

Abstract Presentations

4. Job Van Boven, The Netherlands

Adding GINA step 5 therapies to ICS/LABA in a real-life moderate to severe asthma population: is inhaler adherence a treatable trait?

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COI

- In the last 5 years my institution received consultancy fees, speaking fees, and/or research grants from AstraZeneca, Boehringer Ingelheim, Chiesi, Menarini, Novartis, Teva and Trudell Medical, all unrelated to this study



Background

- GINA uses a step-up approach in their asthma treatment recommendations
- Before stepping-up to more intensive treatment, adherence should be checked
- The final step 5 involves either less safe (OCS) or more expensive (biologics) treatment, thus, proper adherence to step 3/4 (ICS/LABA) is of paramount importance
- Unknown if adherence is appropriate before step-up
- *Group-based trajectory modeling* in big data may provide more information than “simple” PDC methods to assess adherence [1]



Objectives

- (1) To assess the rates of, and time to, additional GINA-5 therapy (OCS, LAMA, biologics) in people with asthma initiating ICS/LABA in fixed dose combinations
- (2) To examine the impact of different adherence trajectories on GINA-5 step-up
- (3) To examine other predictors for GINA-5 step-up

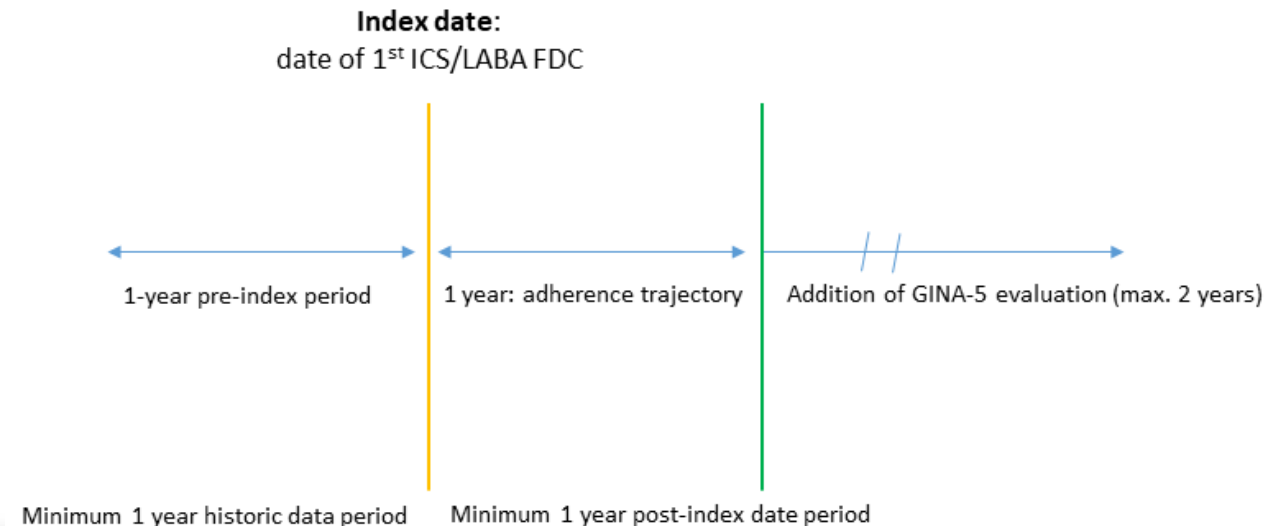


- This study was pre-registered at the European Network of Centres for Pharmacoepidemiology and Pharmacovigilance (EUPAS28437)



Methods (1) – study design

- Pharmaceutical Benefits Scheme (PBS) database of Australia 10% random sample
- All initiators of ICS/LABA (12-45 yrs) between 2013 and 2017 (1-year no use) included
- Minimum 1 year of follow-up available



Methods (2) - analyses

- Pharmacy dispensing dates were used to define medication availability in each 1 month of follow-up
- GBTM identified clusters of individuals with similar drug use trajectories (i.e. adherence patterns)*
- Hazard ratios (HR) for time to first additional GINA step 5 therapy were assessed using Cox proportional hazards models (REF: good adherence trajectory)

