

Handshake Stewardship in the Era of COVID-19

The concept of adding handshakes to an ASP in the era of COVID-19 might sound like a violation to physical distancing recommendations. However, the practice of handshake stewardship, recently recommended as leading practice by the Joint Commission, is a particularly effective stewardship strategy.¹ This intervention typically involves a brief, more personal interaction than some other automated approaches and builds on relationships between providers to drive change.^{2,3} With creative modification, we propose that it might be adapted to maintain ASP effectiveness and physical distance. Further, some of these strategies may benefit hospitals wishing to expand ASP activities with limited resources in the post-pandemic era.

In our [March DASON newsletter](#), we described the role of ASPs in COVID-19 preparation and response. Here, we describe opportunities to optimize antimicrobial use in patients hospitalized with confirmed COVID-19, including intervention targets that may be amenable to the handshake stewardship approach.

Antimicrobial Stewardship Opportunities in Patients with COVID-19:

Many patients hospitalized with COVID-19 receive broad-spectrum antimicrobials despite the fact that the incidence of bacterial or fungal co-infection is low. For example, a recent meta-analysis including nine studies (n=7 from China, n=2 from US) demonstrated the rate of bacterial or fungal co-infection among patients hospitalized with COVID-19 was 8%.⁴ Of note, the rates of co-infection were much lower in the NYC (n=19/338; 5.6%) and Washington State (n=1/21; 4.8%) studies.^{5,6} However, approximately 72% of patients included in these studies received antimicrobial therapy.

Although it is difficult to differentiate bacterial vs viral etiology in patients presenting with pneumonia without highly sensitive and specific diagnostic testing and/or biomarkers, several opportunities to optimize antimicrobial therapy in patients hospitalized with COVID-19 still exist:

- 1) optimal selection of empiric antimicrobial therapy (e.g., compliant with CAP guidelines)**
 - a. Note: in a recent communication released by the co-chairs on the latest CAP guidelines, the authors offered their interpretation of the guidelines as it applies to the management of patients with pneumonia: “empirical coverage for bacterial pathogens is recommended in patients with CAP without confirmed COVID-19 but is not required in all patients with confirmed COVID-19-related pneumonia”⁷
- 2) shortest effective duration (e.g., 5-days for CAP)**
- 3) rapid de-escalation if specific pathogens (e.g., MRSA) or bacterial superinfection ruled out**
- 4) avoid treatment for “yeast” in the sputum (e.g., fluconazole)**
- 5) avoid prophylactic antimicrobials to prevent infections in patients that are in the prone position or receiving mechanical ventilation**

What is Handshake Stewardship?

In contrast to traditional approaches like restriction and preauthorization, Handshake Stewardship is a typically in-person, rounding-based approach allowing members of the antimicrobial stewardship team (ASP) (e.g., clinical pharmacist and/or physician) to meet with the treating team and communicate recommendations after reviewing therapy at a set time point (e.g., 24 and 48-72 hours). Implementation of handshake stewardship rounds at a 444-bed pediatric hospital was shown to reduce antibacterial use by 23% that was sustained over a 5 year period.³ In addition, the percent of all patient admissions ever receiving an antimicrobial also

decreased from 65% to 52% over this same time period. Although this intervention was highly effective, it required significant staffing resources including daily review of all inpatients receiving antimicrobials and daily rounds completed by a clinical pharmacist and infectious diseases physician. Pre-pandemic many community hospitals struggled to resource such an initiative house-wide.

What makes Handshake Stewardship Successful?

