

Development of a Penicillin Allergy Electronic Decision Support Pathway for Pediatric Inpatient Admissions

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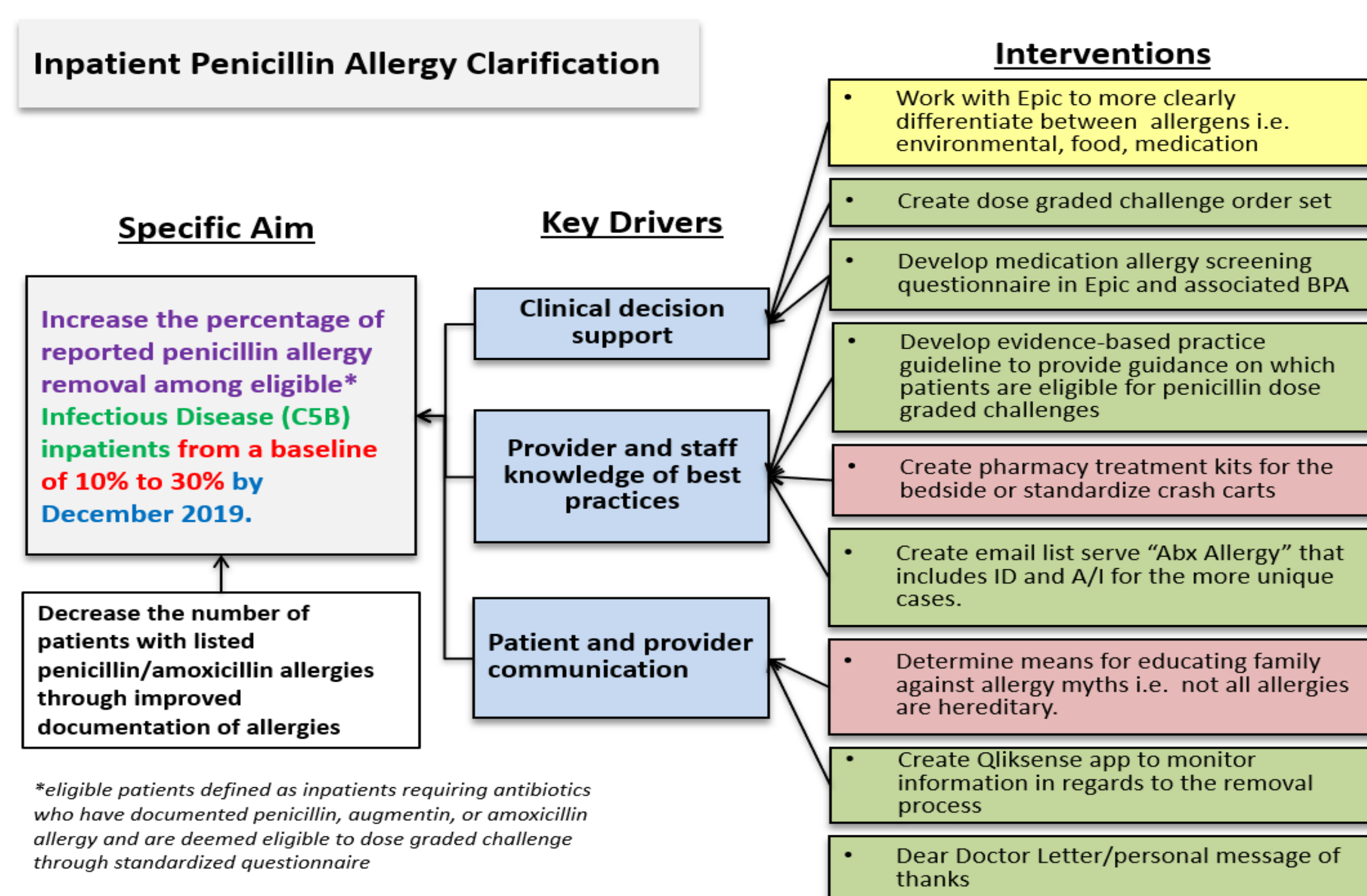
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BACKGROUND

