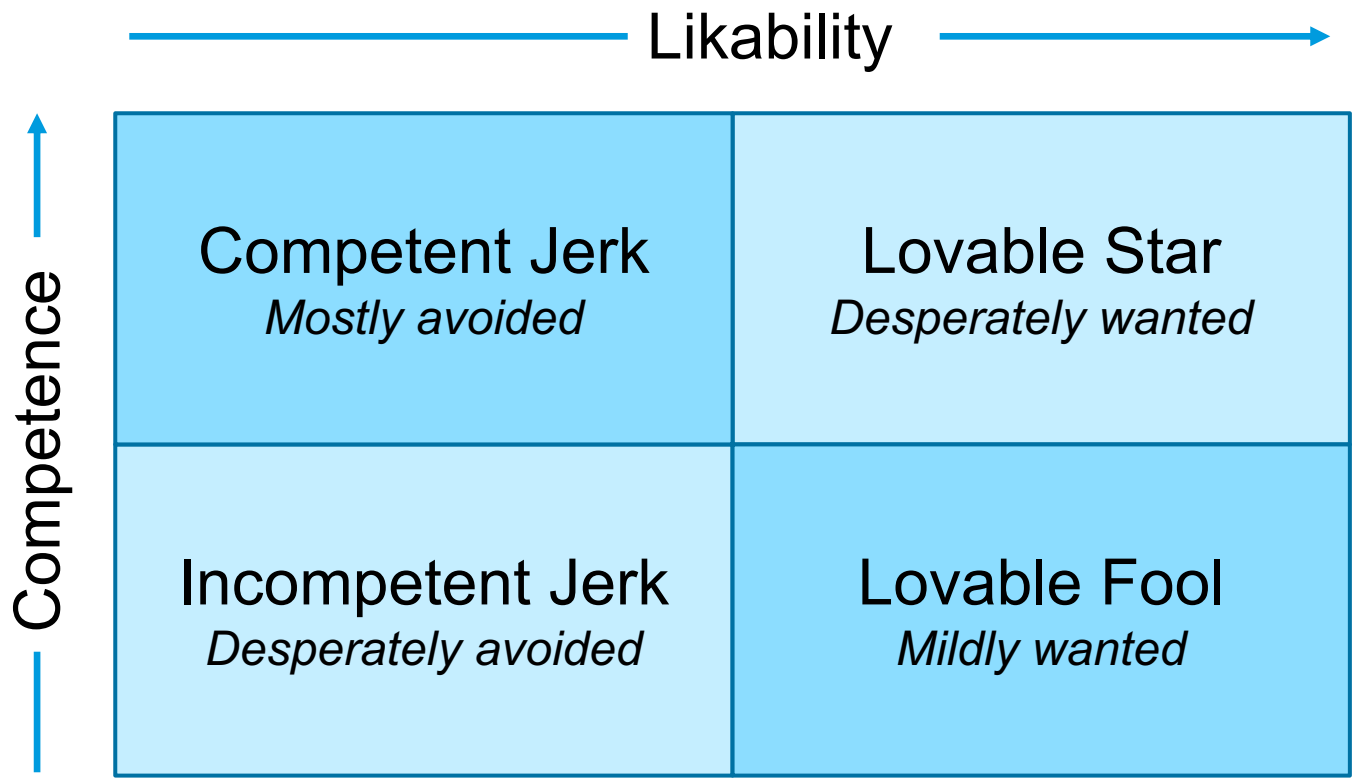


…Individual dynamics

1) Personality differences
2) Experience, education, or skill set differences
3) Different or competing interests

Relationship Building: Competence vs. Likability

A SOCIAL **NETWORK** IS COMPRISED OF **INDIVIDUALS**



Can "likeability" be manufactured?

1. Promote familiarity
   - Facilitate proximity
   - Identify commonalities
   - Promote the "peer assist"
2. Redefine similarity
   - Build a shared goal
   - Be intentional about diversity
3. Foster bonding
   - Formal: Intense cooperative experiences
   - Informal: Casual overlap

Casciaro T, Sousa Lobo M. Competent jerks, lovable fools, and the formation of social networks. *Harvard Business Review.* June 2005.

Relationship Building: Encouraging Phenotypic Growth

Leverage the Likable

1. Identify them (i.e., find the hub)
2. Protect them
3. Position them strategically

Questions to consider:

1. Who are your "hubs"? Who do people naturally gravitate towards?
2. How are you valuing the "soft contribution"?
3. Have you considered strategic positioning of your "hubs"?

Work on the Jerk

1. Reassess their contribution (i.e., where does their individual performance meet the overall goal?)
2. Reinforce good behavior, but correct bad behavior
3. Socialize and coach them
4. Reposition them

Questions to consider:

1. Are there highly competent members of your team that are inhibiting progress?
2. Are there "stands" that need to be taken?
3. How may some socialization, coaching, or repositioning impact overall team dynamics?

Casciaro T, Sousa Lobo M. Competent jerks, lovable fools, and the formation of social networks. *Harvard Business Review.* June 2005.

