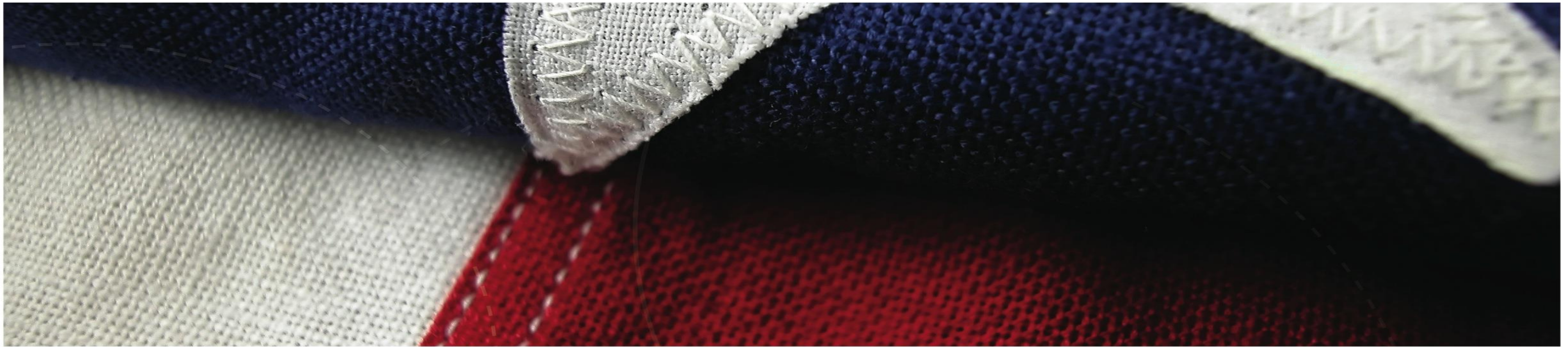

De-implementing Inhaled Corticosteroids to Improve Quality and Safety for Patients with Mild-to-Moderate COPD

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DENVER SEATTLE CENTER OF INNOVATION
FOR VETERAN-CENTERED & VALUE-DRIVEN CARE

VA HEALTH CARE
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Poll Question #1

- What is your primary role in VA?
  - student, trainee, or fellow
  - clinician
  - researcher
  - Administrator, manager or policy-maker
  - Other

Poll Question #2

- Which best describes your research experience?
  - have not done research
  - have collaborated on research
  - have conducted research myself
  - have applied for research funding
  - have led a funded research grant

Background: Quality & Safety QUERI

- Quality Enhancement Research Initiative (QUERI)
  - Clinical operations & research collaboration
- 5-year, multi-project quality improvement program
- Goal to improve quality of care & safety through evidence-based de-implementation
  - Develop & test de-implementation strategies
  - Advance understanding of factors influencing medical overuse

Background: Quality & Safety QUERI

- Informed by cognitive psychology & behavioral economics
- Extensive mixed-methods evaluation w/ inductive component
- Goal today: Share baseline mixed-methods findings & thoughts on implications
- See archived cyberseminar for in-depth review of conceptual model: https://www.hsrd.research.va.gov/for_researchers/cyber_seminars/archives/video_archive.cfm?SessionID=1172

Much (not all) of the de-implementation literature predicated on conscious behavior change

- Strategies to reduce overuse (Berenson et Docteur 2013; Niven et al 2015; Colla et al 2017; Scott et al 2017):
  - Monitoring rates of inappropriate services
  - Physician education
  - Audit and feedback
- Unlearning (Becker 2010; Coombs, Hislop et al 2013)
- Choosing Wisely campaign

Two types of cognition

- Reflective cognition
  - conscious process of evaluating behavioral options based on some combination of utility, risk, capabilities or social influences
  - forming and acting on an intention; and
- Automatic cognition
  - largely unconscious
  - occurs in response to environmental or emotive cues
  - relies on ingrained heuristics

Kahneman 2003, 2011; Evans 2008

Challenges of intentional behavior change

- Intentions only effective when retained in active memory, but intentions rapidly forgotten (Einstein, McDaniel et al. 2003).
- Reflective cognition is effortful; limited cognitive resource (Hagger, Wood et al 2010).
- Reflective cognition difficult under many conditions, e.g., multitasking, when stressed, processing large amounts of information (Kahneman 2011)

