

Oral Antibiotic Therapy for Acne

Project leads:

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Team

Dermatology Research Fellows:

Chandler Rundle

Chante Aksut

Statistician:

Megan Branda

Participating Sites:

Dylan Ray (U. Colorado Hospital-Health Data Compass),

Sara Deakyne (Colorado Children's Hospital)

Dermatologist advisors:

John Barbieri (U. Penn), Jonathan Silverberg (Northwestern)

David Margolis (U. Penn)

Protocol advisors:

Chris Knoll, Patrick Ryan, Martijn Schuemie



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Funding

- Pfizer Independent Grants for Learning and Change (PI: Dellavalle) 7/1/18-6/30/20 Inflammatory and Immune-mediated Skin Disease Fellowship
- Data Science to Patient Value (D2V)



Goals

- Update community on current status
- Recruit collaborating sites/partners
- Gain clarity on use of clinical vs. claims data
 - -? Difference in query design, ? Overlapping patients
- Concerns regarding abx prescribing data (clinical data sources) – i.e., use of refill info in prescriptions, definitions ‘courses of antibiotics’
- Ensure data request to partners meets their criteria (ie, de-identified data, efficient, SQL dialect)
- Ensure we follow OHDSI protocol



Study Objectives



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Why take antibiotics?



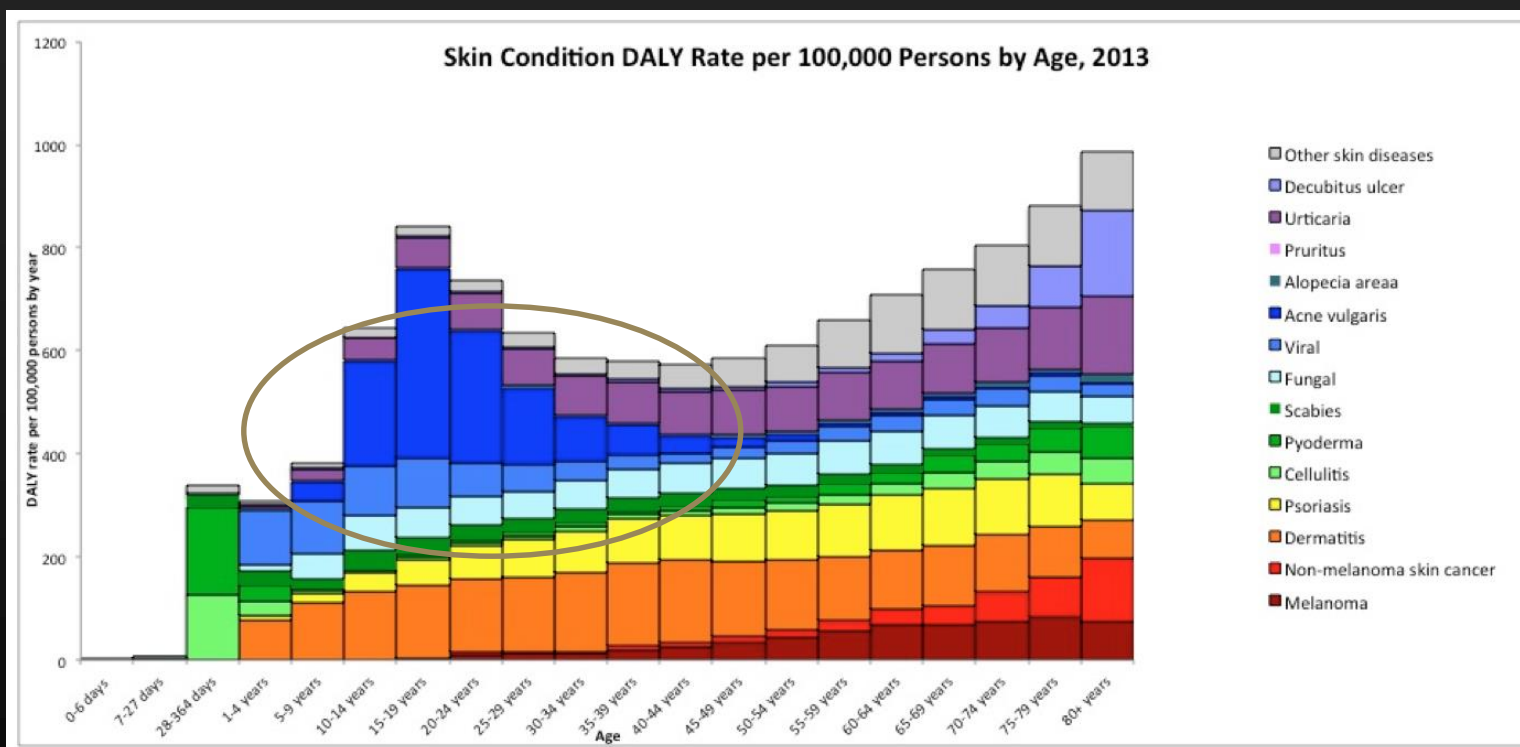
- Photo credits Wikipedia

To prevent big nasty scarring pimples!