For example…

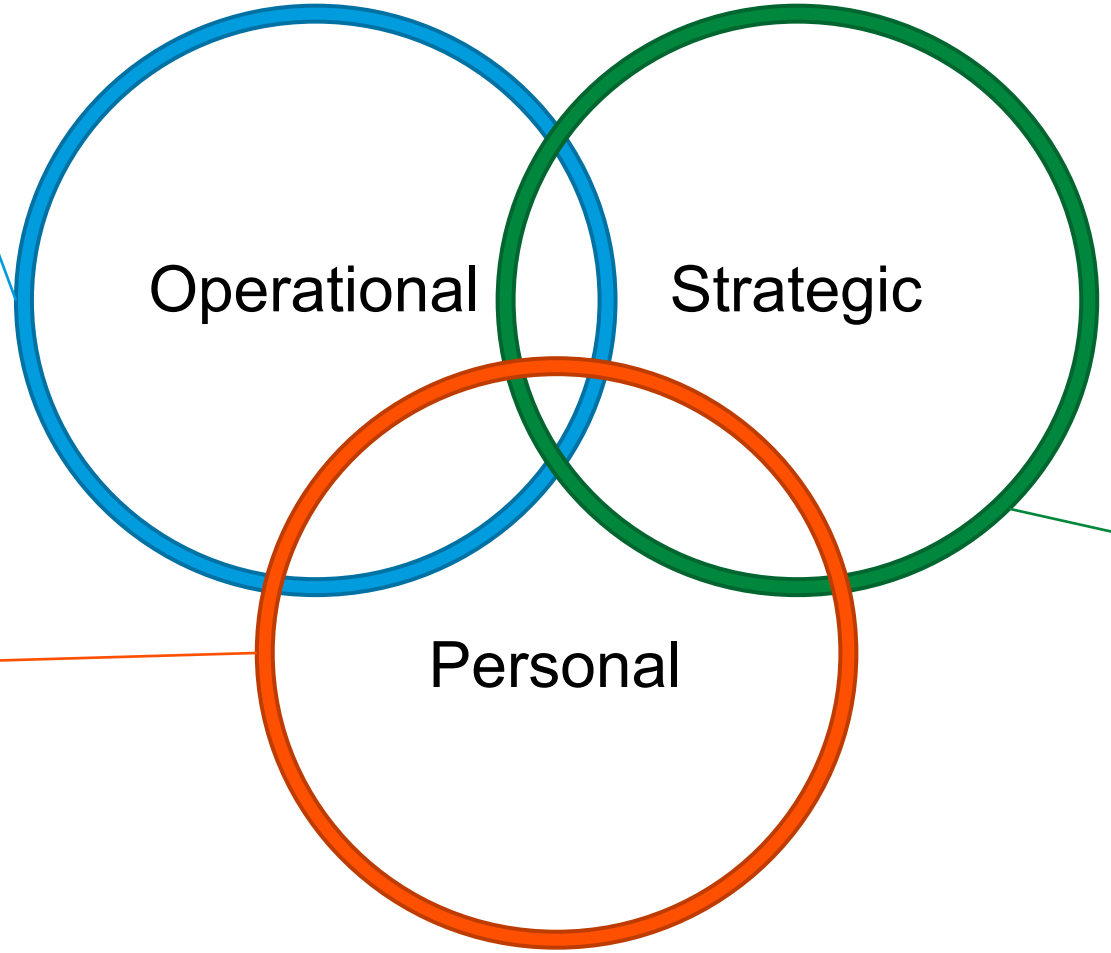
1. **Manufacturing likability:**
   - Outpatient ASP… an intense cooperative experience

2. **Leveraging the “likable”:**
   - The surgical star

3. **Reinforcement/correct of a “competent jerk”:**
   - The staff meeting “wise crack”

Professional Networking: Defining the Network

- **Purpose**: Getting work done
- **Location**: Largely internal
- **Recruitment**: Generally driven by tasks
- **Attributes**: Strong working relationships

