


Is the origin of unwarranted variation in the family physician`s office? (variations at a local municipal level in rural Norway)



Hans Johan Breidablik PhD

Medical director, Helse Førde Medical Trust

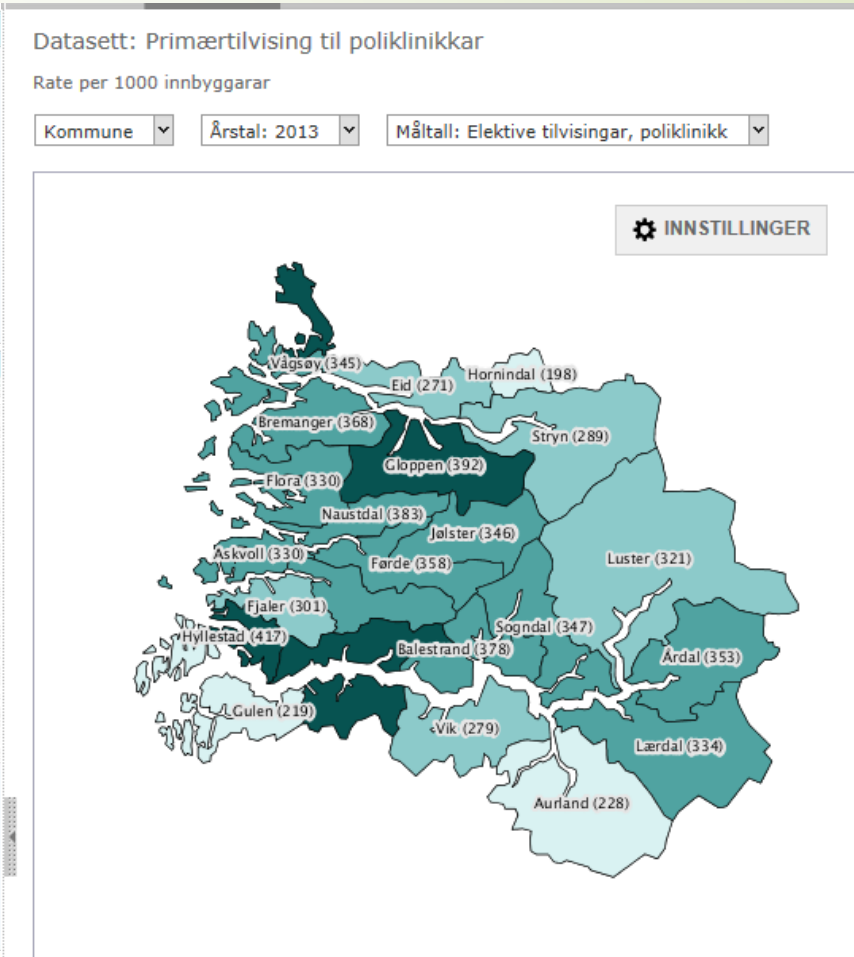
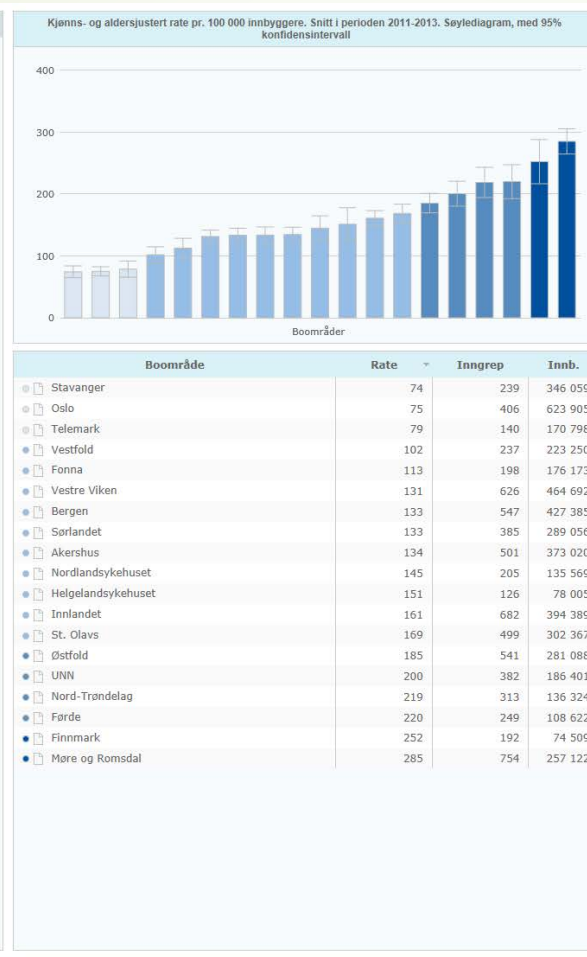


Great/unwarranted variation in medicine is a central pointer to overdiagnosis (and underdiagnosis)

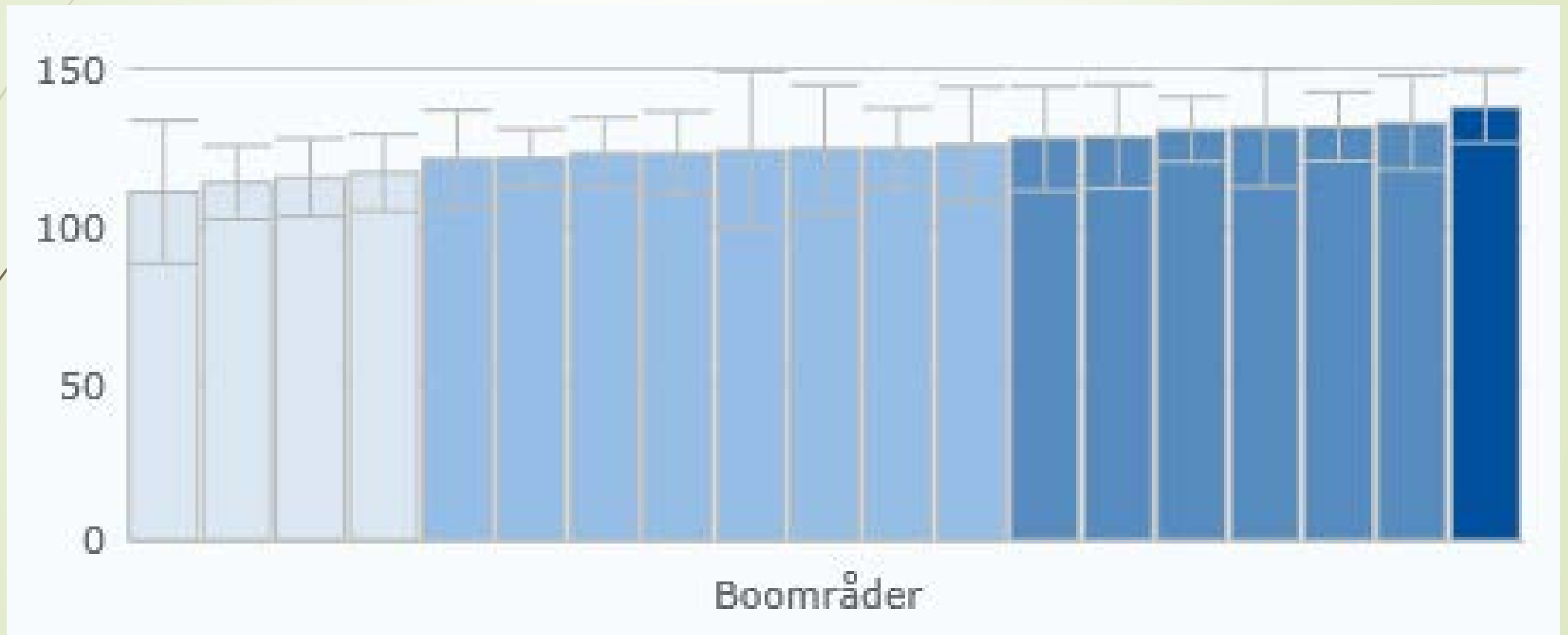
But where is the the main source?

