Consultant Pharmacist Role in LTCF Antibiotic Stewardship

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COMMUNITY PHARMACY

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Introduction

UNMC College of Pharmacy class of 2018

-Student research project in ASP Metric benchmarking in LTCF

Pharmacist with Community Pharmacy 2018-Present

-Consulting and Operations

University of Nebraska Medical Center, College of Pharmacy

Community Pharmacy, Gretna NE

COMMUNITY PHARMACY

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The LTCF Antimicrobial Stewardship Program

Revision of Conditions of Participation for CMS in Fall 2016

- New requirement that Long Term Care Facilities (LTCF) incorporate Antimicrobial Stewardship Programs (ASP) into Infection Prevention and Control Policy (IPCP)

Resources available to the LTCF for ASP implementation

- Financial challenges
- Labor challenges
- Anyone already in the building with expertise?

Pharmacy Leadership – Continually looking to assist with facility partners with their challenges

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Exploring Possible Solutions

What Needs to be done?

- CDC Core Elements

What can a Pharmacy services provider do to lighten the load?

- Consultant Pharmacists
  - Accountability
  - Drug expertise
  - Actions to improve use
  - Tracking
  - Reporting
- Dispensing Data – Can Dispensing Pharmacy provide?

Do LTCF partners want our help?

- Survey results (32 facilities said yes)

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Proof of Concept

Collaboration with Nebraska Medicine and Community Pharmacy

- Training for Consultant Pharmacists
- Development of tools to share
- Drafting of Medication Regimen Review (MRR) letter templates
- Compiling resources into a Stewardship binder to share
  - Contained both resources for nursing and records of meetings of the ASP Committee

1 Year study period

- Core Element implementation
- Reduction of antibiotic start and days of therapy (DOT) per 1000 resident days

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Specific Interventions

Monthly ASP Meetings

- Meeting with at least the Infection Preventionist (IP) monthly to discuss any barriers to success, offer paths forward (Accountability)
- Offer feedback to IP if any specific problem areas of antibiotic prescribing
- Offer support in obtaining LTCF specific Antibiogram from laboratory services provider (Tracking/Reporting)

UTI SBAR

- Shared Facility specific assessment algorithm utilizing McGeer Criteria for assessment of suspected UTI in LTCF (Actions to Improve Use)

Monthly MRR Antibiotic review and letters

- Review every course of antibiotics in currently active residents since last MRR (Tracking)
- Offer guidance to providers via MRR letters when courses of therapy are determined to be potentially inappropriate (Drug Expertise/Reporting)

Sharing of antibiotic starts and days of therapy (DOT) per 1000 resident days

- Starts and DOT based off of Pharmacy Dispensing data (Tracking)
- Resident days obtained from EMR system for Facility (Tracking)

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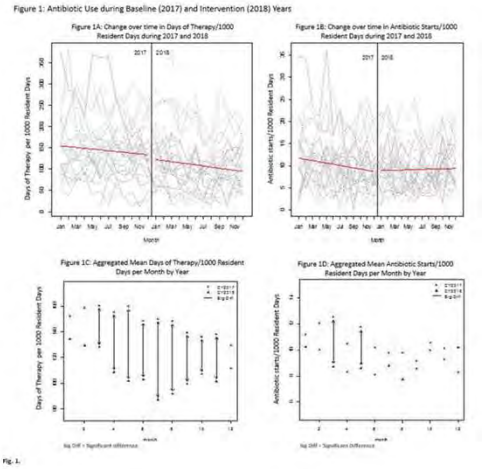
Results-2017(baseline) to 2018 (Study)

Of the 32 enrolled facilities, 27 submitted enough data to be analyzed

Implementation of all 7 Core Elements increased from 0% at baseline to 67% at end of study period (P<.001) [1]

Median monthly antibiotic starts per 1,000 RD decreased: 8.93 versus 9.91 (P < .01) [1]

Median monthly DOT per 1,000 RD decreased: 106.47 versus 141.59 (P < .001) [1]



1. Ashraf, Muhammad Salman, et al. "Impact of Training Consultant Pharmacists on Antimicrobial Stewardship Programs in Long-Term Care Facilities." *Infection Control & Hospital Epidemiology*, vol. 41, no. S1, 2020, pp. s446–s448., doi:10.1017/ice.2020.1116.

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UTI SBAR

-https://asap.nebraskamed.com/long-term-care/tools-templates-long-term-care/

Sample SBAR Tool for Suspected Urinary Tract Infection

[Facility Logo] | Resident Label

S — Situation
I am concerned about a suspected UTI for the above resident.