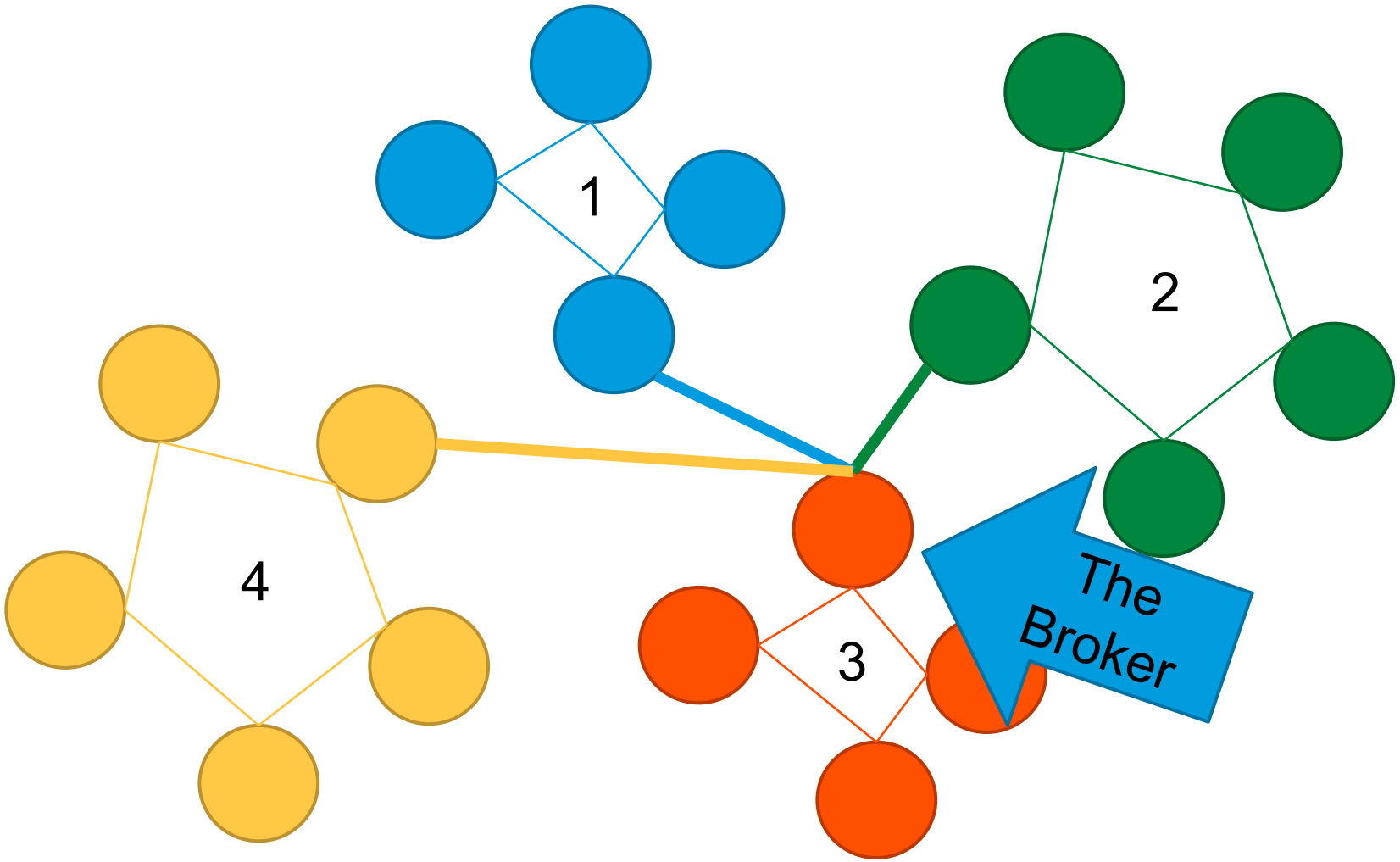


- **Purpose**: Identifying future opportunities
- **Location**: Largely external
- **Recruitment**: Discretionary flowing from strategic context
- **Attributes**: Creating external “brokers”

- **Purpose**: Personal and professional development
- **Location**: Internal/external
- **Recruitment**: Discretionary
- **Attributes**: Personal and professional satisfaction / creating or identifying “brokers”

Ibarra H, Hunter ML. How leaders create and use networks. *Harvard Business Review.* January 2007.

Professional Networking: The “Broker”



Uzzi B, Dunlap S. How to build your network. *Harvard Business Review.* December 2005.

What is a broker?

Someone who occupies a key role in a network by connecting one network to another

Whare are the qualities of an effective “Broker”?

1. Respected in their network
2. Well-connected
3. Perhaps NOT in a position of authority?
4. Key = look for “lovable stars”

Professional Networking: According to chatGPT

1. Attend professional/industry events (e.g., seminars, conferences, and workshops)
   a) Be prepared to engage in meaningful conversations
   b) Bring lots of business cards
2. Join professional organizations related to your industry (e.g., IDSA, SHEA, SIDP, etc.)
   a) Organizations have built in networking opportunities, resources, training, and support
3. Build an online presence (e.g., LinkedIn, Twitter, etc.)
4. Offer to help others (e.g., share your knowledge or offer to serve as a “broker”)
5. Follow-up and stay in touch
   a) Follow-up after making a new connection
   b) Share relevant information/connections
6. Seek out mentors
7. Volunteer or participate in activities (e.g., committee involvement, volunteerism, presentations, etc.)

Objective 2: Strategies to Build ASP Networks

1. **Zoom in:** How do individual ASP members impact your ASP team dynamics?
   - How can you “leverage the likable”?
   - How can you “work on the jerk”?
   - Who are you mentoring? Who is mentoring you?

2. **Zoom out:** Operational, personal, or strategic… which network is your strongest? Which is your weakest?
   - Who are your “brokers”?

Relationship/Networks In Action…

- [x] ASP = Networks
- [x] Networks = Individuals
- [ ] Translating networks into action

Putting it Into Action 1: Peer Comparison Reporting

Who: Antimicrobial prescribers (high performers vs. low performers vs. all)

What: Feedback of antibiotic use and/or appropriateness of prescribing data relayed to the prescriber to allow comparison to other prescribers

Where: Inpatient vs. ED vs. outpatient… anywhere that antibiotics are prescribed.

When: Best used in conjunction with an established goal (i.e., provision of a specific metric within antimicrobial prescribing).

