



#CAMBSCIFEST

# Drug Allergies: Challenges & Solutions

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# Drug Allergies: Challenges and Solutions

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# Outline

- Case
- Definition
- Scope
- Projects
- Conclusion



# This scenario is all too common...

68 year old male with frequent admissions for urinary infections

- 16 hospital admissions & 15 emergency department visits in the past year.
- He received >20 courses of antibiotics
- Listed allergies in chart are:
  - Penicillin- unknown- he can't remember his reaction to Penicillin, was told by his parents he was allergic as a child
  - Codeine- nausea
  - Contrast- flushing



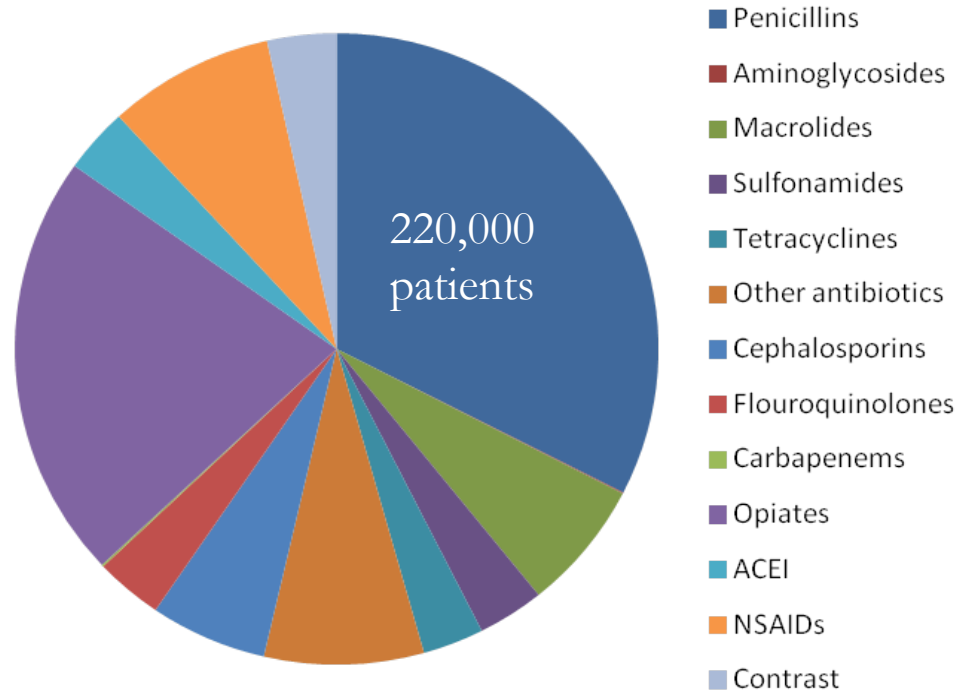
# What is a drug allergy?

- Immune mediated reaction
- Adverse reaction



# Drug allergies at Brigham and Women's Hospital

Top allergens in BWH EMR



# Penicillin allergy in the hospital

- **Penicillin (PCN) allergy is the most common drug allergy**
  - 10% of the general population
  - 15% of hospitalized patients
  - 50% of hospitalized patient receive antibiotics
- **Listed PCN allergy results in**
  - Increased mortality
  - Increased readmission
  - Longer hospital stays
  - Increased cost
  - Increased hospital associated infections
- **90-99% of patients with reported penicillin allergy when tested and challenged are not truly allergic**

# BWH & Partners projects

- Brigham Care Redesign and Incubator Startup Program (BCRISP) project on Penicillin Allergic inpatients
- Clinical Process Improvement Program (CPIP)
- Drug Hypersensitivity and Desensitization Center
- Other