- - **Patients/population** (morbidity/knowledge/preferences)
- - **The family physician** «gatekeeper» (Norway: «Fastlege» family physician with responsibility for a population list typically around 1000 persons) (individual/lokal preferences-culture)
- - **The specialists/hospital doctors** (individual/local traditions and preferences)
- - **The system/organisation** (health authorites/local capacity/local geography/reimbursement etc.)

New tools for presenting variation in Norway (regional & local)



Equality is rare, but possible: Repair of **inguinal hernia** in different Norwegian regions (but is this the optimal level?)



Sogn & Fjordane; a rural region of Norway with 109 000 inhabitants on 18 623 km², 26 municipalities, 120 family doctors, one central hospital and two small local hospitals (250 beds)

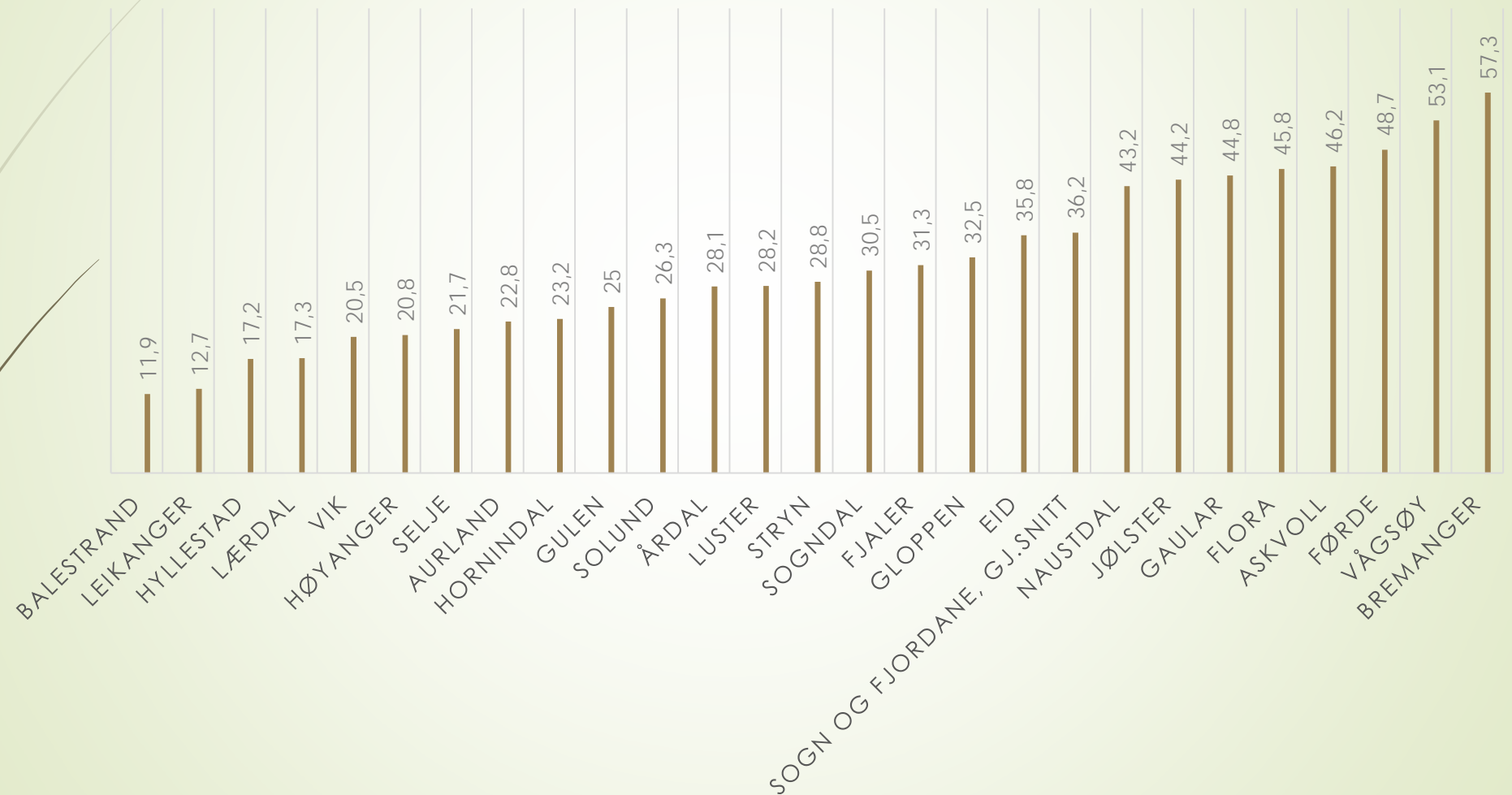


Sogn & Fjordane: Equal access to health care?