Why:

1. Everyone is competitive
2. No one wants to be a “low performer”
3. People improve when they know they are being watched

Practical Implementation of an Antibiotic Stewardship Program. 1st ed. 2018

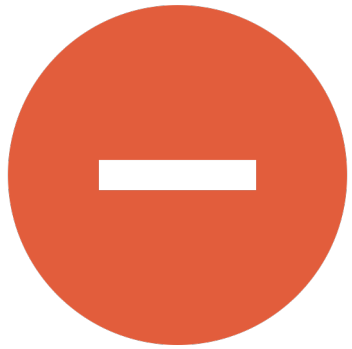
Putting it Into Action 1: Peer Comparison Reporting

Benefits

- Provides positive reinforcement to top performers
- Incentive to change behavior in poor performers
- Improved appropriateness of prescribing
- Identifies specific prescribers to target ASP educational effort and interventions.
- Measure broad spectrum therapy

Challenges

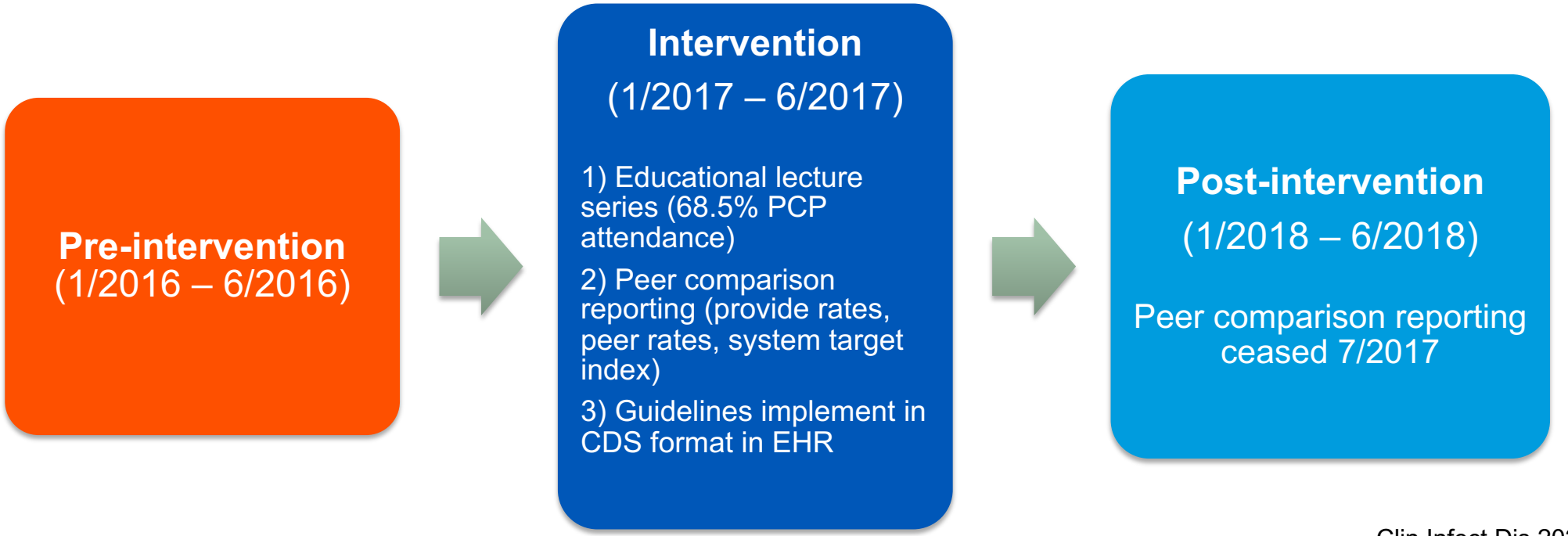
- Requires a standardized EMR to collect and analyze data confidentially for feedback
- Requires an adequate sample of prescribers or practices for valid comparison
- Requires development of an accepted definition of appropriate use
- Some providers are skeptical about the utility and accuracy of the reports
- Some clinicians may ignore the report



Practical Implementation of an Antibiotic Stewardship Program. 1st ed. 2018

Putting it Into Action 1: Peer Comparison Reporting

- **Objective**: Assess the impact of a multifaceted ambulatory ASP intervention including education, computer decision support order sets, and peer comparison reporting against ALL antibiotic prescribing.
- **Design:** Prospective and observational
- **Population:** Patients seen across 7 primary care clinics within the VA system
- **Intervention:**



Clin Infect Dis 2020;71(8):e316-22.

Putting it Into Action 1: Peer Comparison Reporting

	Pre-Intervention	Intervention	Post-intervention
Encounters	28,402	32,982	33,121
Total Antibiotic Rx	2,172	1,631	33,121
Total Antibiotic Rx Rate/1000 Visits	76.9	49.5	56.3

35.6% relative reduction (p<0.01)

26.8% relative reduction (p<0.01)

13.7% relative increase (p = 0.09)

Is there signal here?

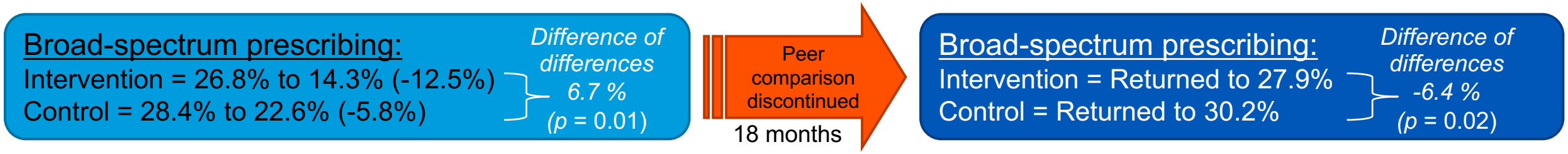
Conclusion:

- The bundle effectively produced:
  - Decreases in overall prescribing
  - Decreases in inappropriate prescribing
  - Increases in guideline concordant antimicrobial prescribing
- Benefits of the bundle were observed to persist for at least one year following cessation of peer comparison reporting

Clin Infect Dis 2020;71(8):e316-22.

