

Geospatial analysis and mapping of new HIV diagnoses, late presentations and GP testing practices in Amsterdam

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On behalf of the HIV Transmission Elimination Amsterdam Initiative

H-TEAM – a city approach for HIV

- 30% of individuals with a new HIV diagnosis present to care in late stage of infection
- Estimated 400 individuals are unaware of their infection

Development of better strategies to

- Diagnose HIV infection earlier
- Lowering proportion unaware of infection

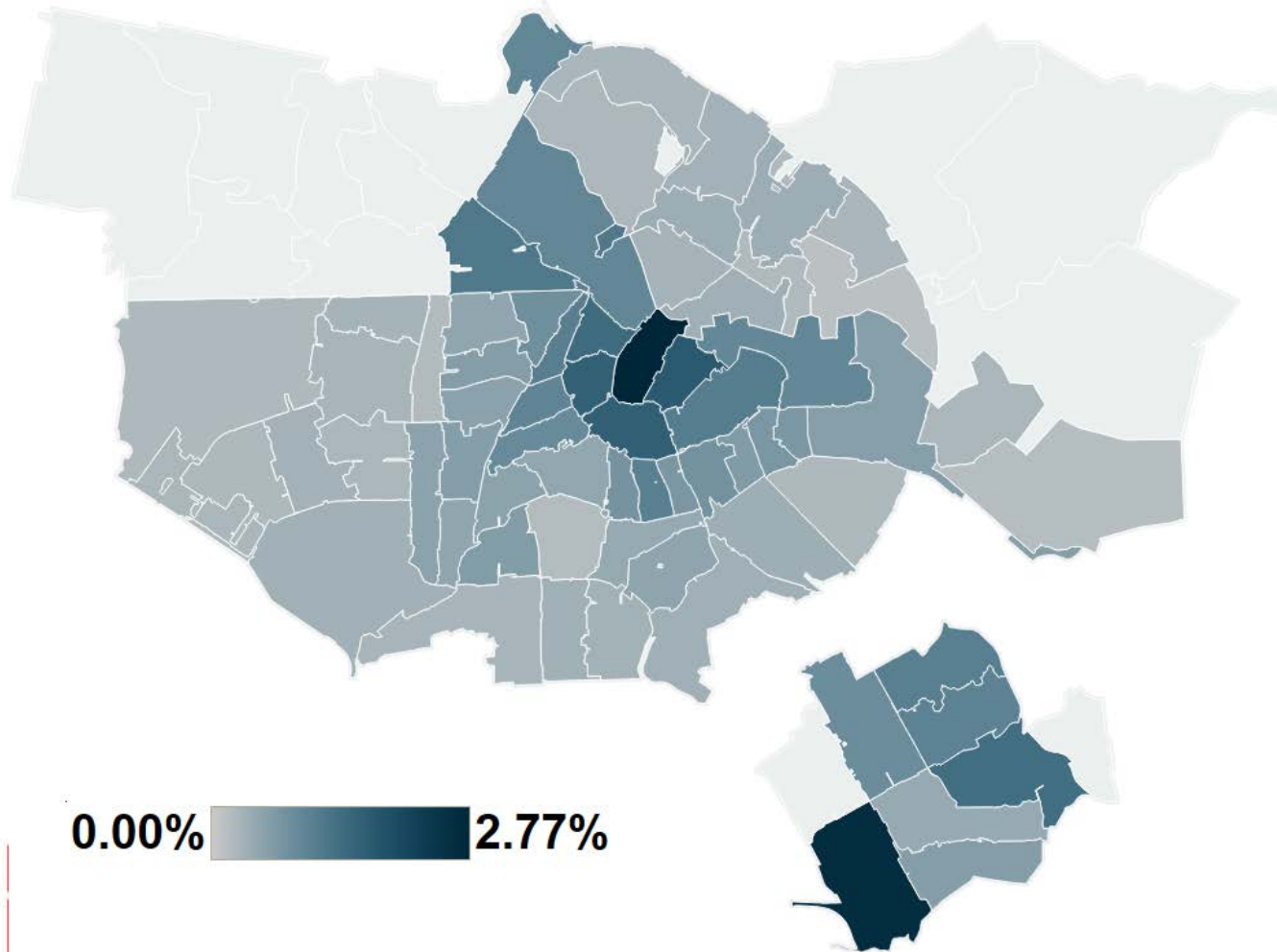
Geographic Information System Mapping

1. Map distribution of new HIV diagnoses and proportions of late presenters across Amsterdam
2. Development of approach for identifying target areas for testing & prevention practices
3. Relate these to general practitioners' (GPs) HIV testing practices and prevalence distribution of diabetes mellitus (DM) and cardiovascular disease (CVD)

Data sources at postal code 4 level

Source	Type of data
Stichting HIV Monitoring (SHM)	HIV Prevalence