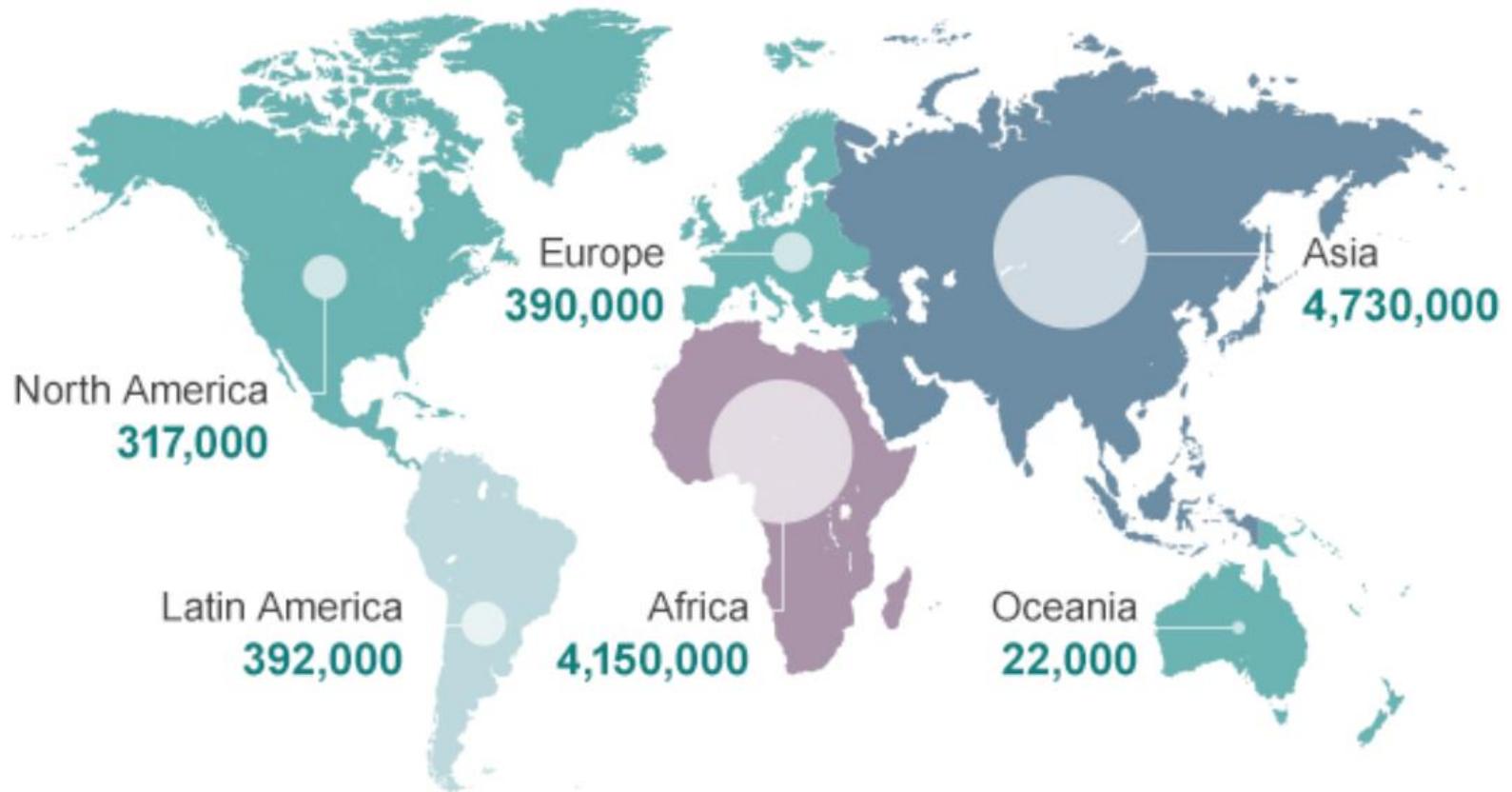


- Photo credits Wikipedia

Acne Disability



Deaths attributable to antimicrobial resistance every year by 2050



Source: Review on Antimicrobial Resistance 2014

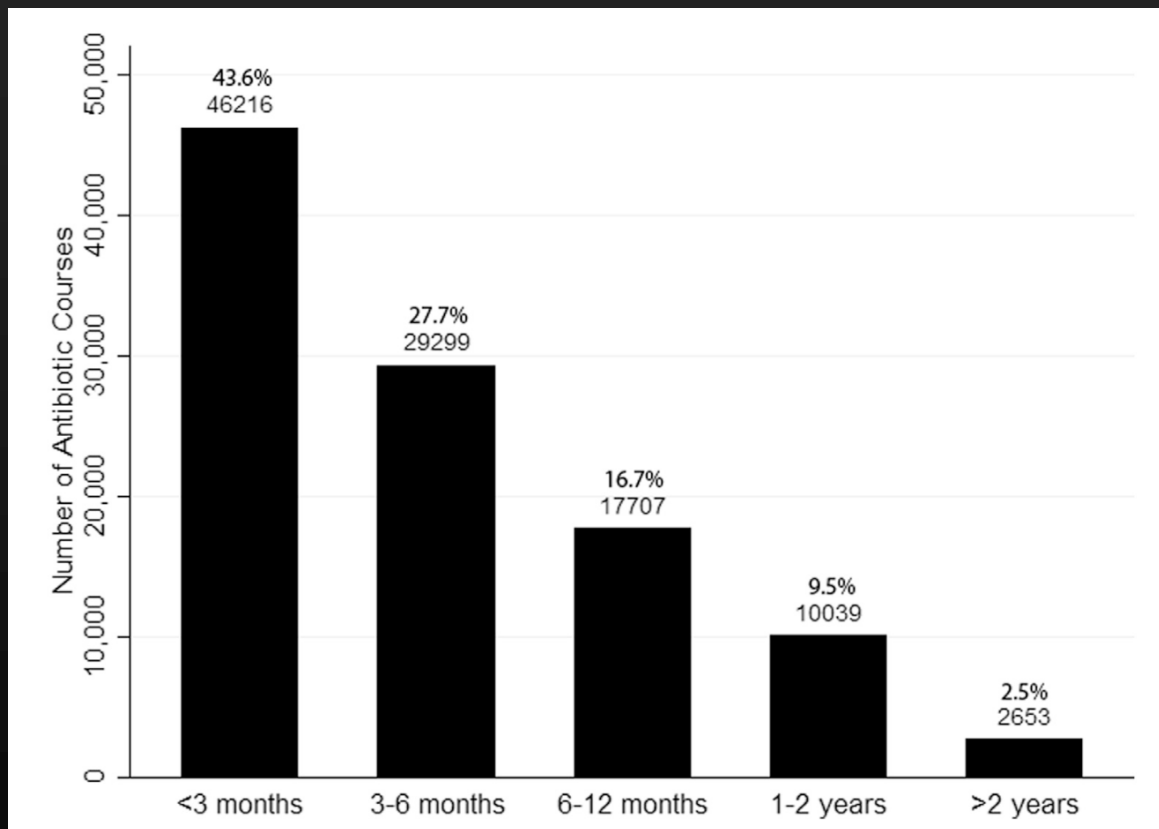


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Course Duration



-Barbieri et al, JAAD 2016



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Hypothesis

- Type and duration of oral antibiotic therapy will vary and often duration of courses will exceed guideline recommendations.



Methods

- Study Design
 - Retrospective observational cohort study
- Data Sources
 - Electronic health record or Claims via the OMOP CDM
 - Time period: 1/1/2015 to 12/31/2019
- Data Collection
 - SQL query



Inclusion Criteria

- Age
 - Persons between 12 and 40 years of age
- Minimum observation period
 - ≥ 12 months
- Diagnosis
 - Concept IDs representing acne