Putting it Into Action 1: Peer Comparison Reporting

- **Objective:** Assess the impact of prospective audit and feedback (peer comparison reporting) in the pediatric primary care setting on outpatient antibiotic prescribing for acute respiratory tract infections (ARTI).
- **Design:** Cluster randomized trial
- **Setting/population/timeframe:** 18 pediatric primary care practices 10/2008 – 6/2011 (with subsequent 18 mo. follow-up)
  - 9 practices = intervention / 9 practices = control
- **Study outcomes:** Broad-spectrum antibiotic prescribing (i.e., off-guideline prescribing) and prescribing in viral ARTI.
- **Intervention:**
  - 1-hour clinician education session (June 2010)
  - Quarterly prospective audit and feedback for 1 year (peer comparison)
- **Outcome:**



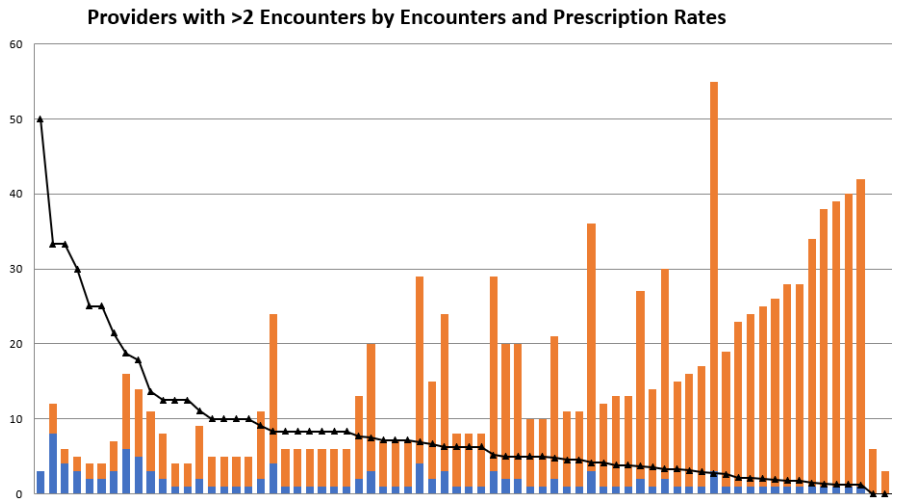
JAMA 2014;312(23):2569-70.
JAMA 2013;309(22):2345-52.

Putting it Into Action 1: Peer Comparison Reporting

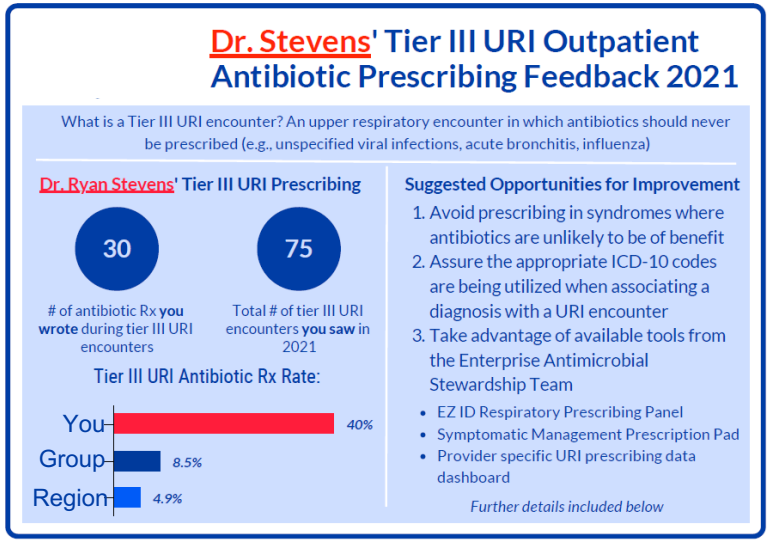
Table

	Group	Meropenem Use (DOT/1000 Days Present)
Dr. Ryan Stevens	ID Team 1	12
Median		7
25th percentile		5
75th percentile		9