	HIV new diagnoses
Laboratories	Number of HIV tests
Nivel	Cardiovascular risk management and Diabetes
Onderzoek, Informatie en Statistiek (OIS)	Demographics

HIV prevalence is not equally distributed



Approach for identification of target areas



**2 indicators
per area**

New diagnoses (%)

2011-2016

**Late presentations among
new diagnoses* (%)**

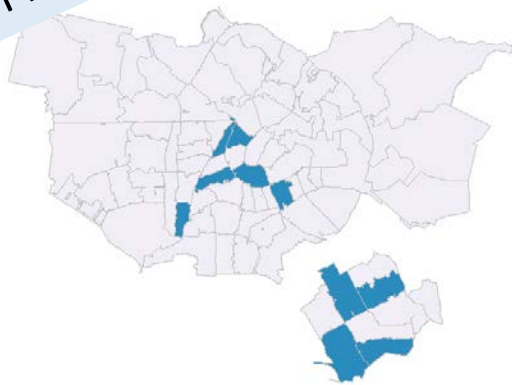
2011-2016

*Late presentation is defined as a CD4 count of <350 or AIDS at diagnosis

Top 10 target areas identified

Postcode 4	Neighborhood	Area	Rank (total) 2-128
1104	Bijlmer Oost (E,G,K)	Amsterdam Zuidoost	114
1017	Grachtengordel-Zuid	Amsterdam Centrum	110
1015	Grachtengordel-W/Jordaan	Amsterdam Centrum	100
1102	Bijlmer Centrum (D,F,H,)	Amsterdam Zuidoost	95
1107	Holendrecht/Reigersbos	Amsterdam Zuidoost	94
1091	Weesperzijde	Amsterdam Oost	94
1105	Amstel III / Bullewijk	Amsterdam Zuidoost	93
1052	Frederik Hendrikbuurt	Amsterdam West	93
1059	Hoofddorppleinbuurt	Amsterdam Zuid	93
1054	Helmersbuurt	Amsterdam West	91