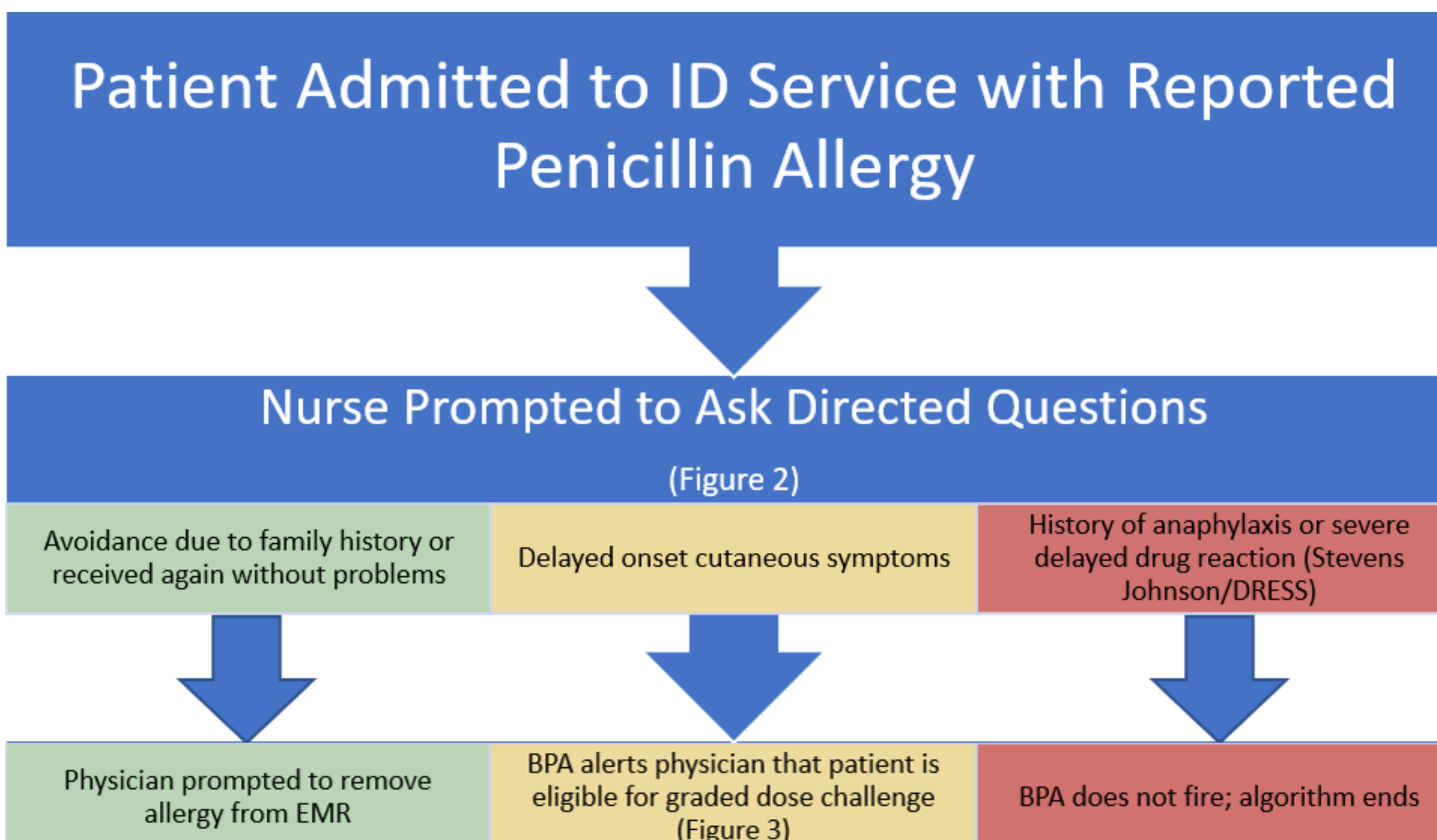
- Penicillin allergy delabeling is increasingly being implemented in a variety of clinical settings, including inpatient units, outpatient visits, emergency departments, and surgical offices ¹
- Oral graded dose challenges without prior skin testing have been shown to be a safe and effective method to clarify reported penicillin allergy in low risk patients ²⁻⁴

OBJECTIVES

Figure 1. Key Driver Diagram



METHODS



METHODS

Figure 2. Nursing Intake Questionnaire to Clarify Penicillin Allergy

Time taken: 1008 | 2019 | Show: Row Info | Last Filled | All Choices

Antibiotic Allergy Questions

Drug Name: Ampicillin Amoxicillin Augmentin Penicillin

When did the reaction occur? < 1 year ago 1-10 years ago > 10 years ago Family hx - never received

What symptoms occurred? Non-itchy flat rash Raised, itchy rash (hives) Vomiting Breathing difficulty Swelling Diarrhea Other

During what point in the treatment course did the symptoms first appear? Immediately on day 1 Days 2-5 5 or more days after beginning treatment

Did the reaction require treatment with epinephrine or admission to the hospital? Yes No

Has the medication (or similar type) been taken again WITHOUT reaction? Yes No

Buttons: Accept, Accept and New, Cancel

Figure 3. Graded Dose Challenge Best Practice Alert

Graded Dose Challenge Candidate

@FNAME@ has a documented Penicillin/Beta-lactam Allergy. Based on screening a true allergy is unlikely. @FNAME@ is a potential candidate for a graded dose challenge.