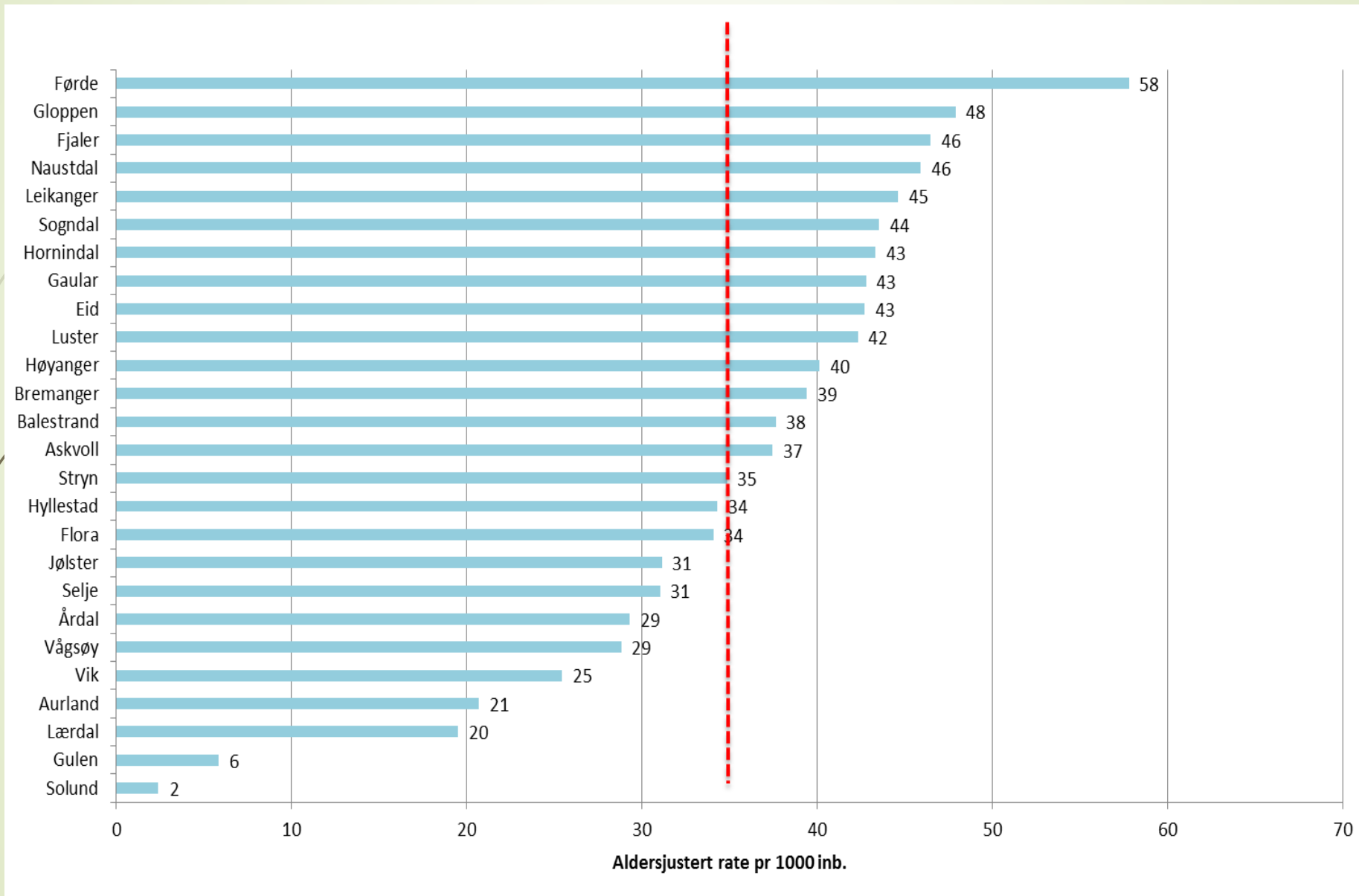
(the majority of specialized health care to the population (80%) are supplied by the Helse Førde)

- Examples of local variation (municipality):
 - a) Surgical procedure (tonsillectomia)
 - b) Hearing aids
 - c) Diagnosis (ADHD)
- Patterns of referral from municipalities and family physicians «fastlege».
- Role of travel distance from the institution.

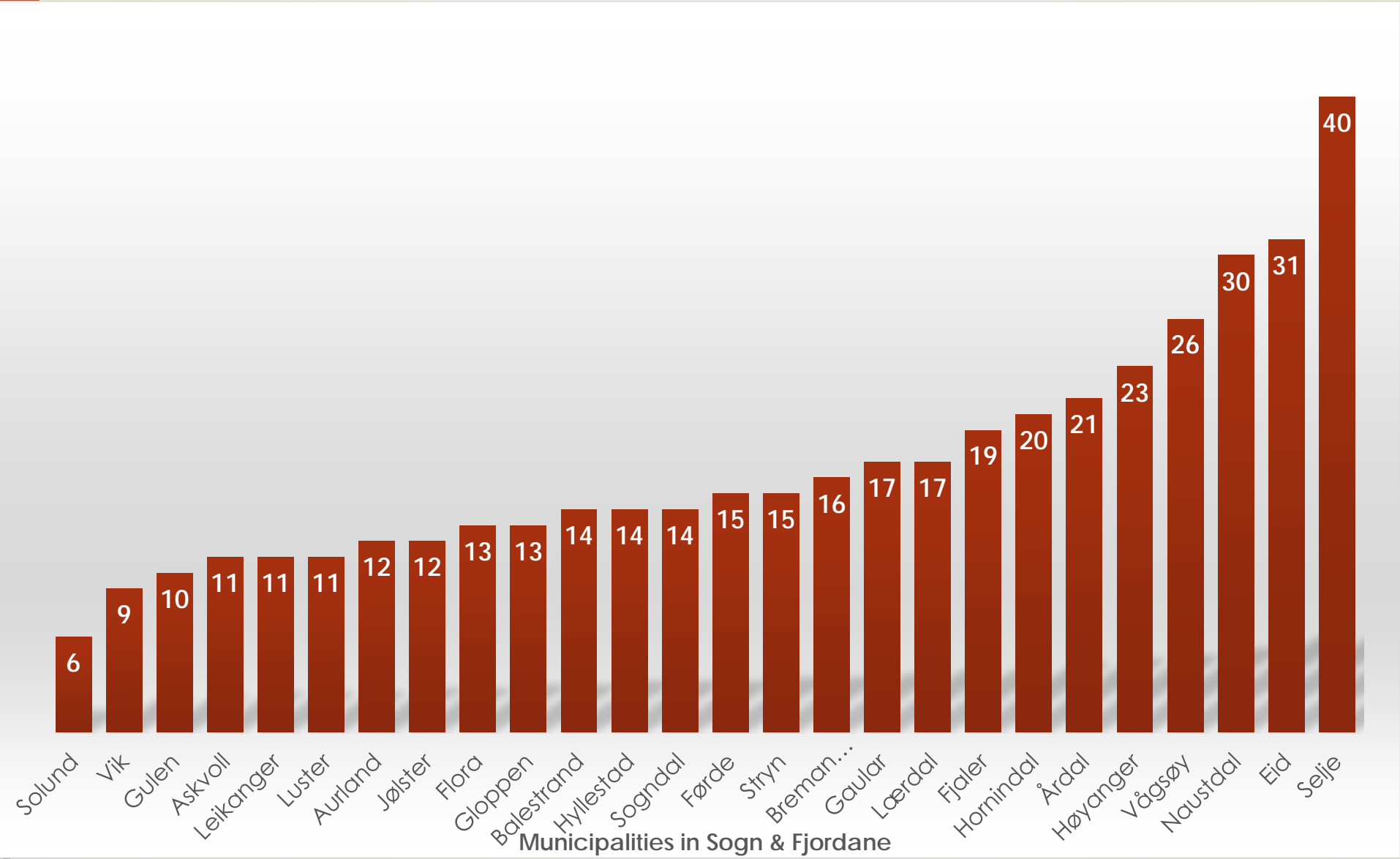
Rate of tonsillectomias 0-18 ys over a 4-year period (2008-2012) in the municipalities