Approaching overuse taking into account cognition

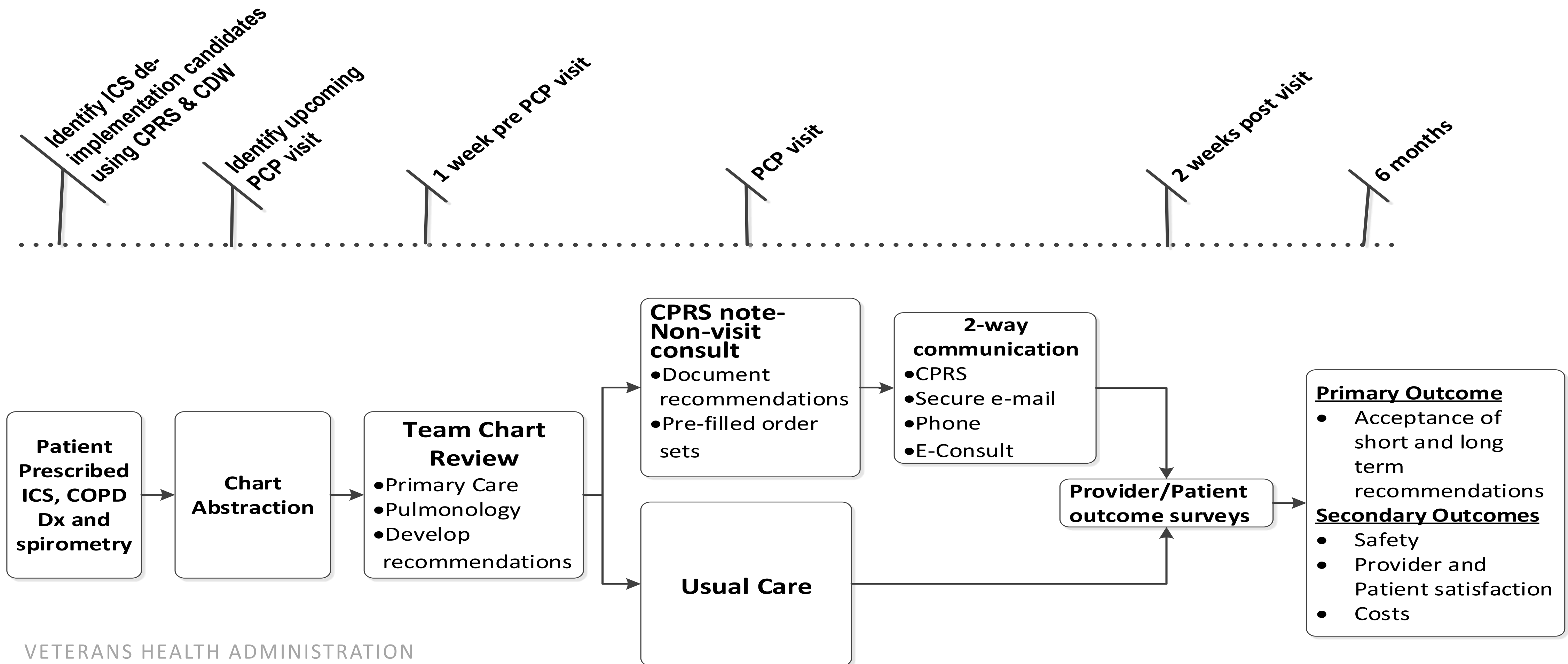
- Unlearning strategies engaging reflective cognition
- Substitution strategies engaging automatic cognition
- 1st de-implementation project targets inhaled corticosteroids in mild-to-moderate chronic obstructive pulmonary disease (COPD); combines both approaches: proactive specialist e-consult

Example of inhaled corticosteroids for mild/moderate chronic obstructive pulmonary disease

- Chronic obstructive pulmonary disease (COPD) is among the most common medical diagnoses among Veterans.
- Approximately half of those with a COPD diagnosis are prescribed inhaled corticosteroids (ICS) despite recommendations that their use be restricted to patients with severe airflow limitation or frequent exacerbations.
- These recommendations are based on clear evidence of harm, the availability of alternate and safer inhaled medications, and the lack of evidence for benefit among patients with less severe disease.

Au et al. 2001, Med Care, 39(8); Fihn et al. 2004, 116(4); Collins et al. 2014, Chest, 146(6); Kew et al. 2014, Cochrane Database Syst Rev, 3.

