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Improving Antibiotic Durations for Skin and Soft Tissue Infections in Pediatric Urgent Care Clinics

Megan Hamner

Children's Mercy Hospital

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Improving Antibiotic Durations for Skin and Soft Tissue Infections in Pediatric Urgent Care Clinics

Megan Hamner, MD

5/4/22



Background

- >50 % of antibiotic prescriptions in the US are inappropriate
- ~36% of pediatric outpatient prescriptions exceed recommended durations
- >75% of patients receive inappropriately long durations for skin and soft tissue infections (SSTIs)

Objective

- AIM: to increase the percentage of patients receiving 5-7 days of oral antibiotics for SSTIs in CMH urgent care clinics from 58% to 75% by December 31, 2021

Methods

- Multidisciplinary team
- Provider survey
- Cause-and-effect analysis and driver diagrams
- Data report
- Measures
 - Process: percentage of prescriptions from SSTI folder
 - Balancing: number of patients returning to the UCCs for SSTI within 14 days of initial visit

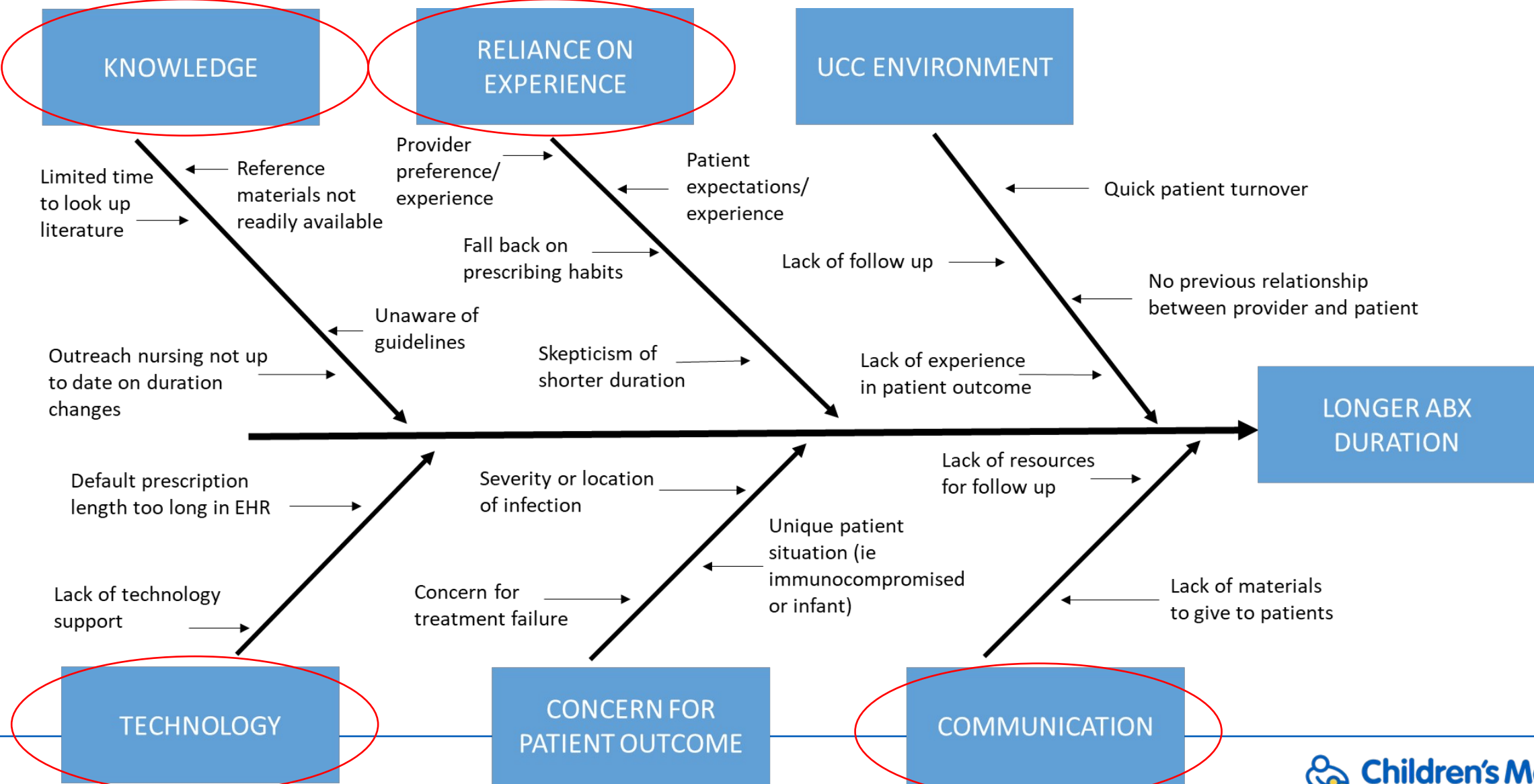
Methods

| Duration of oral antibiotics for: | Provider Responses n=27 | | | | | |
|-----------------------------------|-------------------------|----------|----------|----------|---------|----------------|
| | <5 days | 5 days | 7 days | 10 days | Varies | No antibiotics |
| Impetigo | 0 (0%) | 5 (19%) | 16 (59%) | 3 (11%) | 2 (7%) | 1 (4%) |
| Folliculitis | 0 (0%) | 1 (4%) | 16 (59%) | 3 (11%) | 1 (4%) | 6 (22%) |
| Cellulitis | 0 (0%) | 1 (4%) | 17 (63%) | 8 (30%) | 1 (4%) | 0 (0%) |
| Erysipelas | 0 (0%) | 0 (0%) | 12 (44%) | 14 (52%) | 1 (4%) | 0 (0%) |
| Abscesses | 0 (0%) | 1 (4%) | 9 (33%) | 12 (44%) | 5 (19%) | 0 (0%) |
| Paronychia | 0 (0%) | 8 (30%) | 8 (30%) | 4 (15%) | 4 (15%) | 3 (11%) |
| Animal bite prophylaxis | 11 (41%) | 14 (52%) | 1 (4%) | 1 (4%) | 0 (0%) | 0 (0%) |