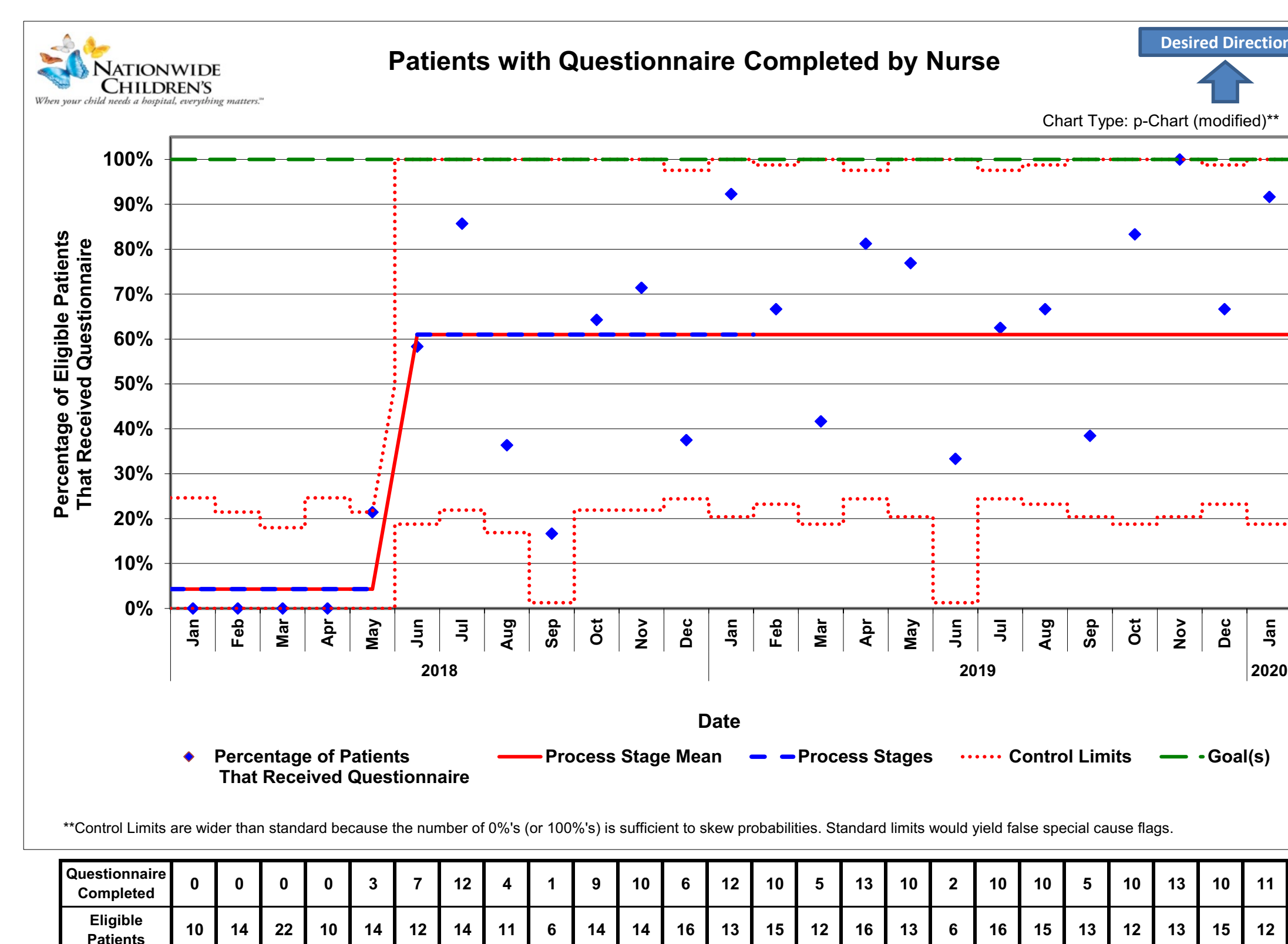
Referral Needed

Patient eligible for antibiotic graded dose challenge that was not completed during the current inpatient admission.