Proactive specialist e-consults



Example of consult note

CPRS in use by: Udris,Edmunds M (vista.puget-sound.med.va.gov)

t View Action Options Tools Help

ZZTEST,ACPRS PATIENT FIVE (OUTPATIENT)
000-00-1919 Jan 20,1957 (59)

Visit Not Selected
Current Provider Not Selected

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sults | May 04,16 (c) PULMONARY NON-VISIT IFC (PUGET SOUND) Cons Consult #: 4951957

All consults
May 11,16 (c) BENEF
May 04,16 (c) PULMC
Apr 25,16 (dc) MH VC
Apr 25,16 (dc) MH VC
Apr 21,16 (x) MH VOC
Apr 21,16 (dc) MH VC
Apr 21,16 (x) MH VOC
Apr 21,16 (x) MH VOC
Apr 05,16 (dc) SOC W
Mar 29,16 (x) CARDIC

As part of an ongoing quality improvement initiative within pulmonary, our team has reviewed your patient's medical record to review their use of inhaled corticosteroids. Our team from pulmonary medicine includes Drs Au, Feemster, xxxxx, and Wiener (Bedford VA).

We have entered any recommendations as orders for you to review, modify as you see fit and sign, if agreeable. If you have questions, please feel free to contact us by encrypted e-mail (XXXXXX@va.gov), CPRS, Pulmonary SCAN-ECHO, E-Consult:

Example of consult note

CPRS in use by: Udris,Edmunds M (vista.puget-sound.med.va.gov)

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Primary Care Team Unassigned

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All consults
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May 04,16 (c) PULMC
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Apr 21,16 (x) MH VOC
Apr 21,16 (x) MH VOC
Apr 05,16 (dc) SOC W
Mar 29,16 (x) CARDIC
Mar 29,16 (dc) CARD
Mar 28,16 (dc) RESTI
Mar 25,16 (dc) TELED
Mar 02,16 (dc) SOC W
Mar 01,16 (c) ZZTEST
Feb 25,16 (c) BLOOD

New Consult

May 04,16 (c) PULMONARY NON-VISIT IFC (PUGET SOUND) Cons Consult #: 4951957

RECOMMENDATIONS:
- Tapering and discontinuing inhaled corticosteroid as follows
  - Discontinue symbicort
  - Initiate olodaterol 2 actuations QDay
  - Initiate mometasone 1 puff QD for 1 month then stop
- Continue albuterol and Tiotropium

RATIONALE:
The patient carries a diagnosis of COPD and most recent spirometry suggests moderate airflow limitation. He is currently treated with "triple therapy"

-Symbicort [Budesonide 80 mcg/Formoterol 4.5 mcg BID]
-Tiotropium 18 mcg once daily
-Albuterol 90 mcg bid prn

Very limited evidence of additional benefit for patients with mild-moderate disease having benefit from triple therapy. Most recent guidelines suggest that inhaled corticosteroids are indicated for patients who have severe obstruction (less than 50% predicted) and are experiencing frequent exacerbations (2 or more per year). Inhaled corticosteroids have been also shown in multiple randomized trials to increase the risk of pneumonia.

Example of consult note

CPRS in use by: Udris,Edmunds M (vista.puget-sound.med.va.gov)

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ZZTEST,ACPRS PATIENT FIVE (OUTPATIENT)
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Visit Not Selected
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Apr 25,16 (dc) MH VC
Apr 25,16 (dc) MH VC
Apr 21,16 (x) MH VOC
Apr 21,16 (dc) MH VC
Apr 21,16 (x) MH VOC

New Consult

New Procedure

Related Documents
May 04,16 NON-VISIT

May 04,16 (c) PULMONARY NON-VISIT IFC (PUGET SOUND) Cons Consult #: 4951957

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Additional information can be found at:

WISDOM Trial
http://www.nejm.org/doi/full/10.1056/NEJMoa1407154#t=articleTop

*GOLD guidelines 2014, available from:
http://www.goldcopd.org/uploads/users/files/GOLD_AtAGlance_2014_Jun11.pdf

*VA/DOD Clinical Practice Guideline for the Management of Outpatient Chronic
Obstructive Pulmonary Disease, Version 3.0, 2014, available from:
http://www.healthquality.va.gov/guidelines/CD/copd/VADoDCOPDCPG.pdf (full).
http://www.healthquality.va.gov/guidelines/CD/copd/VADoDCOPDClinicianSummary.pdf
(summary).
http://www.healthquality.va.gov/guidelines/CD/copd/VADoDCOPDPocketCard.pdf
(pocket card).