B — Background
Indwelling catheter ☐Yes ☐No — If yes, ☐ Urethral ☐ Suprapubic
Incontinence ☐Yes ☐No — If yes, is this new or worsening ☐Yes ☐No
UTI in last 6 months ☐Yes ☐No — If yes, Date: _____ Organism: _____ Treatment: _____
Active diagnosis (especially bladder, kidney, genitourinary conditions; diabetes; receiving dialysis, anticoagulants):
Advance directives for limiting treatment (especially antibiotic use):
Medication allergies:

A — Assessment
Vital signs: BP ____/____ HR_____ Resp. rate_____ Temp:_____ O_2 Sats:_____

Resident WITH indwelling catheter
The criteria are met to initiate antibiotics if one of the following are selected:

No Yes
☐ ☐ Fever of 100°F (38°C), or 2°F (1.1°C) above baseline, or repeated temperatures of 99°F (37°C)
☐ ☐ New back or flank pain
☐ ☐ Rigors / shaking / chills
☐ ☐ New onset delirium (new dramatic change in mental status)
☐ ☐ Hypotension (significant change in baseline BP or SBP <90)
☐ ☐ Acute suprapubic pain
☐ ☐ Acute pain, swelling or tenderness of the scrotal area

Resident WITHOUT indwelling catheter
Criteria are met to initiate antibiotics if one of the three situations are met:

No Yes
☐ ☐ Any one of the following two:
☐ Acute dysuria alone (pain or burning while urinating)
☐ Acute pain, swelling or tenderness of the scrotal area
OR
☐ ☐ Single temp of 100°F (38°C), or 2°F (1.1°C) above baseline, or repeated temperatures of 99°F (37°C) **and** at least one of the following new or worsening symptoms:
☐ Urgency ☐ Suprapubic pain ☐ Frequency
☐ Gross hematuria ☐ Back or flank pain ☐ Urinary incontinence
OR
☐ ☐ No fever, but two or more of the following new or worsening symptoms:
☐ Urgency ☐ Suprapubic pain ☐ Frequency
☐ Gross hematuria ☐ Urinary incontinence

R — Recommendation
☐ **Protocol criteria met.** Resident may require UA and urine culture or an antibiotic.
☐ **Protocol criteria are NOT met.** Resident **DOES NOT** need immediate antibiotic but may need additional observation.

Nurse's Signature: _____ **Date/Time:** _____
☐ **Notification of Family/POA Name:** _____ **Date/Time:** _____
☐ **Faxed or** ☐ **Called to:** _____ **By:** _____ **Date/Time:** _____

Physician Orders/Response (Please check all that apply)
☐ I have reviewed the above SBAR.
☐ Urine culture (if indicated)
☐ Encourage 4oz of cranberry juice or another liquid (_____) for _____ times/day, until symptoms resolve
☐ Record fluid intake & output until symptoms resolve (output can also be measured from urinal or by weighing diapers, etc.)
☐ Assess vital signs, including temp, every _____ hours for _____ hours
☐ Monitor and notify PCP if symptoms worsen or unresolved in _____ hours
☐ Other: _____
☐ For antibiotic orders (if needed) please complete script below:
Drug:_____ Dose:_____ Route:_____ Frequency:_____ Duration:_____ Indication:_____

Physician Signature: | **Date/Time:**

Please Fax Back To: _____ or ☐ **Telephone Order**

File Under Physician Order/Progress Notes

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Common SBAR Pitfalls

Criteria marked as "met" without supporting documentation
- No McGeer criteria checked off, but staff has marked that the resident has met criteria before communicating to provider

Criteria for Catheterized residents used for Un-catheterized resident
- Often done due to the "New or increased Delirium/Mental Status Change" field in the section for Catheterized residents

SBAR filled out after the initial assessment and communication to provider
- Helpful for documentation of symptoms, but ultimately loses the power of the SBAR as an intervention

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Tips for Improving SBAR Use

Regular and consistent staff education on the proper use of the SBAR Tool

Addition of statement "DO NOT USE FOR UNCATHETERIZED RESIDENTS" to the Catheterized Resident Criteria section of the SBAR

Suggest adding compliance to SBAR to internal quality improvement monitoring if struggling to get staff to use (Consultant RPH assist IP in assessing compliance)

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Sample MRR Letter

UTI without indwelling catheter

This resident was receiving ***drug, dose, frequency*** prescribed for UTI without an indwelling catheter. Based on the revised McGeer Criteria for suspected UTI without an indwelling catheter, this resident did not meet any 1 of the following 3 scenarios required (in addition to positive urine culture) for the diagnosis of UTI:

- Any of the following two:
  - Acute dysuria alone
  - Acute pain, swelling or tenderness of the scrotal area
- Fever and at least one new or worsening of the following:
  - Urgency
  - Frequency
  - Back or flank pain
  - Suprapubic pain
  - Gross hematuria
  - Urinary incontinence
- No fever but two or more of the following:
  - Urgency
  - Frequency
  - Urinary incontinence
  - Suprapubic pain
  - Gross hematuria

Treatment is not recommended for asymptomatic bacteriuria unless a GU procedure is planned.