Buttons: Open Order Set, Do Not Open, Antibiotic Graded Dose Challenge, Preview, Acknowledge Reason, Defer Until Rounds, Defer to Primary Service, Not Appropriate This Admission, Patient/Family Refused, True Allergy, Order, Do Not Order, REFERRAL TO ALLERGY - GRADED DOSE CHALLENGE

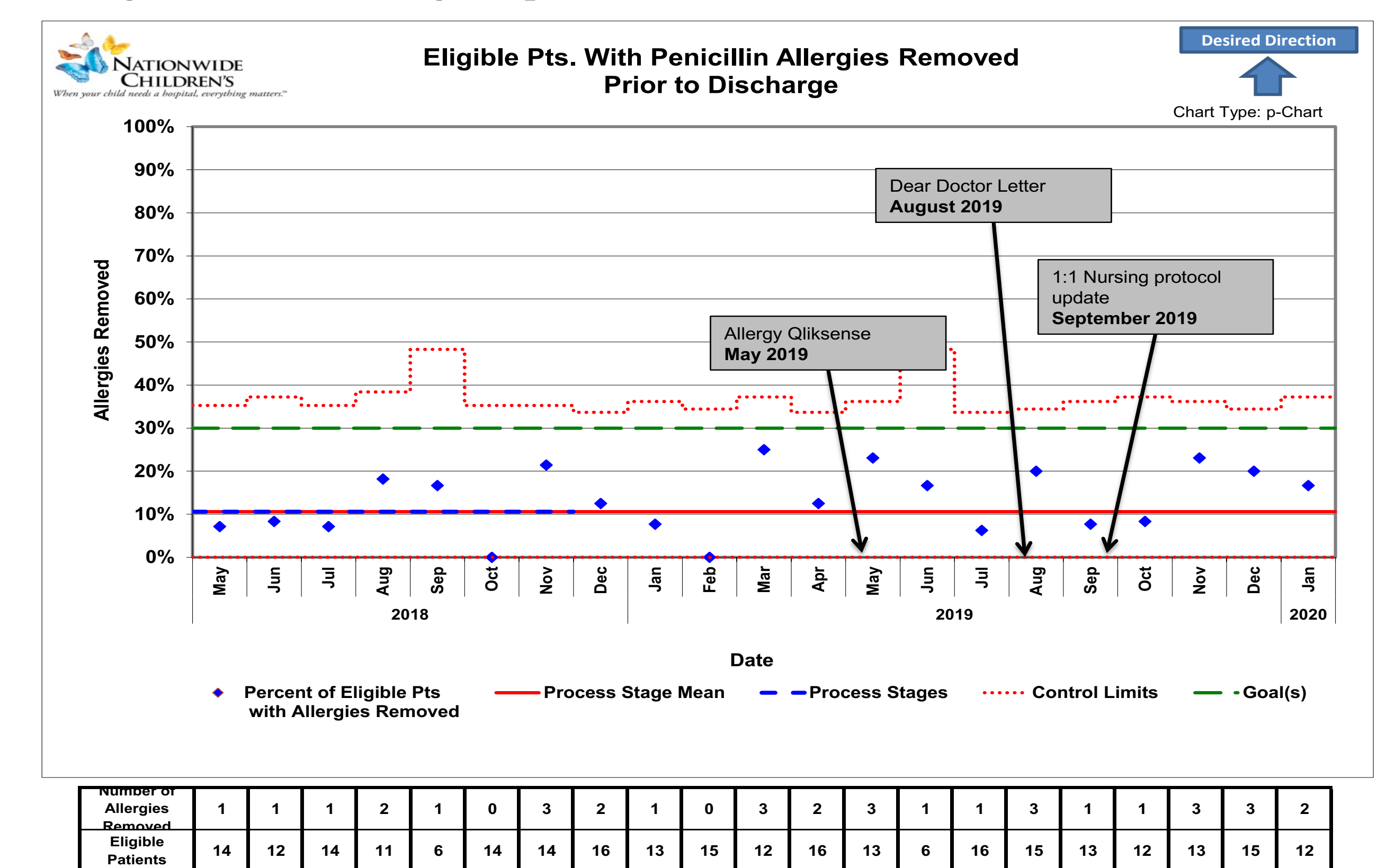
RESULTS

Figure 5. Run chart detailing percentage of patients with penicillin allergy that had nursing questionnaire completed



RESULTS

Figure 6. Run chart detailing percentage of eligible patients who had penicillin allergy removed during hospitalization



- Between May 1, 2018-Feb 1, 2020, 272 (5%) patients had a reported penicillin allergy.
- The nursing questionnaire was completed for 173 (63.6%), with 96 patients (55%) eligible for dose-graded challenge.
- Nine patients completed a dose-graded challenge.
- Thirty-five patients (12.9%) had their penicillin allergy removed from the EMR at time of discharge.

CONCLUSIONS

- There are multiple barriers impeding successful implementation of penicillin allergy clarification projects when allergists are not directly involved.
- Quality improvement methodology helps clarify aims, identify key drivers, develop interventions and track data to allow for rapid modifications.
- Graded dose challenges in the inpatient pediatric setting provide a safe and effective manner to clarify reported penicillin allergy in low risk individuals. Incorporating decision support tools into the EMR can help facilitate this process.

REFERENCES

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