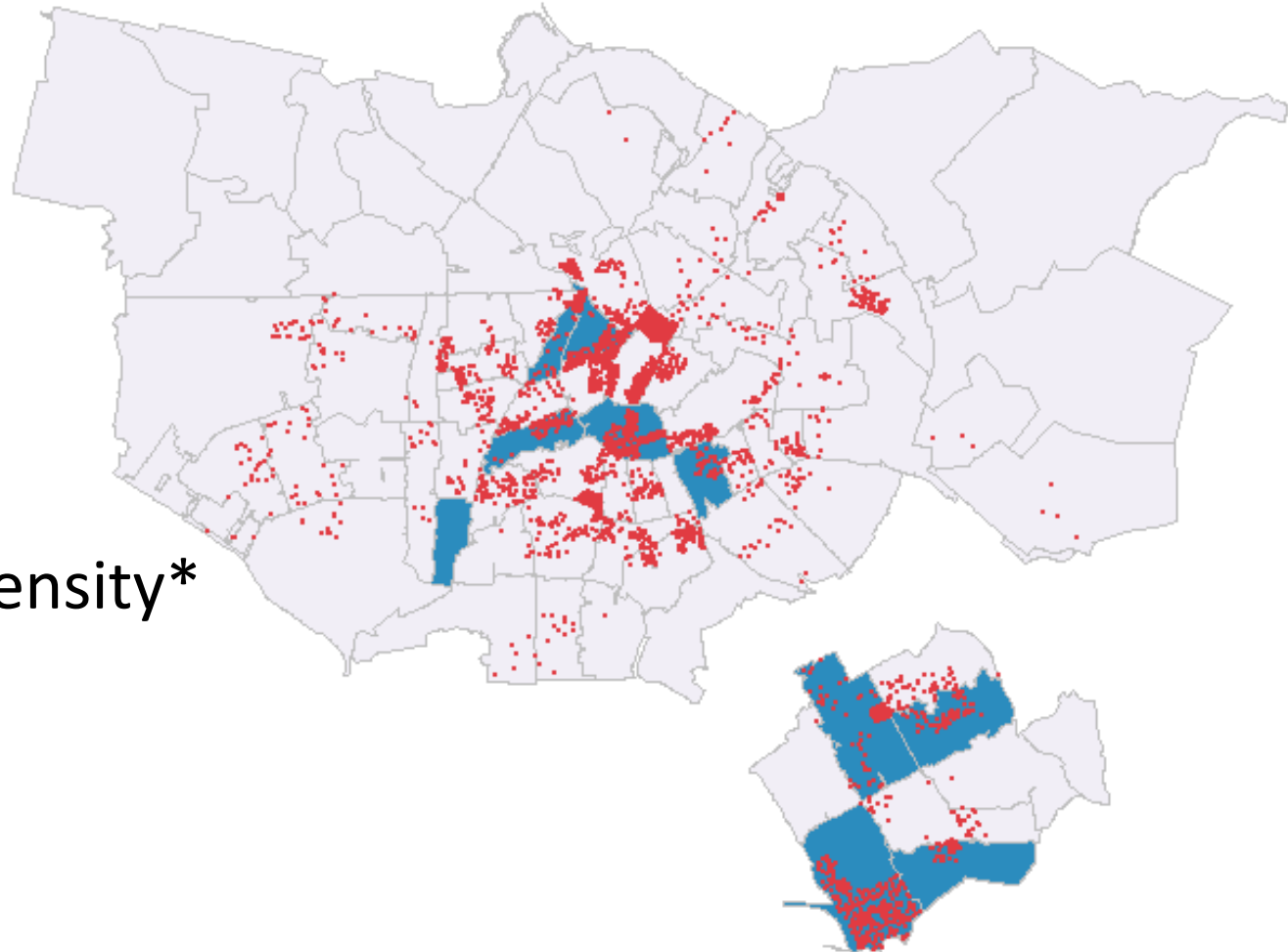
Preliminary



Two examples of utilization of GIS

- 23% of all new diagnoses in Amsterdam are coming through the general practitioner (GP)
 - ***Monitoring Report 2016. Human Immunodeficiency Virus (HIV) Infection in the Netherlands. Amsterdam: Stichting HIV Monitoring***
 - ***HIV indicator condition-guided testing to reduce the number of undiagnosed patients and prevent late presentation in a high-prevalence area: a case-control study in primary care. (Sex Transm Infect, Joore et al., 2015)***
- Rationale behind combined testing based on prevalence of NCDs

HIV testing by GPs related to target areas



Preliminary

HIV test density*

HIV Transmissie
Eliminatie AMsterdam
HIV Transmission
Elimination AMsterdam

* Each red dot represents 1 HIV test per 100 individuals in a neighborhood.