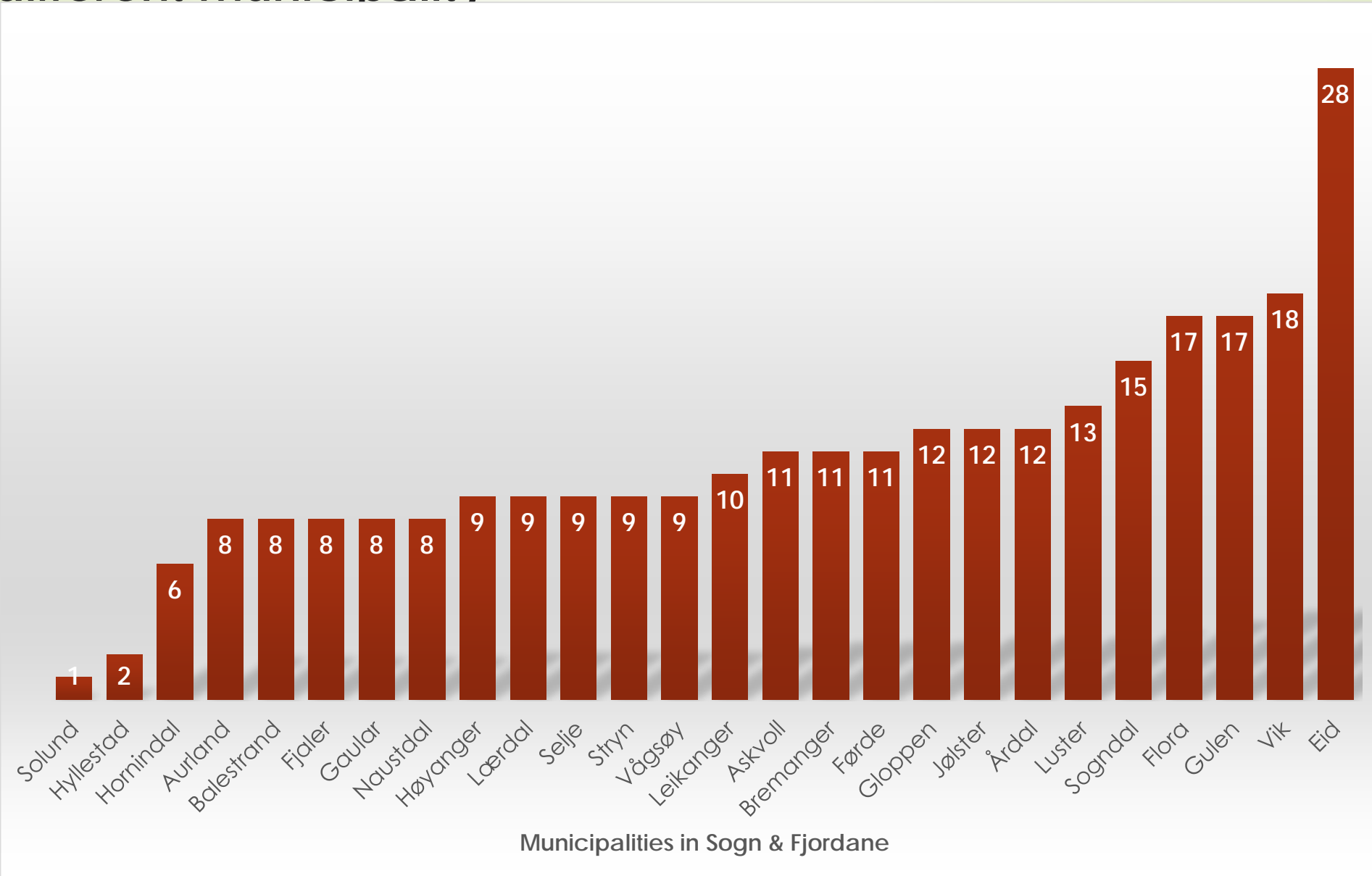
Rate of new **hearing aids**/1000 inhab. in 2010/2011 for the 26 municipalities in Sogn & Fjordane