# BCRISP project on Penicillin

BWH standard of care

Penicillin skin testing

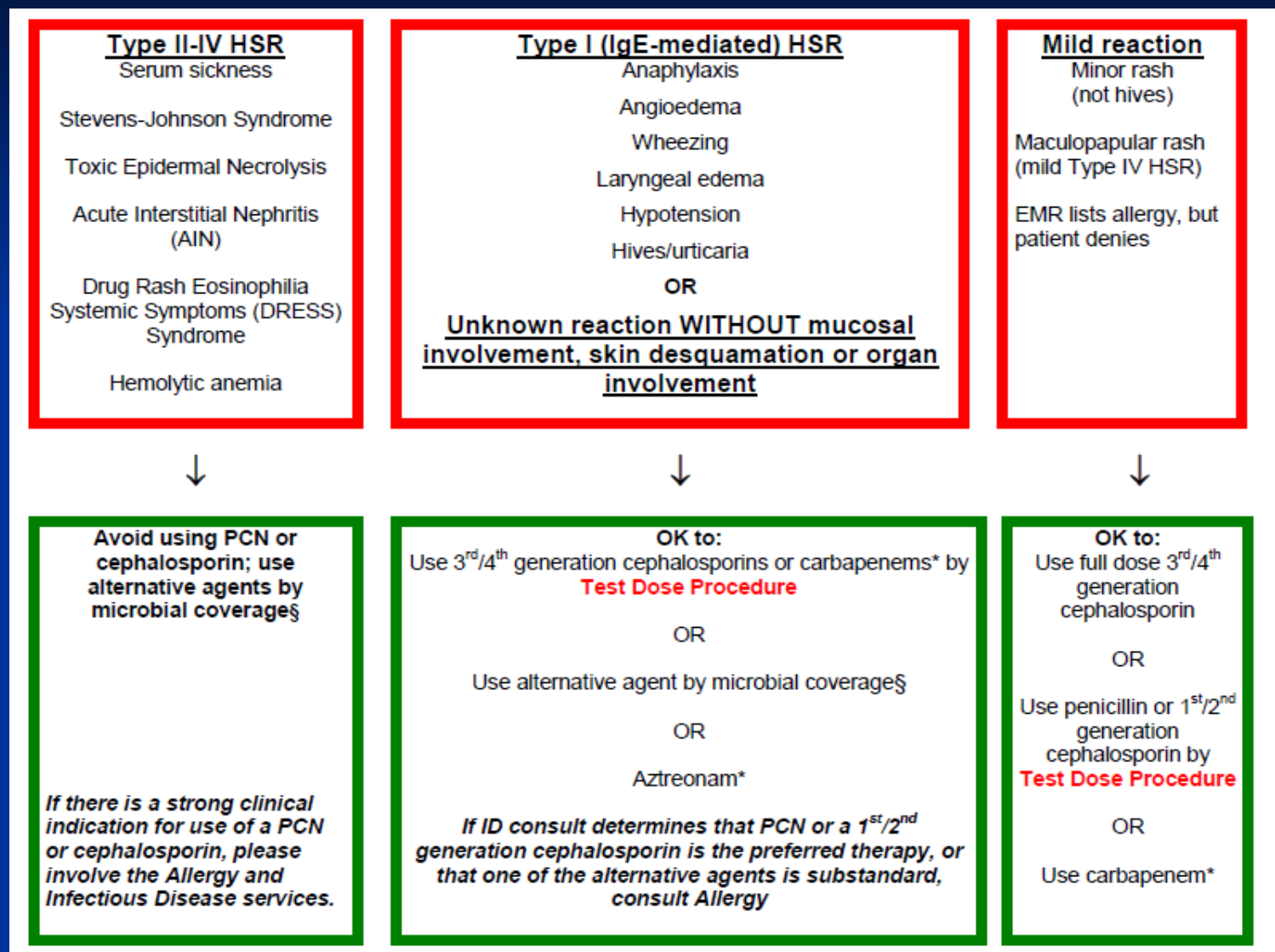
History based  
algorithm

The image shows a smartphone screen displaying a web-based application titled "Penicillin Hypersensitivity Pathway". The app is running on a mobile device with a status bar at the top showing "Sprint", "12:11 PM", and "84%" battery. The app interface includes a header with the "PARTNERS HEALTHCARE" logo and a red shield icon. Below the header, there is a form with the following fields:

- Institution: BWH (dropdown menu)
- Role: Fellow (dropdown menu)
- Patient MRN: 12345678 (text input)
- Allergy to: Penicillin (dropdown menu)
- Use decision support? (checkbox)
- Select (dropdown menu)

The app is displayed on a black smartphone with a home button at the bottom.

# Clinical pathway– Algorithm



# Case follow up

**Case:** 68 year old male frequent admissions and emergency visits for urinary tract infections

- testing and challenged with penicillin, negative testing
- listing deleted
- ZERO!!! emergency visits or admissions since then

# Conclusions

- Drug allergy is a pervasive problem with real implications for the patient and their healthcare
- The electronic medical record is helpful to share this information
- Penicillin allergy is the most common drug allergy, projects and pathways are underway to help patients who have this listed allergy
- Talk to your provider about your listed drug allergies and if they are ways to clarify or delete them