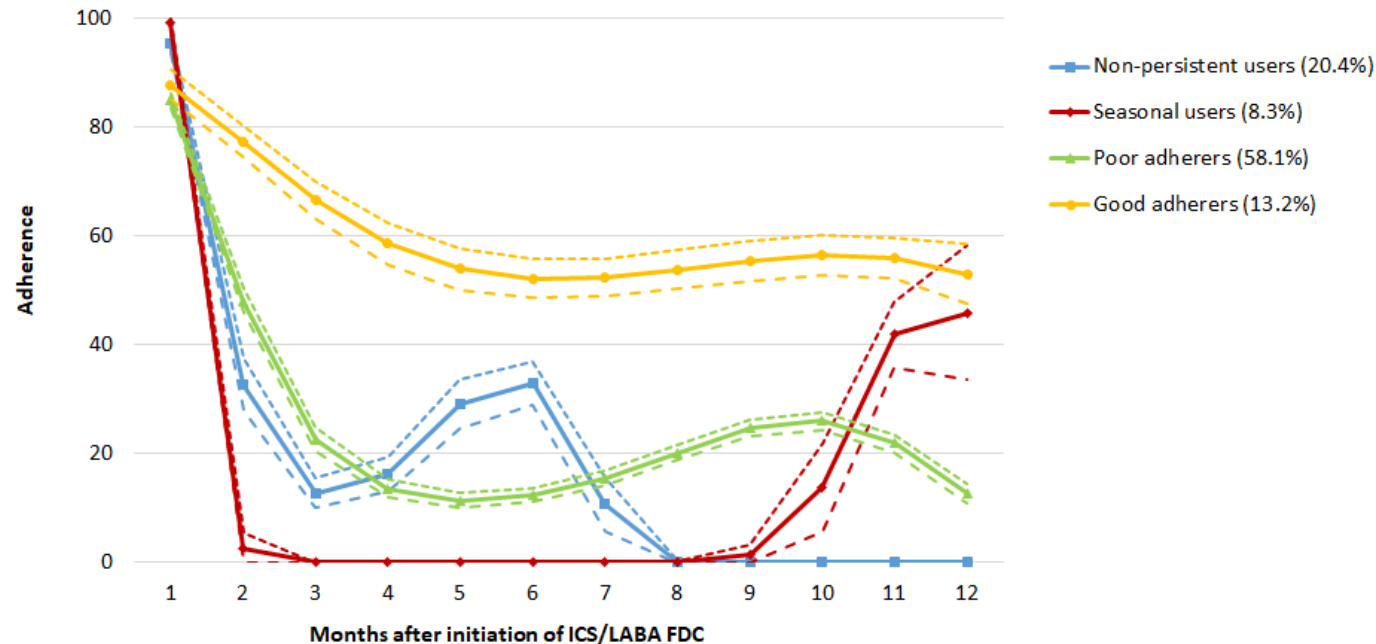
*SAS 9.4 'proc traj' package



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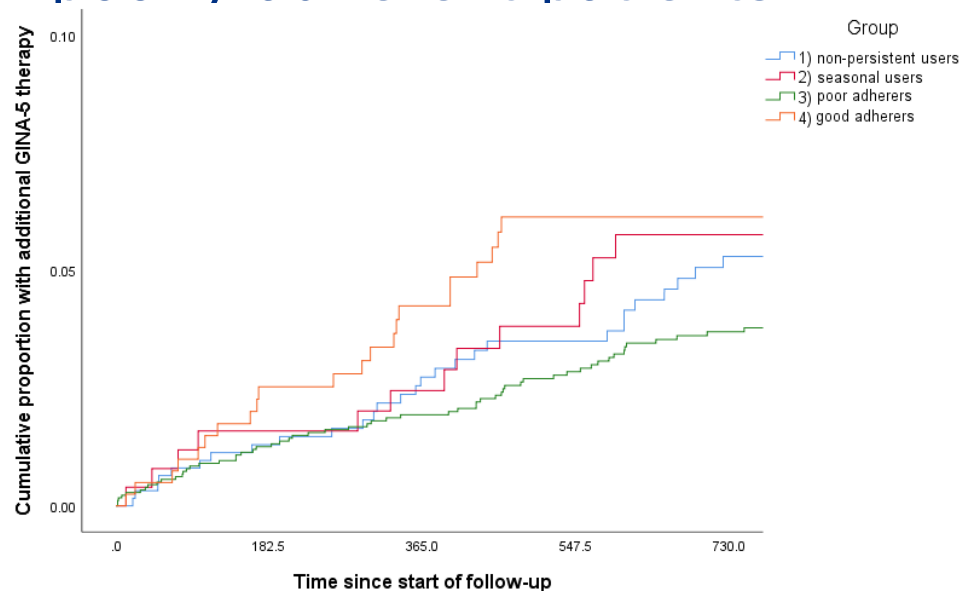
Results (1) - adherence trajectories

- 3062 new ICS/LABA FDC users were identified
- 120 (3.9%) received additional GINA-5 (OCS:89; LAMA:39; biologics:<3)
- Adherence trajectories were: non-persistent use (20%), seasonal use (8%), poor adherence (58%), and good adherence (13%)