/es/ David Hsiang-SHan Au, MD
Staff Physician
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Method

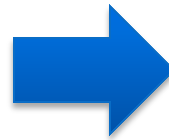
- Mixed-methods (qualitative-quantitative) approach
- Primary Care Providers (PCPs) from 2 VA Healthcare Systems containing 13 primary care clinics.

Method – Baseline Interviews & Surveys

Qualitative

•Semi-structured interviews explored PCP experiences with prescribing ICS, familiarity with evidence and guidelines, and views on discontinuation.

•Analyzed interviews with ATLAS.ti using iterative deductive and inductive content analysis. Findings were used to inform a subsequent survey.



Quantitative

•Surveys were administered to PCPs using RedCap. Surveys explored provider perspectives related to discontinuing ICS in mild to moderate COPD.

•Descriptive analysis of survey data were completed. We used Chi-squared tests to analyze differences between physicians and nurse practitioners.

Findings

Qualitative: Awareness of evidence and guidelines

"I think it's fair to say I have no idea what the guidelines say."

"When you're in private practice, if things don't appear in what you normally read to stay current, then you don't get familiar with it. It's not like 'I'm going to prescribe ICS, let me go read the guidelines about that'. You just don't do that. One, you don't have time, and two, you can't necessarily go find that all out."

Findings, continued...

Survey: Knowledge of the evidence

- 46% were unaware that ICS were associated with higher risk of pneumonia.

- 52% did not know that long-acting muscarinic antagonists (LAMAs) and long-acting beta agonists (LABAs) are as effective as ICS in reducing risk of COPD exacerbations.

- 50% reported they would make an effort in the next 6 months to make greater use of LAMAs or LABAs, and 52% reported they would make an effort in the next 6 months to reduce ICS use.

Findings, continued…

Qualitative: Inherited prescriptions

"… I have rarely initiated that prescription I definitely have patients that are on it."

"Generally, on one hand I'd like to say in someone who's on medication they don't need, you should try to stop it. But deep down there's a little hesitation that if someone is doing well, why rock the boat?"

"If someone came in on ICS or if someone sees a pulmonary provider who prescribed it, I would probably be reluctant to stop it. But, most likely I would not initiate it."

"… if they come to me and they have no adverse event on them and they are already on it, I may just leave it."

Survey:
39% reported they were unlikely to take patients off an ICS prescription placed by another provider.

Findings, continued…

Qualitative: Deference to experts

"I definitely have counted on pulmonology colleagues to give that guidance."

"Would I make a recommendation for a pulmonary medication to a pulmonologist? Probably not. But excluding them, it wouldn't matter who they were."

"Realistically, I'm pummeling people all of the time with things that are more of a priority to the Primary Care world, so it'd just be another thing that I'd be pummeling them with. That's how I would see it. If it was not on the Pulmonologist to do the legwork. And 'pummel' is the verb."

Implications

- Deference to experts and inherited prescriptions shed light on why some providers may decide against discontinuation of ICS even when they do not believe the prescription is helpful.
- These factors may pose significant barriers to improving the safety and quality of care in other clinical contexts as well.
- Understanding these barriers for PCPs to discontinue ICS will inform the development of more effective intervention programs and decision support tools.
- Policies that increase the number of prescribing providers a Veteran sees, such as the Veterans Choice Act, may make it more difficult to de-implement harmful prescriptions.

Current status and next steps

- Approximately 253 patients reviewed
  - 124 patients reviewed for deimplementation
  - 85 (68.5%) had recommendations to discontinue, not renew expired medication
  - 84/85 (99%) Recommendation accepted
- Follow-up interviews & Surveys
  - We'll test whether change PCPs' awareness of ICS harms & availability of alternatives mediates change in ICS prescribing
- We see 3 possibilities when intervention stops
  - No unlearning – unfavorable practice resumes – inherited Rxs may help explain
  - New habit formation and unfavorable practice stops--without knowledge change (no unlearning)
  - Unlearning and unfavorable practice stops (with or without new habit formation)

Resources

1. De-implementation of Harmful and Ineffective Medical Practices as a Process of Unlearning and Substitution: Toward a Clinician-level Planned-action Conceptual Model: https://www.hsrd.research.va.gov/for_researchers/cyber_seminars/archives/video_archive.cfm?SessionID=1172
2. Colla et al: Review of interventions to reduce low-value care: http://journals.sagepub.com/doi/abs/10.1177/1077558716656970
3. Scott et al: Countering cognitive biases in minimising low value care: https://www.mja.com.au/system/files/issues/206_09/10.5694mja16.00999.pdf
4. Nilsen et al: Implementation of Evidence-Based Practice From a Learning Perspective: http://onlinelibrary.wiley.com/doi/10.1111/wvn.12212/full

Thanks!