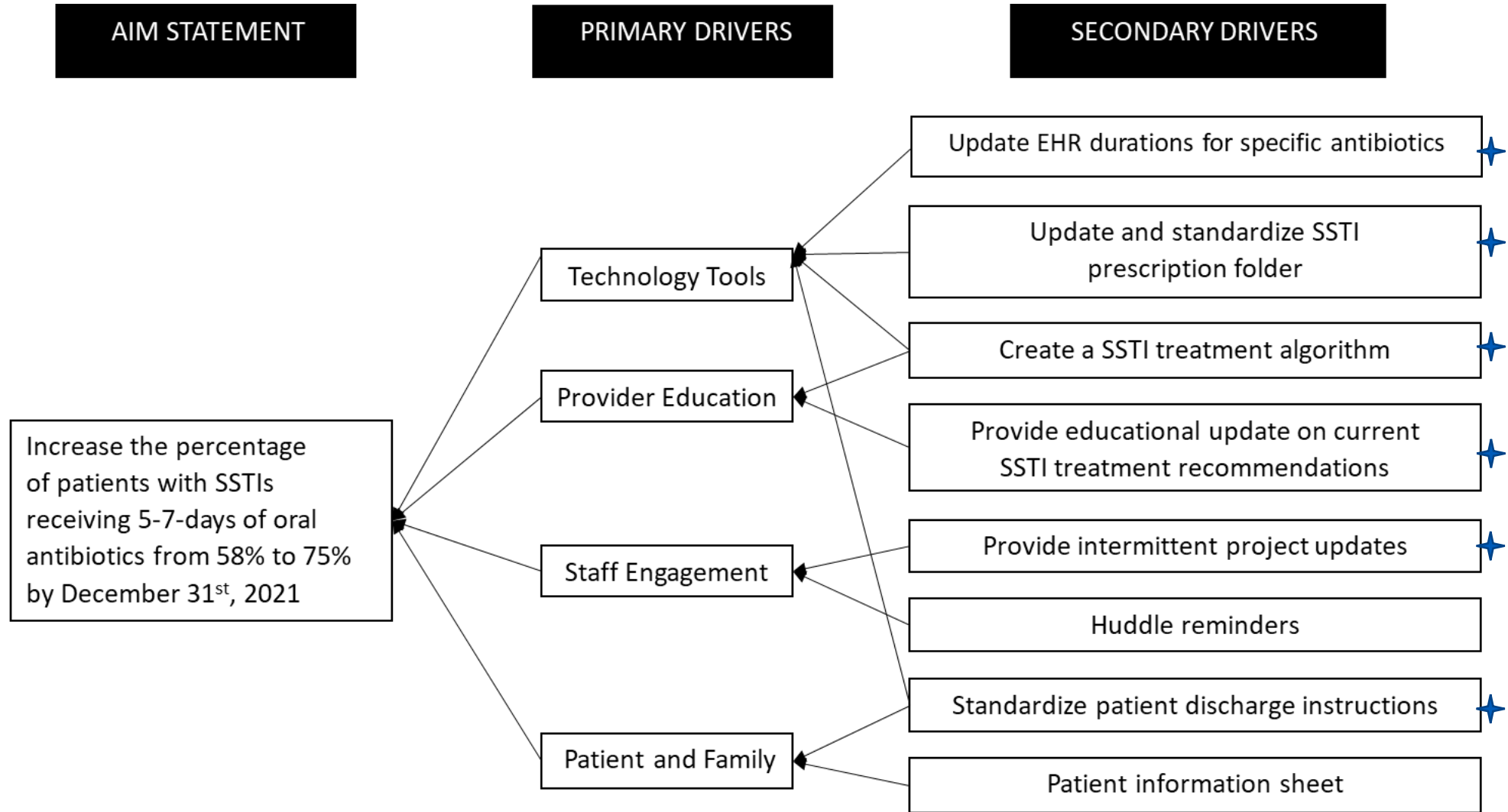
Methods

| Comfort with: | Provider Responses n=27 | | | | |
|---|-------------------------|----------|----------|----------|-------------------|
| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
| 5 days of antibiotics for cellulitis | 6 (22%) | 8 (30%) | 8 (30%) | 4 (15%) | 1 (4%) |
| 5 days of antibiotics for erysipelas | 3 (11%) | 7 (26%) | 10 (37%) | 5 (19%) | 2 (7%) |
| 5 days of antibiotics for abscesses | 5 (19%) | 7 (26%) | 7 (26%) | 7 (26%) | 1 (4%) |
| 7 days of antibiotics for impetigo | 12 (44%) | 11 (41%) | 3 (11%) | 1 (4%) | 0 (0%) |
| No antibiotics for folliculitis | 7 (26%) | 9 (33%) | 10 (37%) | 0 (0%) | 1 (4%) |
| No antibiotics for paronychia | 4 (15%) | 8 (30%) | 11 (41%) | 4 (15%) | 0 (0%) |
| 3-5 days of antibiotics for animal bite prophylaxis | 21(78%) | 5 (19%) | 1 (4%) | 0 (0%) | 0 (0%) |