Graph



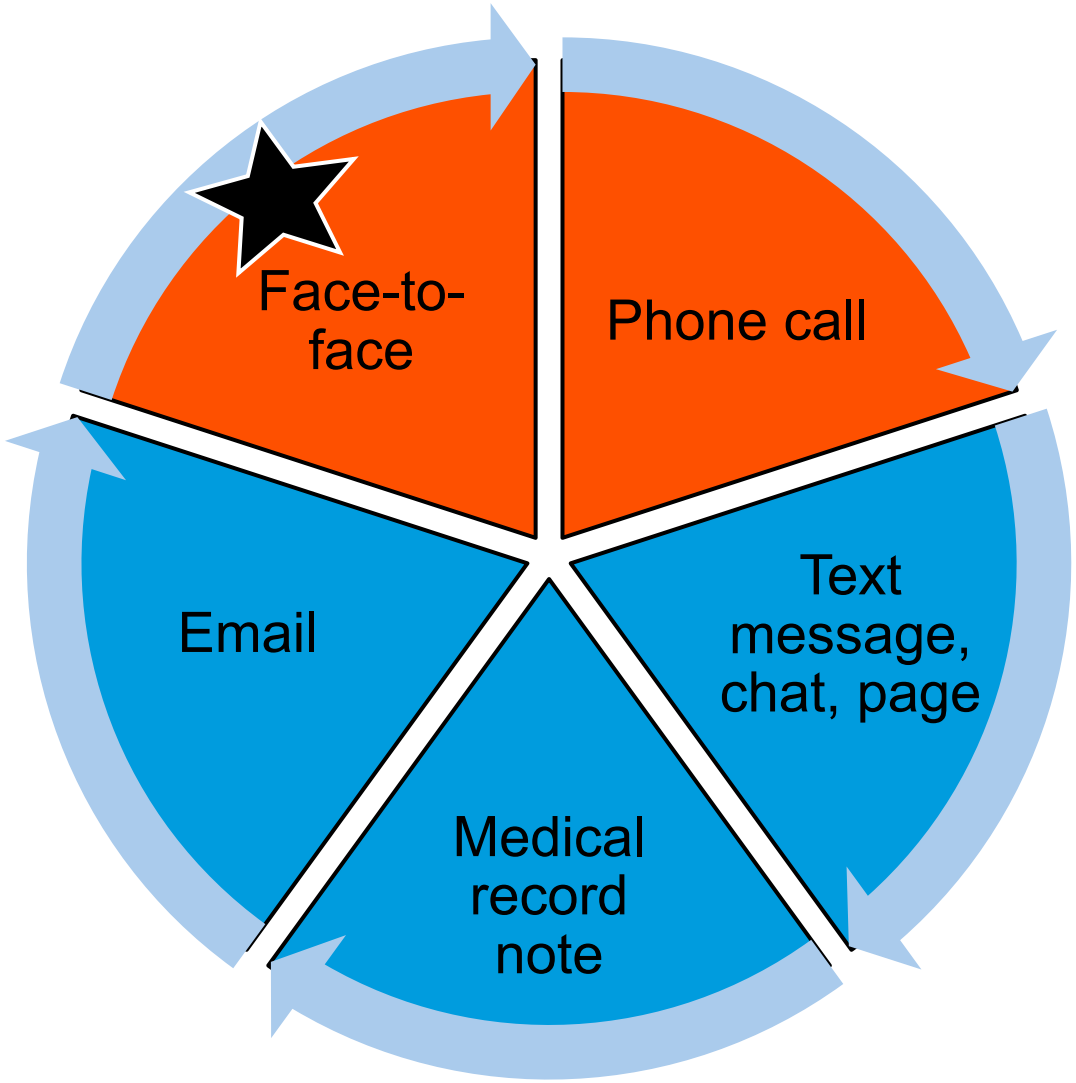
Infographic



How to leverage the network:

1. ASP leaders
2. Recipients of comparison report (high vs. low performers)
3. Local practice champions
4. Departmental/Divisional leaders
5. Administrators
6. Informaticists/data engineers

Putting it Into Action 2: Handshake Stewardship



When providing ASP recommendations…

1. Method of contact can impact intervention acceptance rates
2. **Active** > **Passive**
3. Each intervention is an opportunity for **academic detailing**

Infect Control Hosp Epidemiol 2020;41(8):959-961.

Putting it Into Action 2: Handshake Stewardship

- Coined by Children's Hospital Colorado
  - The handshake provides personal contact and signifies conveyance of trust
  - *"Handshake stewardship": Provision of antimicrobial recommendations in person through face-to-face discussion of patient care*
- Benefits of face-to-face recommendations
  - Builds rapport/trust
  - Allows for non-verbal communication queues
  - Realization of interconnectedness around a common goal
  - Potentially higher acceptance rates?

Pediatric Infect Dis J.2016;35:1104-1110.
Jt Comm J Qual Patient Saf 2021;47:198-200.

Putting it Into Action 2: Handshake Stewardship

Children's Hospital Colorado Experience

Daily Workflow

1 peds ID physician + 1 peds ID pharmacist review all anti-infective orders (24 and 48-72hr)
[1 hour per steward]

Daily meeting with microbiology, infection control, and infectious diseases
[0.5 hour per steward]