☐ Antibiotic therapy for UTI was indicated for this resident due to [please provide reason below]:

_____

_____

_____

Reference:

Stone ND, *et al*. Surveillance Definitions of Infections in Long-Term Care Facilities: Revisiting the McGeer Criteria. Infect Control Hosp Epidemiol 2012;33:965-77.

Nicolle LE, *et al*. Infectious Diseases Society of America Guidelines for the Diagnosis and Treatment of Asymptomatic Bacteriuria in Adults. Clin Infect Dis 2005;40:643-54.

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Sample MRR Letter

Fluoroquinolone used as first line

You are receiving this letter as part of an Antimicrobial Stewardship Program in this Long-Term Care Facility

This resident received 7 days of Ciprofloxacin 500mg twice daily for treatment of cystitis. Based on current guidelines from Infectious Diseases Society of America for treatment of cystitis, Fluoroquinolone agents are considered high risk therapy for cystitis due to the relatively high adverse effects associated with their use. If this resident was prescribed a Fluoroquinolone for a specific purpose, please notate the reason below. Otherwise, Nitrofurantoin is a good first line choice for treating Cystitis. Please take this into consideration if the resident needs to be treated for this infection in the future. Thank you.

☐ Ciprofloxacin was chosen over first line agents due to the following: [please provide reason below]

_____

_____

☐ Above information noted

Reference

Gupta K, *et al*. International Clinical Practice Guidelines for the Treatment of Acute Uncomplicated Cystitis and Pyelonephritis in Women: A 2010 Update by the Infectious Diseases Society of America and the European Society for Microbiology and Infectious Diseases. Clin Infect Dis 2011;52:e103-20.

Fluoroquinolones: "The fluoroquinolones, ofloxacin, ciprofloxacin, and levofloxacin, are highly efficacious in 3-day regimens but have a propensity for collateral damage and should be reserved for important uses other than acute cystitis and thus should be considered alternative antimicrobials for acute cystitis." (p. e105)

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Sample MRR Letter

SSTI Prophylaxis

You are receiving this letter as part of an Antimicrobial Stewardship Program in this Long-Term Care Facility

On xx-xx-xxx this resident was returned to (Faci) on Doxycycline 100mg twice daily indefinitely as a prophylactic regimen for recurrent cellulitis in the setting of Diabetes. IDSA guidelines for treating diabetes related skin and soft tissue infections suggest the treatment/prophylaxis of clinically uninfected wounds is not recommended. Such therapy encourages antimicrobial resistance, increases medical cost, and may put the resident at increased risk of adverse drug reactions related to the antibiotic (in this resident's case, anticoagulation therapy with warfarin). Please consider evaluating if continued Doxycycline therapy is warranted in this resident. Thank you.

____ Noted. Continue with current regimen. Resident will be monitored, and antibiotic will be discontinued when risk outweighs benefit of continued therapy.

____ Please discontinue Doxycycline and monitor for clinical signs of recurrent infection.

References:

Lipsky BA, et al. 2012 Infectious Diseases Society of America Clinical Practice Guideline for the Diagnosis and Treatment of Diabetic Foot Infections, Clinical Infectious Diseases, Volume 54, Issue 12, 15 June 2012, Pages e132–e173, https://doi.org/10.1093/cid/cis346

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Tips for MRR Letter Success

Avoid using the term “Inappropriate”
- Phrases such as “Resident did not appear to meet X Criteria upon documentation available upon my review”

Don’t be afraid to intervene in current therapy.
- Send MRR letter day of review for current therapy and leave nursing note for MRR follow up.

Provide relevant references for provider
- For those that want to look into the issue further

Consider including a header such as “You are receiving this letter as a part of this LTCF’s Antimicrobial Stewardship Program”
- Indicates that the letter is a part of a larger quality improvement effort by the facility
- Also helps facility IP quickly identify the ASP letters in the Consultant Pharmacist report

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Tracking Reports

STARTS AND DOT/1000 RESIDENT DAYS

********** Antibiotic Tracking Report — April, 2022

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMER	DECEMBER
2021												
STARTS/1000 RESIDENT DAYS	13.4	24.9	16.4	13.3	12.9	19.1	16.7	16.5	14.1	16.2	14.1	18.7
DOT/1000 RESIDENT DAYS	358	351	331	270	202	245	181	185	198	180	168	174
2022												
STARTS/1000 RESIDENT DAYS	5	11.1	17.9									
DOT/1000 RESIDENT DAYS	170	221	196									