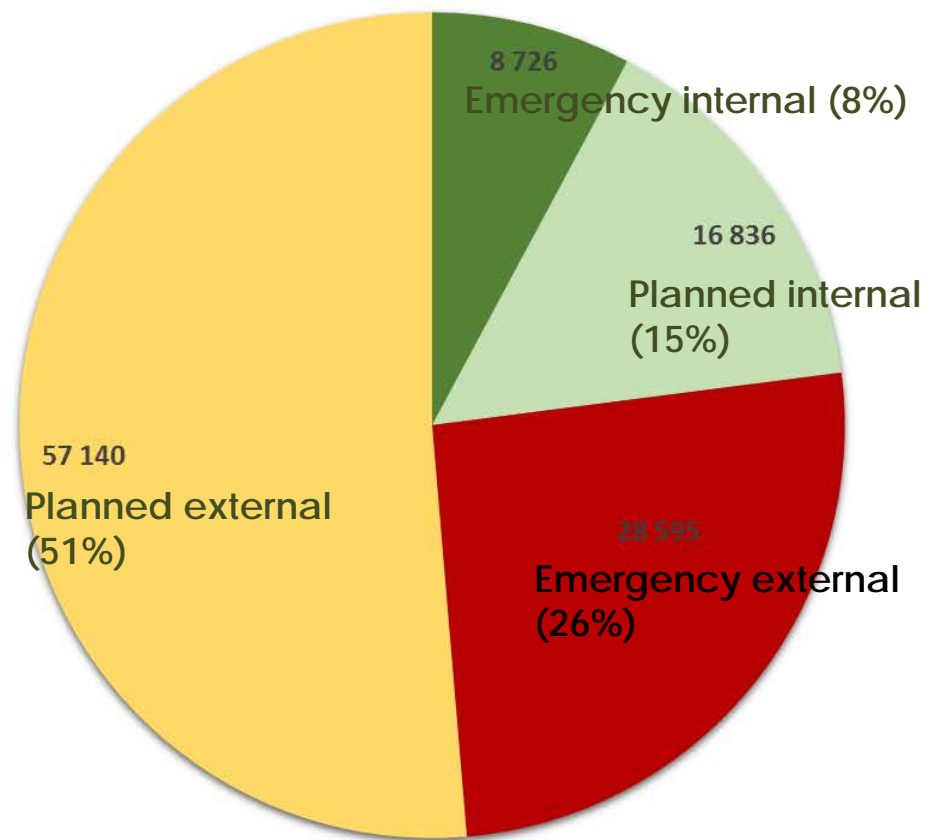
Number of persons 0-18 years/1000 diagnosed with ADHD during 2013/2014 vs. different municipality



Number of consultations per patient (2013/2014) for ADHD and different municipality

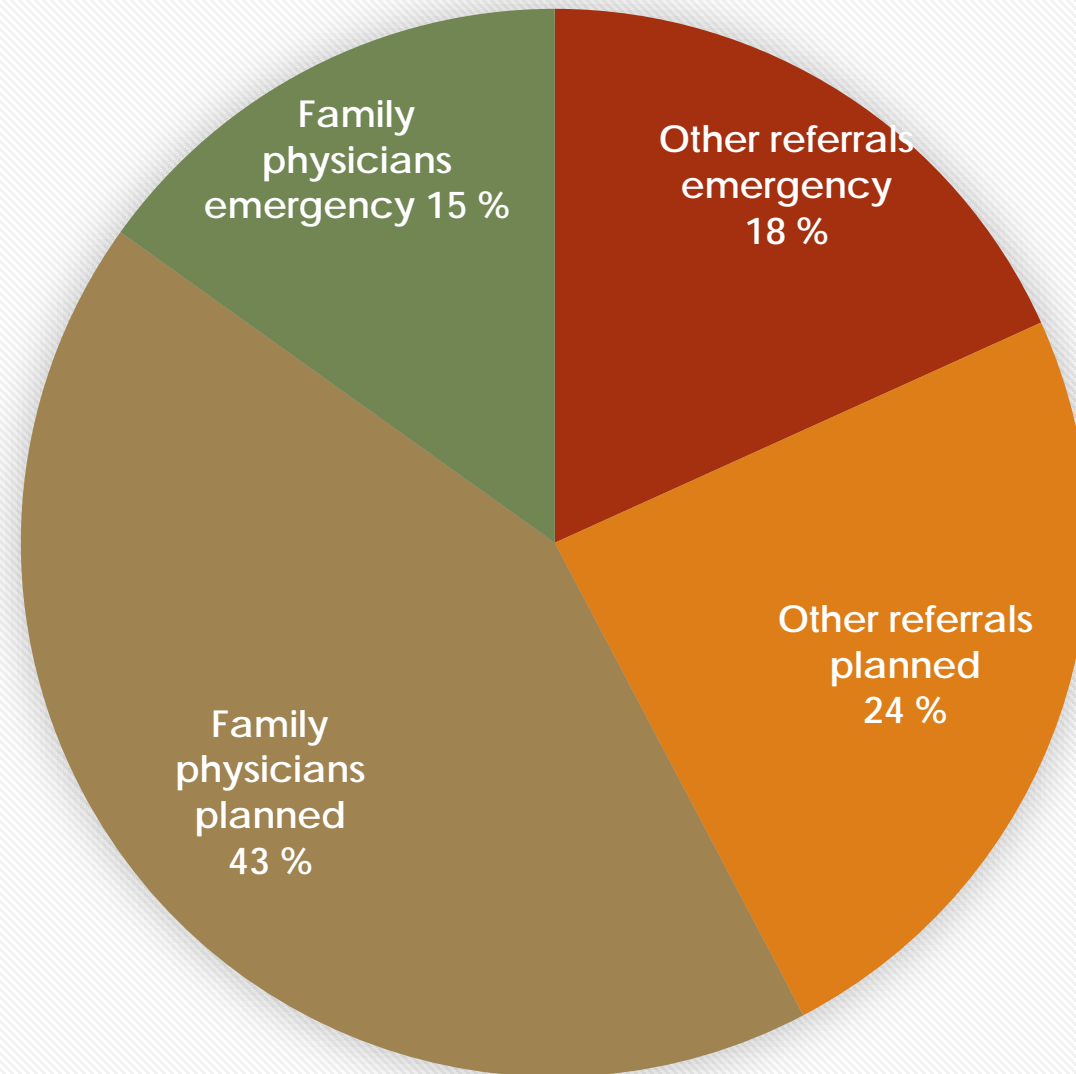


Referrals to Helse Førde 2014 (total 111 297)