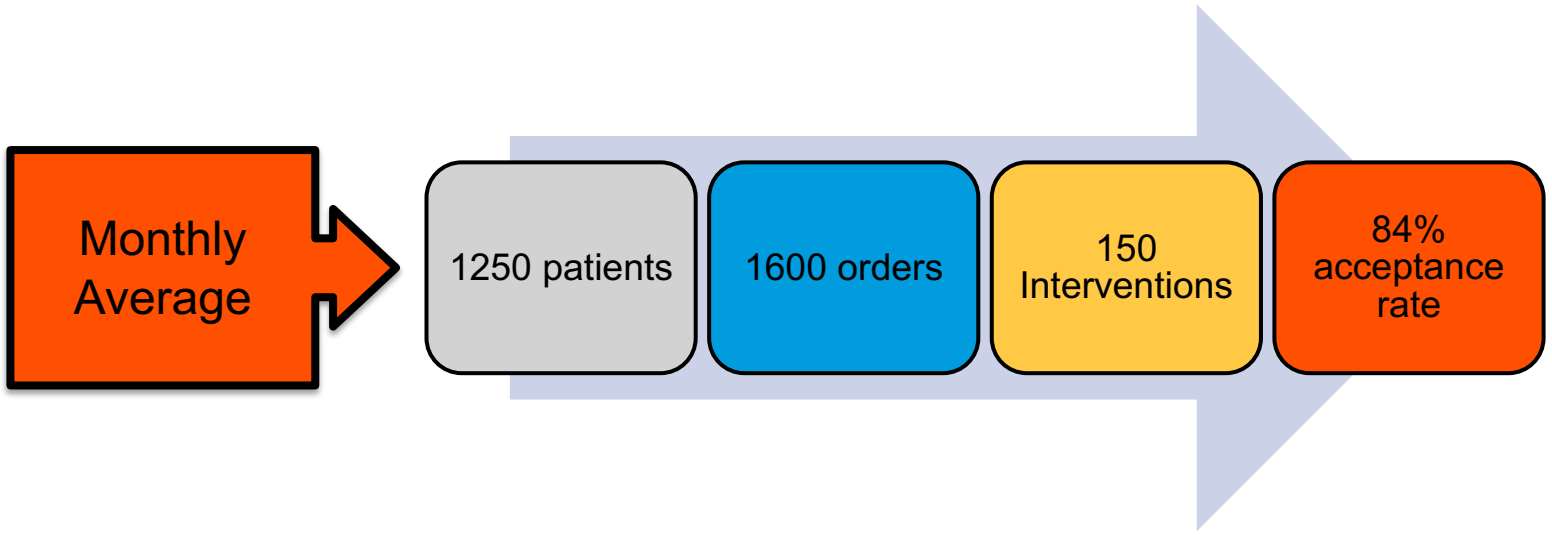
Physician + pharmacist round in-person
[21 teams total - 1.5-2 hours per steward]

*Additionally, call positive results for rapid testing on blood and spinal fluids, during business hours

1. Rounding performed jointly (MD/PharmD)
2. Each team located in-person
3. ASP discussion/recommendations provided between patients
4. Teams are located even if no interventions were identified in order to allow for teams to ask questions

Pediatric Infect Dis J.2016;35:1104-1110

Putting it Into Action 2: Handshake Stewardship



Antimicrobial	Pre-implementation Oct 2010 – Sept 2011 (Mean Monthly DOT/1000 PD)	Post-implementation Oct 2013 – Sept 2014 (Mean Monthly DOT/1000 PD)	*p*-value
All Antimicrobials	942 (908, 975)	839 (805, 872)	<0.01
All Antibacterials	750 (727, 772)	673 (650, 965)	<0.01
Vancomycin	105 (99, 112)	75 (72, 85)	<0.01
Meropenem	45 (39, 51)	35 (29, 41)	0.04*
Ertapenem	16 (13, 18)	1.3 (0, 3.6)	<0.01

*No compensatory increase in antipseudomonal beta-lactams observed.

Pediatric Infect Dis J.2016;35:1104-1110

Putting it Into Action 2: Handshake Stewardship

Cross-sectional survey of MICU/SICU physicians after 3 months of handshake ASP

22 physicians surveyed – 15 responded (68.2%)

14 included (one no longer worked in ICU)

★★★

85.7% perceived an increase in quality of care

Only **14.3%** perceived handshake ASP round to be an ineffective use of their time.

57.1% reported handshake rounds changed their antimicrobial practices (primarily de-escalation and durations of therapy)

85.7% did not perceive handshake ASP to impede their prescribing autonomy

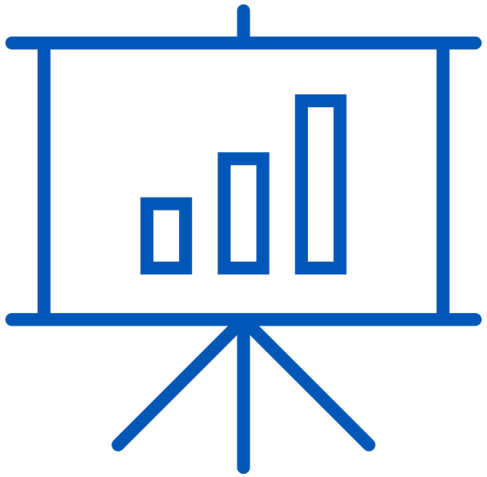
★★★

Cureus 2019;11(12):e6419.