	Starts	DOT
2017 MEANS	20.4	262
2018 MEANS	19.8	222
2019 MEANS	18.5	251
2020 MEANS	17.2	264
2021 MEANS	16.3	234
2022 MEANS	11.3	194

CONSULTANT RPH APPROPRIATENESS ASSESSMENT

	QUARTER 1 (DEC – JAN - FEB)	QUARTER 2 (MAR – APR - MAY)	QUARTER 3 (JUNE – JULY – AUGUST)	QUARTER 4 (SEPTEMBER – OCTOBER - NOVEMBER)
# OF ANTIBIOTICS REVIEWED	35	45	49	36
# STARTS FROM OUTSIDE FACI	15	27	29	17
# STARTS IN FACI	20	18	20	19
% APPROPRIATE (OVERALL)	69%	92%	88%	81%
% INAPPROPRIATE (OVERALL)	31%	8%	12%	19%
% APPROPRIATE (STARTED AT FAC)	45%	78%	70%	69%
% INAPPROPRIATE (STARTED AT FAC)	55%	22%	30%	31%
% UTI (OVERALL)	60%	42.2%	44.9%	44.4%
% UTI (STARTED AT FACI)	70%	56%	70%	63%
% SSTI (STARTED AT FACI)	30%	33%	30%	26%
%UTI SBAR UTILIZED (FACI STARTS ONLY)	71%	80%	71%	83%
# ADVERSE EVENTS	0	2 (GI)	0	0
MOST COMMON REASON FOR INAPPROPRIATE THERAPY	McGeer Criteria Not Met	McGeer Criteria Not Met	McGeer Criteria Not Met	McGeer Criteria Not met

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Lessons Learned

3.

Barrier	2018 (N=34)	2019 (N=25)	p-Value
Lack of appropriate antibiotic prescribing or lack of ASP buy-in by clinicians	25 (73.5%)	15 (60.0%)	0.40
Family/Resident pressure	7 (20.6%)	11 (44.0%)	0.09
Lack of staff buy-in	11 (32.4%)	8 (32.0%)	1.00
Time constraint	2 (5.9%)	6 (24%)	0.06
Emergency department not prescribing antibiotics appropriately	4 (11.7%)	1 (4.0%)	0.38
Lack of infrastructure	5 (14.7%)	3 (12.0%)	1.00
Lack of staff knowledge	5 (14.7%)	1 (4.0%)	0.23
Difficulties in educating staff, physicians, and families	2 (5.9%)	2 (8.0%)	1.00
Lack of leadership buy-in	1 (2.9%)	1 (4%)	1.00
Lack of standard processes	0 (0.0%)	2 (8.0%)	0.18
Others (include those barriers that were reported by only one respondent)	6 (17.6%)	4 (16.0%)	1.00

Persistence is Key
- Results can take time

Buy in from nursing staff is invaluable
- It all starts with assessment and communication

Be on the lookout for ways to improve your interventions
- Pursue electronic lab access
- Explore helpful non-pharm interventions for problem residents

3. Ferguson, Claire et al. "132. Assessment of the Long-Term Effects of Training Consultant Pharmacists to Promote Antimicrobial Stewardship in Long-Term Care Facilities." Open Forum Infectious Diseases vol. 7,Suppl 1 S77–S78. 31 Dec. 2020, doi:10.1093/ofid/ofaa439.177

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Challenges from the Consultant Pharmacist's Perspective

Staff Turnover
- Not uncommon for IP role to regularly change hands or be added to an already full plate

COVID-19 Pandemic
- Lack of in-person meetings

Additional Labor/Time
- Need leadership to support the additional time it takes to take on increased role

Provider Resistance
- Occasional unsupportive feedback from medical providers

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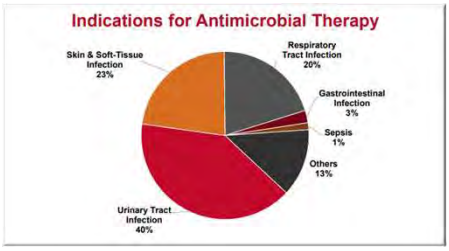
Future Opportunities

Expand use of SBAR Tools (Consultant RPH support)
- SSTI
- RTI
- Antibiotic Time Out (Maybe someday)

4.



Co-Operation with Nurse Consulting
- Avenue for education on best practices for infection assessment and prevention

4. Chung, Philip et al. "Action: A Year in the Lives of Consultant Pharmacists Working on Antimicrobial Stewardship in Long-Term Care Facilities." *Open Forum Infectious Diseases*, Volume 6, Issue Supplement_2, October 2019, Pages S692–S693,

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Questions?

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