Methods



Methods



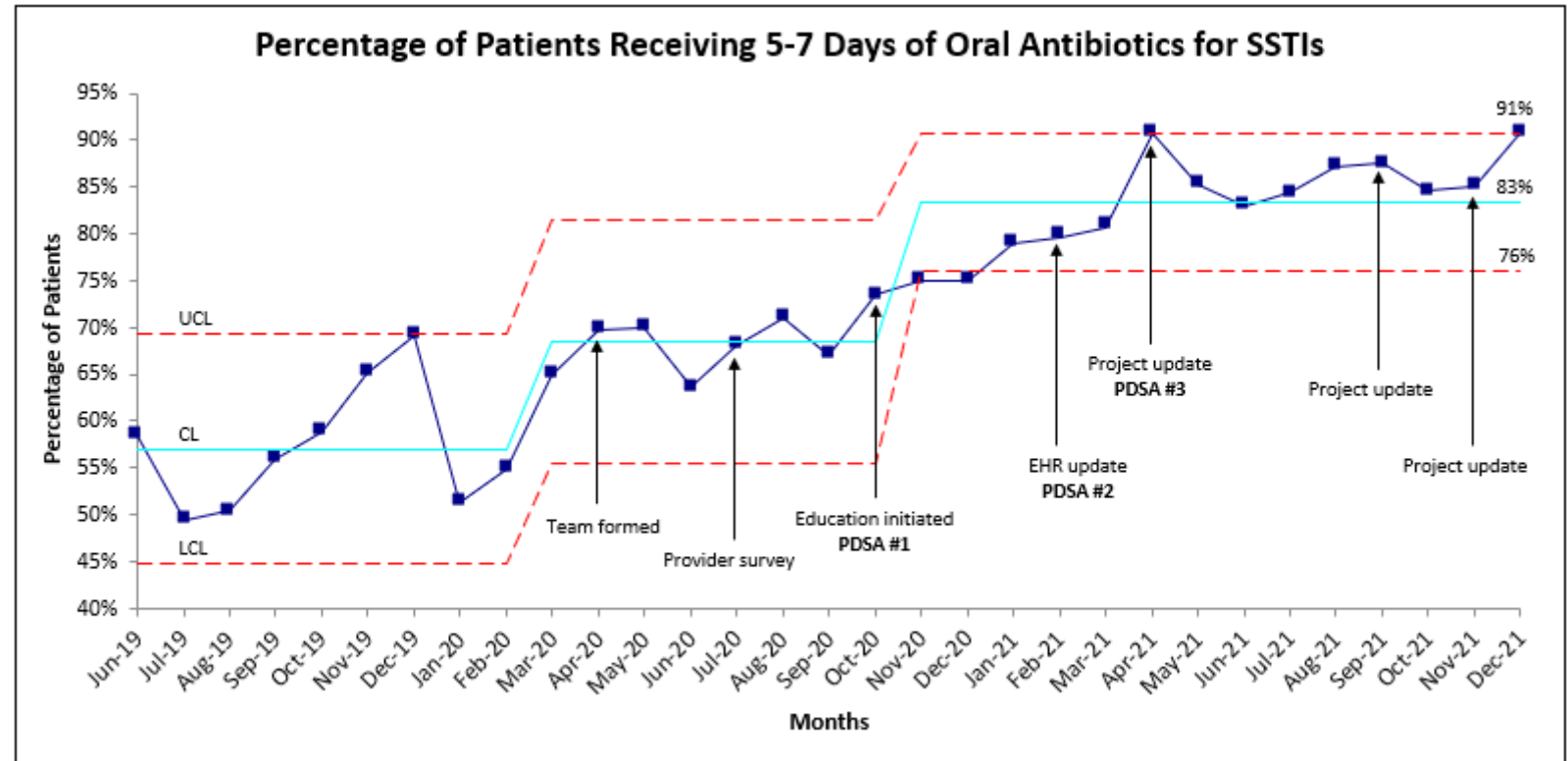
* -Implemented during project

Interventions

- Plan-Do-Study-Act (PDSA) Cycle 1
 - Provider education
- PDSA Cycle 2
 - Electronic health record modifications
- PDSA Cycle 3
 - Intermittent project updates

Results

- Baseline-58%
- New Baseline-83%
- No increase in balancing measure



Discussion

- Impact
 - Development of evidence-based treatment algorithm
- Limitations
 - Generalizability
 - Strong antimicrobial stewardship presence
 - Retrospective data review
 - COVID-19
- Further evidence of stewardship interventions improving high value care

Conclusions

- Successful increase in percentage of patients receiving 5-7 days of oral antibiotics for SSTIs from a baseline of 58% to 83%
- Achievement sustained with no increase in balancing measure
- Successful collaboration offers opportunity for expansion
- Improving antibiotic prescription duration may be low-hanging fruit for decreasing inappropriate use

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