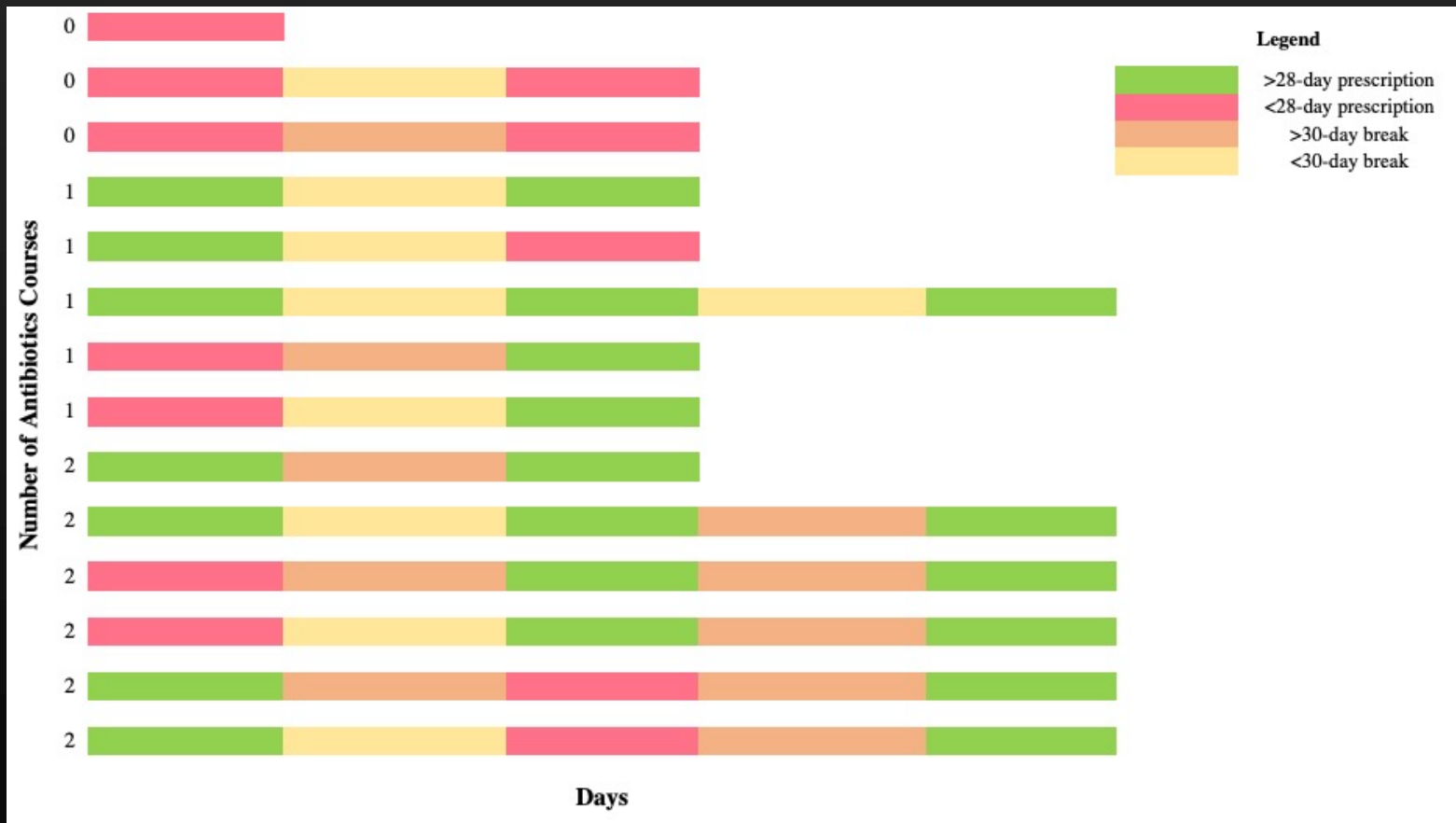


Inclusion Criteria

- Included antibiotic types and start dates
 - Sarecycline?
- Antibiotic duration
 - 1 course: ≥ 28 days and < 5 years
 - Prescription break of >30 days separates courses



Antibiotic Courses



Exclusion Criteria

- Diagnoses that may require long-term antibiotic use
 - Folliculitis decalvans, rosacea, etc
- Medications known to exacerbate acne
 - Hormones, neuropsychotropic drugs, targeted therapies, etc
- Oral antibiotic courses > 5 years



Primary Outcome

- To describe type of oral antibiotic prescribed
- Duration of oral antibiotic therapy used among patients with diagnoses of acne
- Characterize acne antibiotic pathways
- Long-term antibiotic class prescribing patterns



Limitations and Caveats

- Coding
 - ICD codes
- Country-to-country variation in antibiotic use



Protection of Human Subjects

- Use of de-identified data
- Necessity of ensuring data request to partners meets their criteria



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Results Dissemination

- OHDSI website
- Peer-reviewed scientific journal



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Study Protocol

- [Draft protocol now available on OHDSI Wiki](#)



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Next Steps

- Invite collaborators!
- Receive commentary from collaborators
- Post finalized code on GitHub
- Obtain data from participating sites



Thank You!



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