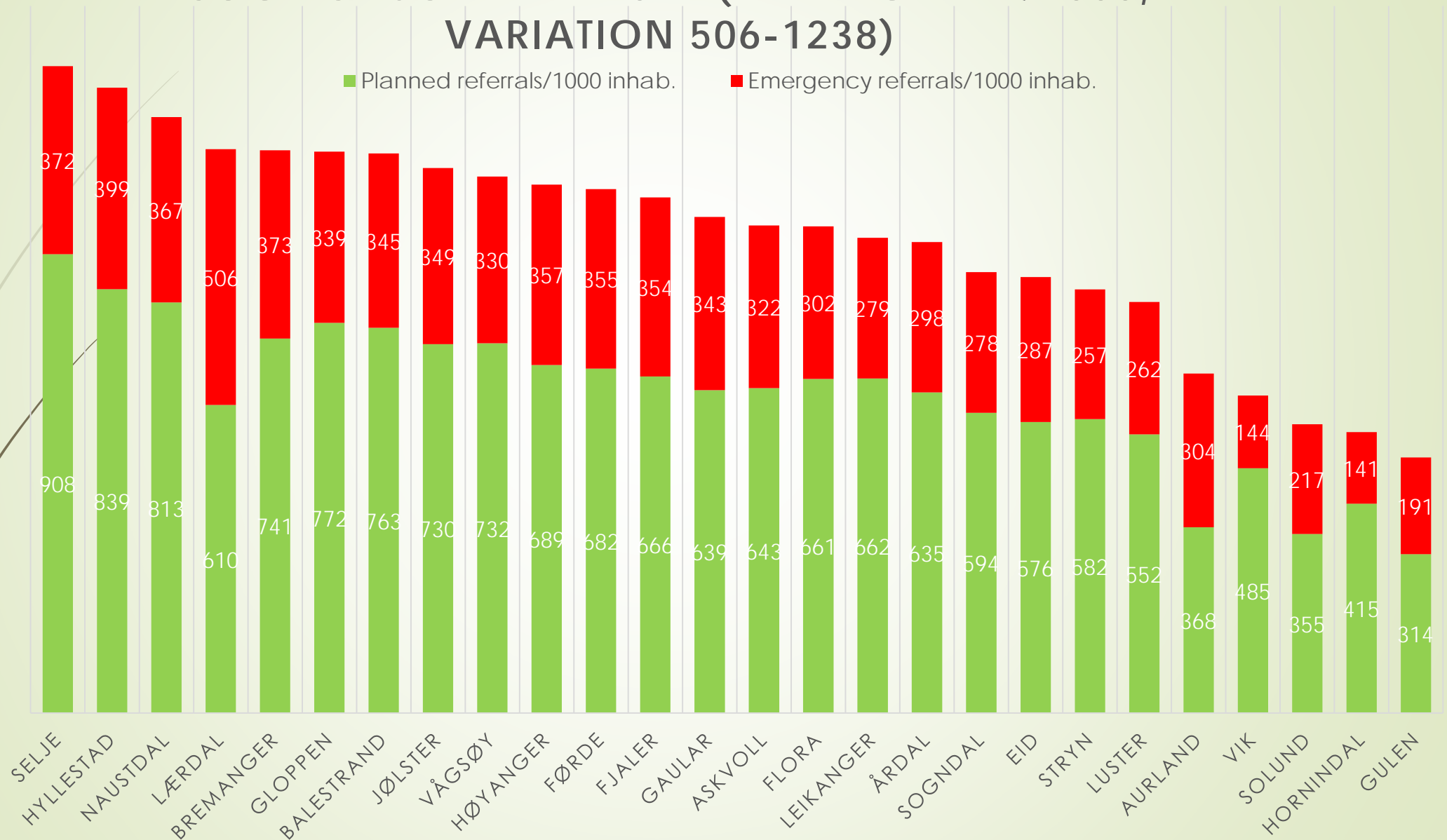


Other gatekeepers than the family physicians («fastlege»)

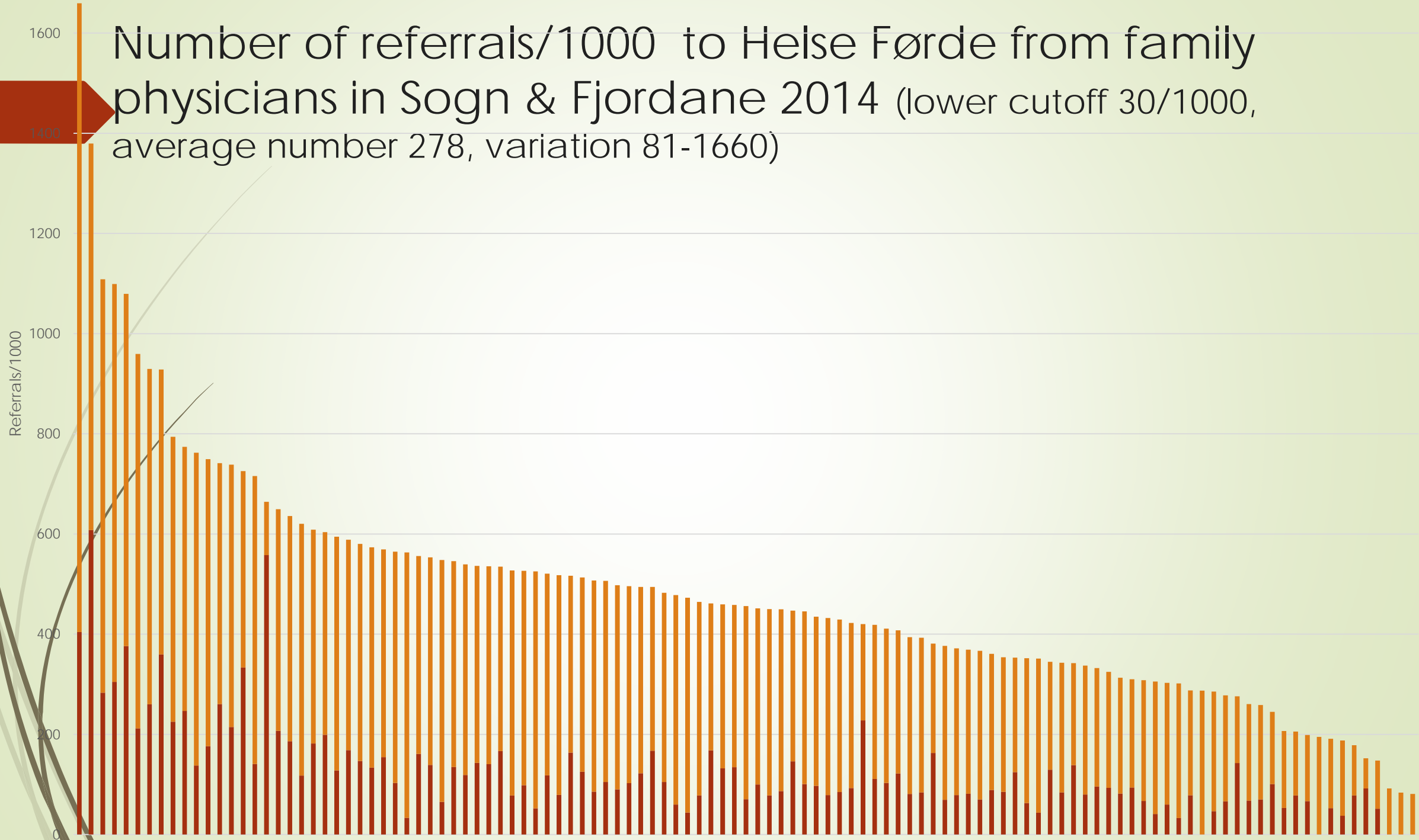
Referrals from family doctors vs. other referrals (tot. 85634)