In order to more widely implement any intervention, it is important to understand the key elements of success. For handshake stewardship these include leveraging an ongoing, trusting relationship between provider and steward. Like a handshake, these brief interactions connect people and each is personal. While it may not be feasible to have a dedicated stewardship pharmacist and/or physician who can interact with staff on a daily basis for antibiotic recommendations, pharmacists within each hospital establish these trusting relationships with clinicians routinely across all hospital areas. Training these pharmacists to include antimicrobial stewardship initiatives as part of other ongoing reviews can have similar success. One such example of this is the implementation of a MRSA bloodstream infection intervention conducted by Ohio State Wexler Medical Center. By training all pharmacists on the intervention and arming them with background knowledge and tools to communicate recommendations with confidence the stewardship intervention had a broader reach than relying on the ASP personnel alone.⁸

What Other Methods of Communicating Recommendations are Effective?

A recent study by Stevens and colleagues evaluated the impact of different methods of communication on intervention acceptance rates at a 401-bed hospital in the Midwest.⁹ The antimicrobial stewardship program at this hospital was co-led by a full-time pharmacist and part-time physician, and all patients with positive blood or CSF cultures, positive *C. difficile* tests and patients

receiving targeted antimicrobials were reviewed daily. During the study period from 2013 to 2018, all stewardship recommendations meeting inclusion criteria (n=8,174) were evaluated for the primary outcome of pooled acceptance rate for interventions provided by telephone (e.g., calls or secure text messages) vs temporary note in the electronic medical record (EMR). All interventions were considered accepted if the recommended change was made within 48 hours of communication. As shown in Table 1, the observed acceptance rate for both communication methods was high (> 80%), but telephone recommendations resulted in higher acceptance rates vs EMR notes (89.1% vs 84.2%, p < 0.0001). Notably, the authors found that EMR notes produced equivalent acceptance rates for some providers, which suggests there is value in understanding and incorporating provider preferences when communicating recommendations. Overall, these data suggest ASP recommendations communicated via phone or temporary EMR note can have a high rate of acceptance but telephonic or interactive methods tend to have higher acceptance rates than EMR notes and potentially a more enduring change in prescribing behavior.

Table 1. Interventions Evaluated by Intervention Subtype

Intervention Subtype	Telephone		EMR Note		P Value
	No (%)	Percent Accepted	No (%)	Percent Accepted	
De-escalation/Discontinuation	4192 (82.6)	87.6	886 (17.4)	81.9	< 0.001
Duration of Therapy	1220 (75.7)	90.2	391 (24.3)	88.8	0.420
Dose Optimization	875 (86.1)	94.2	141 (13.9)	85.8	< 0.001
IV to PO Switch	229 (79.8)	92.6	58 (20.2)	87.9	0.254
Duplicate Therapy	149 (81.9)	85.9	33 (18.1)	78.8	0.305
Escalation of Therapy	962 (93.4)	88.1	68 (6.6)	64.7	< 0.001
Lab/Drug Level	581 (94.9)	91.9	31 (5.1)	74.2	0.001
Bug/Drug Mismatch	454 (93.6)	94.1	31 (6.4)	93.6	0.707
Drug Information Given	686 (98.7)	98.1	9 (1.3)	88.9	0.168
ID Consult Recommended	538 (99.3)	93.3	4 (0.7)	75	0.247
Total	9886	89.1	1652	84.2	< 0.0001

Take Home Message:

The successes of handshake stewardship highlight the importance of the human element of antimicrobial stewardship. We as stewards “must listen to the opinions and fears of those affected stakeholders to later avoid

the recalcitrance that leads to noncompliance.”¹⁰ Face to face interaction over time builds functional relationships and trust that can shape prescribing culture. Stevens and colleagues show that alternative methods of live communication (i.e., telephonic) or EMR notes can potentially serve as a substitute for face to face interactions when this resource intensive interaction is not feasible. However, we suspect that these reported acceptance rates also stand on established relationships built on trust and mutual respect of each other’s opinions. Thus, in these times necessitating innovative contact methods honoring physical distancing to prevent spread of COVID-19, perhaps we can build on these mutual relationships by continuing open communication with the frontline staff, just in a different way. These are trying times and caring for these patients with COVID-19 presents particular challenges that we as ASPs are primed to play significant roles as outlined above.

References:

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