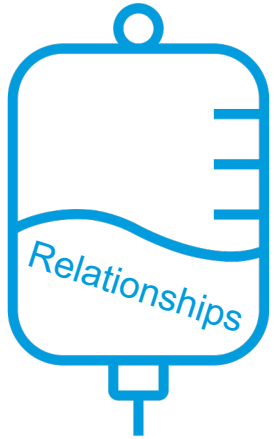
 |

Putting it Into Action 3: “Share the Wealth” …(e.g., write about it / talk about it)

1. Stories we tell ourselves…
    a) I don’t have the experience
    b) I am not a good public speaker / I’m not a good writer
    c) My practice is too small
    d) I don’t have anything to contribute
2. The truth…
    a) Everyone had to begin somewhere
    b) Most of us begin and then begin again
    c) Every practice setting has something to offer / a story to tell
    d) The profession/specialty needs your contribution
3. My advice…
    a) Capitalize on your niche
    b) Find a mentor
    c) Engage your network
    d) Start with simple collaborative opportunities

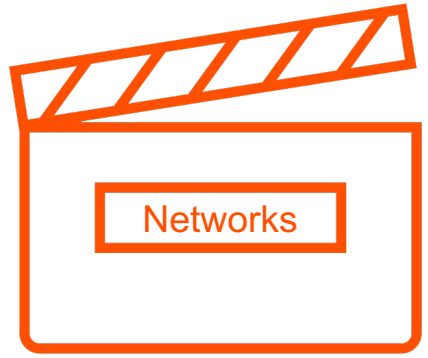


Summary



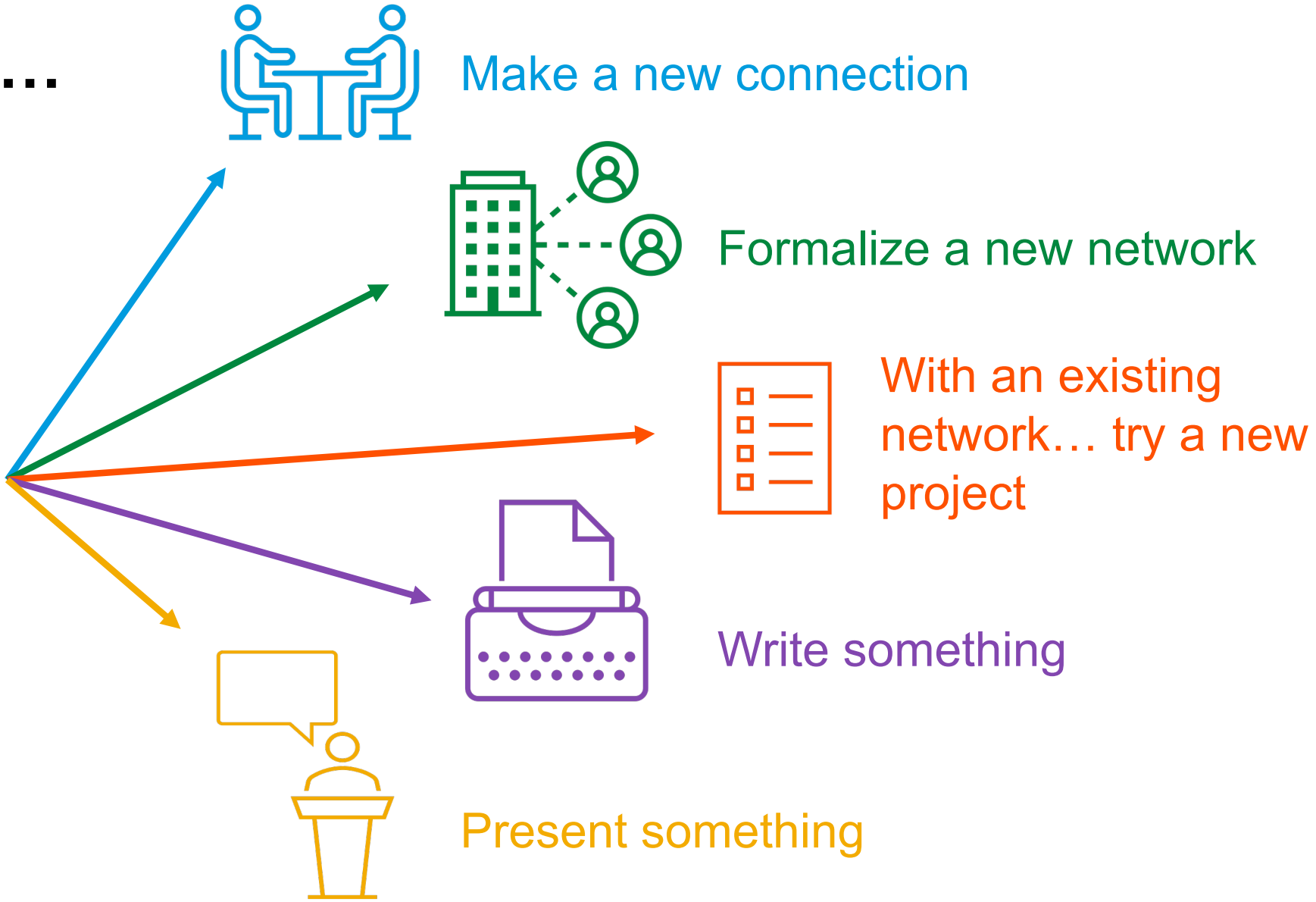
Regardless of the setting… relationship building is critical to effective antimicrobial stewardship

A network is made up of individuals… take time to understand individuals and be intentional and strategic about networking



Don’t separate stewardship activities from your network… find intentional ways engage and expand your network in your activities

90-Day Challenge…



Ryan W. Stevens, PharmD, BCIDP
Infectious Diseases/Antimicrobial Stewardship Pharmacist
Mayo Clinic – Rochester, MN
Stevens.ryan@mayo.edu
@Stevens_AK

Discussion