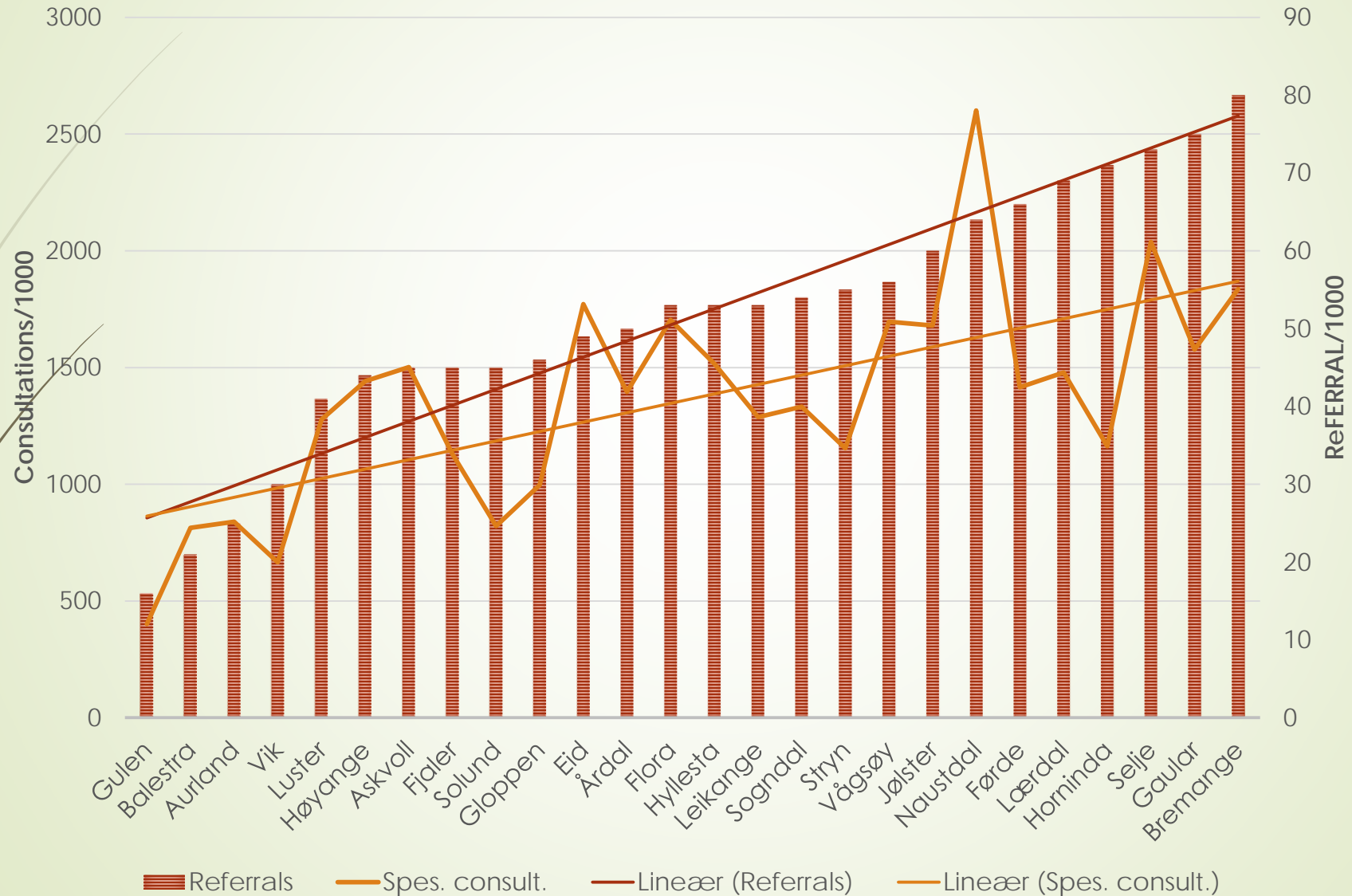
REFERRALS/1000 INHAB. FROM THE 26 MUNICIPALITIES SOGN & FJORDANE 2014 (AVERAGE 942/1000, VARIATION 506-1238)



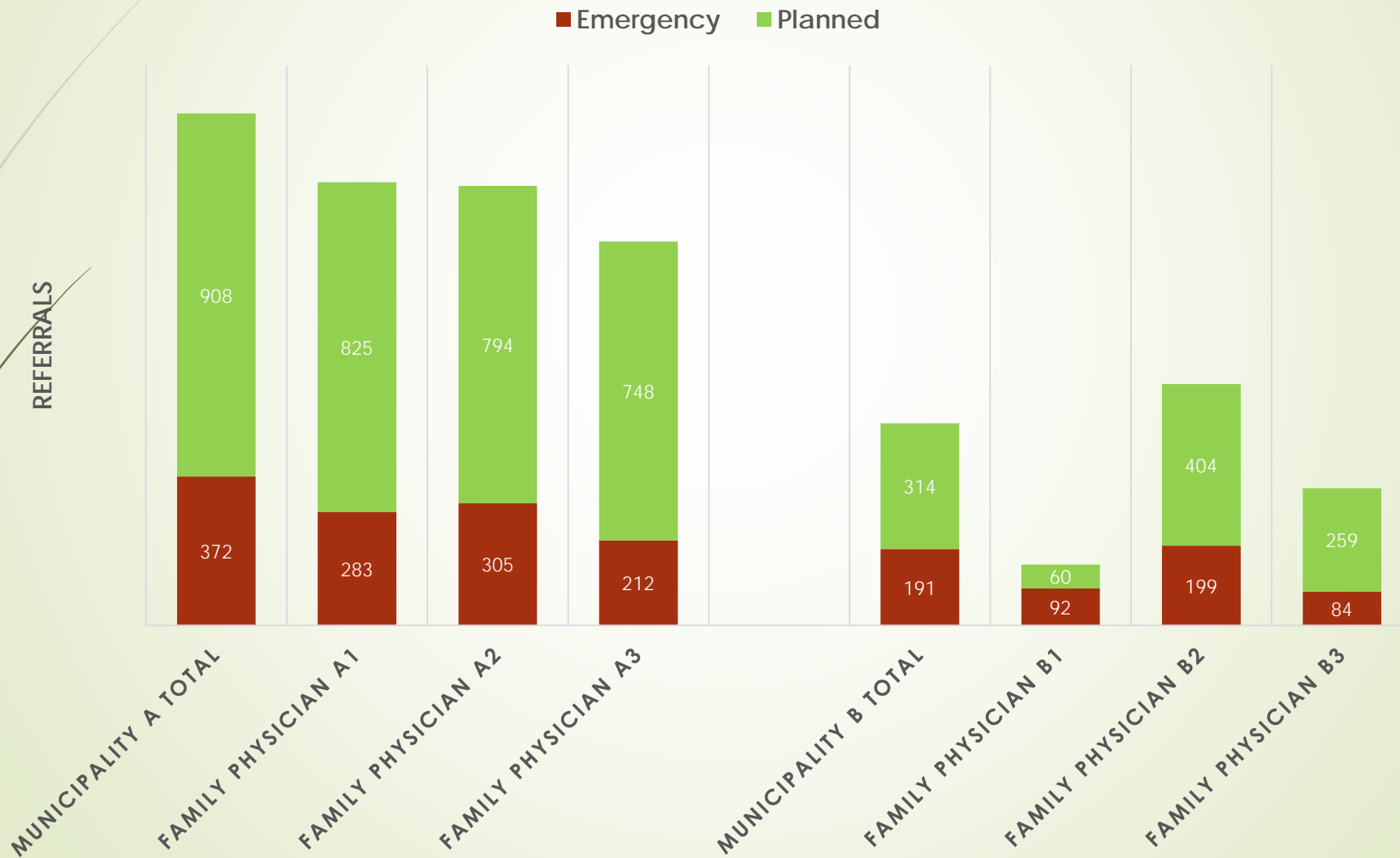
Number of referrals/1000 to Helse Førde from family physicians in Sogn & Fjordane 2014 (lower cutoff 30/1000, average number 278, variation 81-1660)