Questions/Comments?

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- Krysttel C. Stryczek – Krysttel.Stryczek@va.gov

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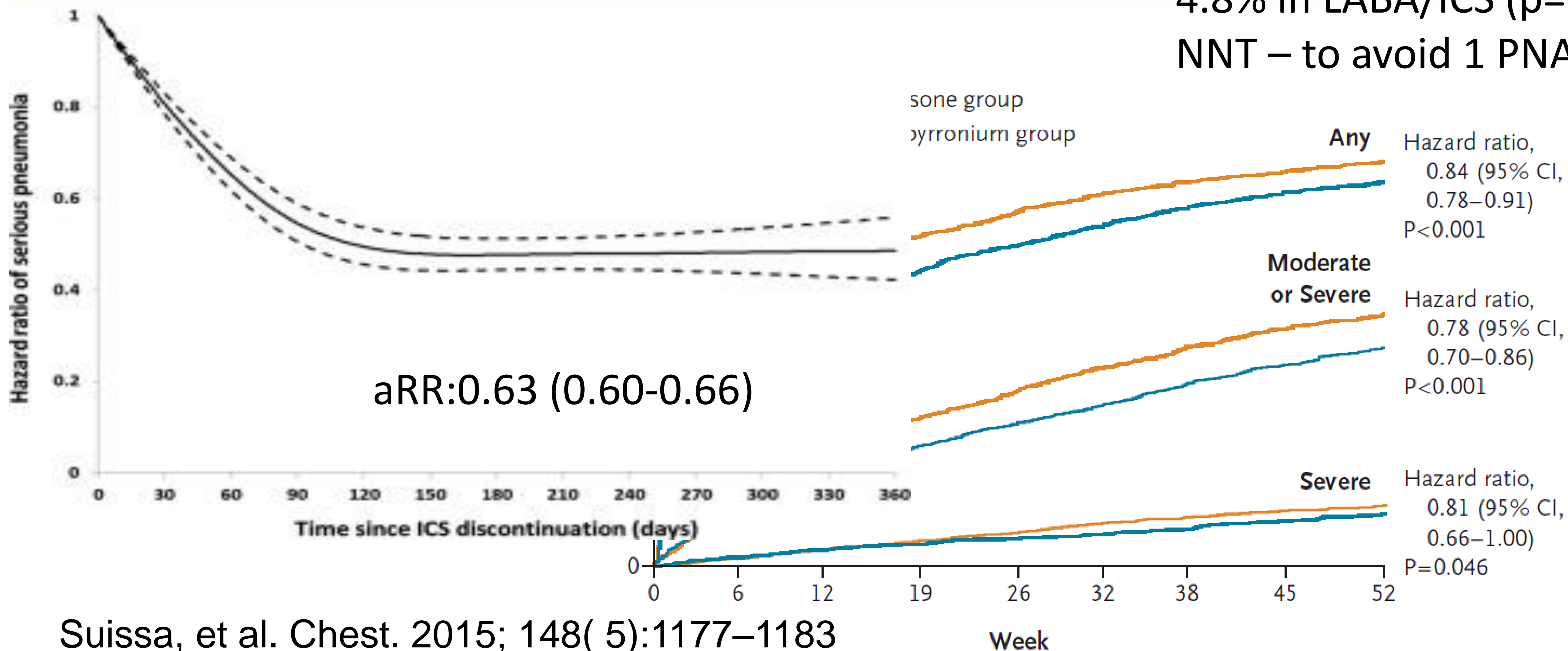
ICS harms

Incidence of Pneumonia
3.2% in LABA/LAMA
4.8% in LABA/ICS (p=0.02)
NNT – to avoid 1 PNA = 62



aRR:0.63 (0.60-0.66)

Suissa, et al. Chest. 2015; 148(5):1177–1183

FLAME NEJM 2016