Results (2) - time to step-up

- Mean time to first additional GINA-5 was 705 days
- Poor adherence was associated with longer time to additional GINA-5 (aHR: 0.58; 95%CI: 0.35-0.95)
- Yet, over 80% of additional GINA-5 was commenced in poorly adherent patients



Number at risk

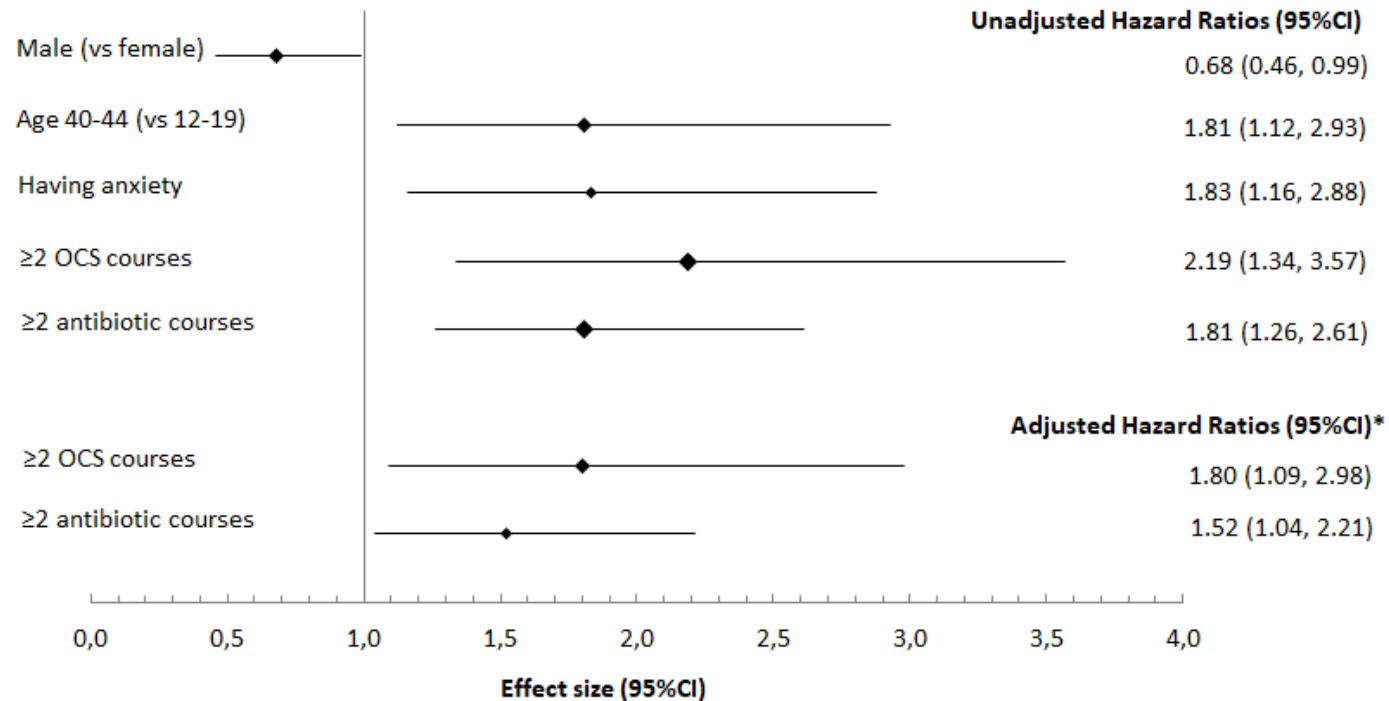
	0	182.5	365.0	547.5	730.0
Group 1	624	579	527	456	402
Group 2	253	237	220	198	177
Group 3	1780	1654	1481	1304	1157
Group 4	405	368	323	267	226



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Results (3) – more predictors for step-up

- ≥ 2 OCS/antibiotic courses also predicted additional GINA-5 (adjusted)



Discussion

- + First population-based study of asthma adherence using trajectory modeling to distinguish different real-world adherence behaviors
- + Robust longitudinal national database that is representative of the total Australian population
- + GINA-5 step up rate in line with severe asthma prevalence in Swedish and Dutch studies (3.6-6.1%)
- Not all dispensed medications were necessarily administered and dispensing data do not permit assessment of patient inhaler technique



Conclusion

- Almost one in 20 people with asthma commenced additional GINA-5 after ICS/LABA initiation
- Most of whom (>80%) were poorly-adherent to inhaled preventers
- There is a substantial unmet need for inhaler adherence to be addressed prior to prescribing additional GINA-5

Trajectory Analyses of Adherence Patterns in a Real-Life Moderate to Severe Asthma Population

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Questions?

Read more about our medication adherence research and our expertise center MAECON at <https://adherence.umcg.nl>

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