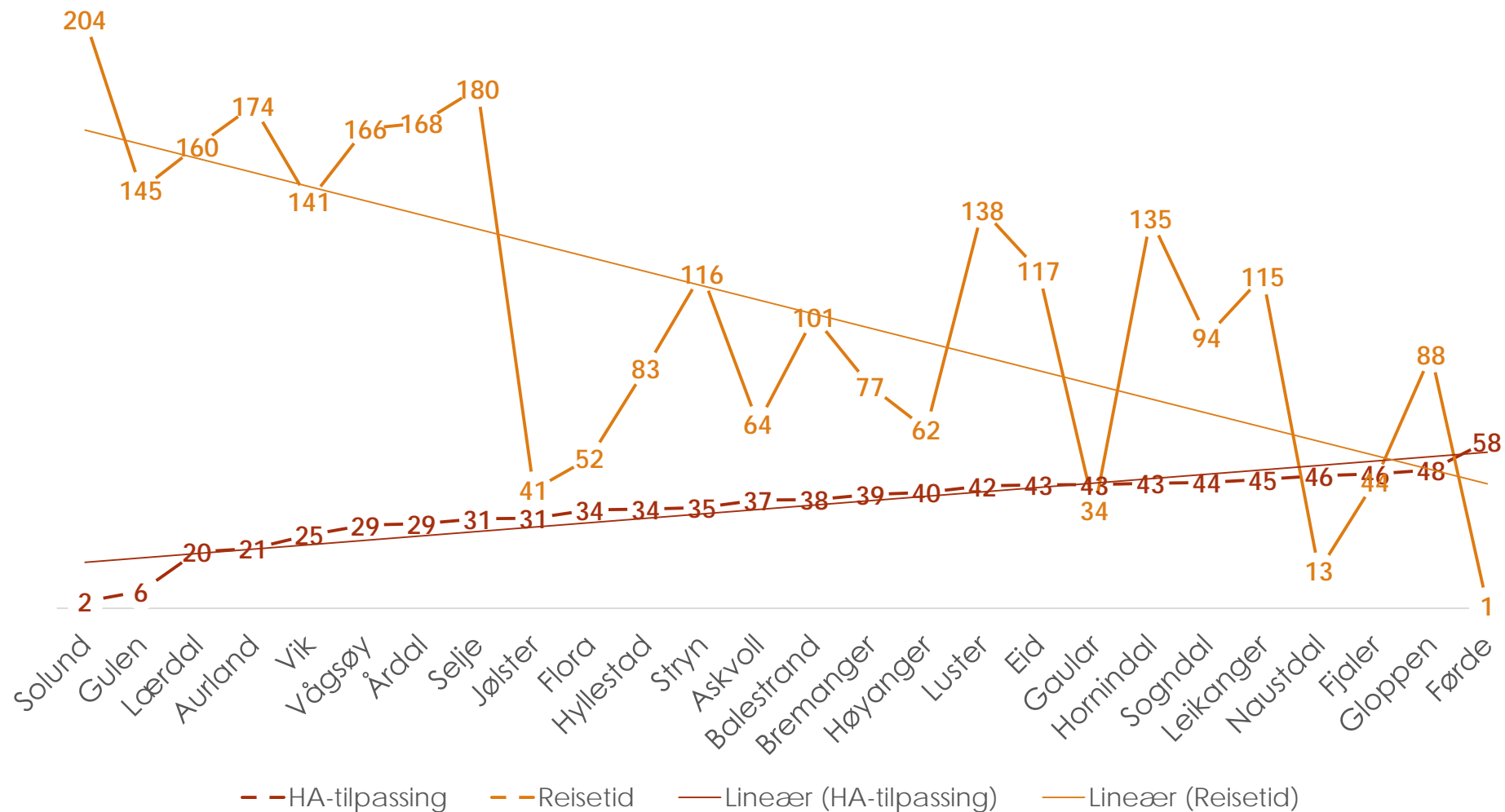
Variation in referral rate (2013/2014) from different municipalities vs. rate of policlinic consultations in **child & adolescent psychiatric** services (0-18 ys)



Differences between two small rural municipalities in Sogn & Fjordane for referrals/1000 inhab. in 2014



NUMBER OF NEW HEARING AIDS VS. TRAVEL TIME (MIN.) TO AUDIOLOGICAL SERVICE (CORR -0,69)





Conclusions

- Variation is the rule, especially at the local level
- Both diagnosis and treatment show variation, probably indicating both over- and underdiagnosis and undertreatment in a parallel manner
- Individual referral culture to specialists from family physicians show especially strong variation
- It is probably that this different referral culture is an important background for over- and undertreatment
- But for some patients the travel distance seems also of importance