Comparing GP testing in target and non-target areas

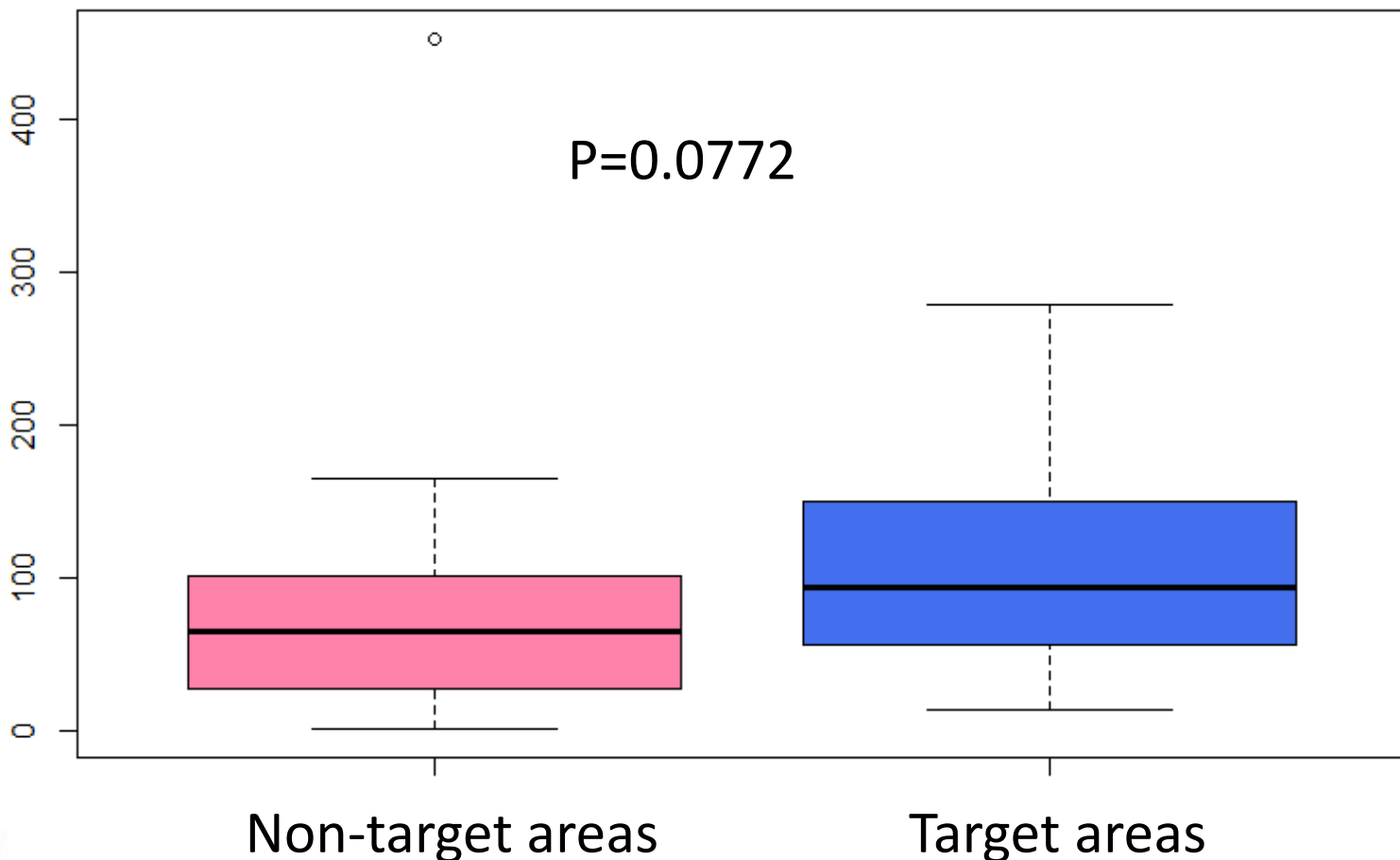
1. Average number of tests per GP

2. Variance in number of tests per GP

Trend towards higher number of tests per GP in target areas

Preliminary

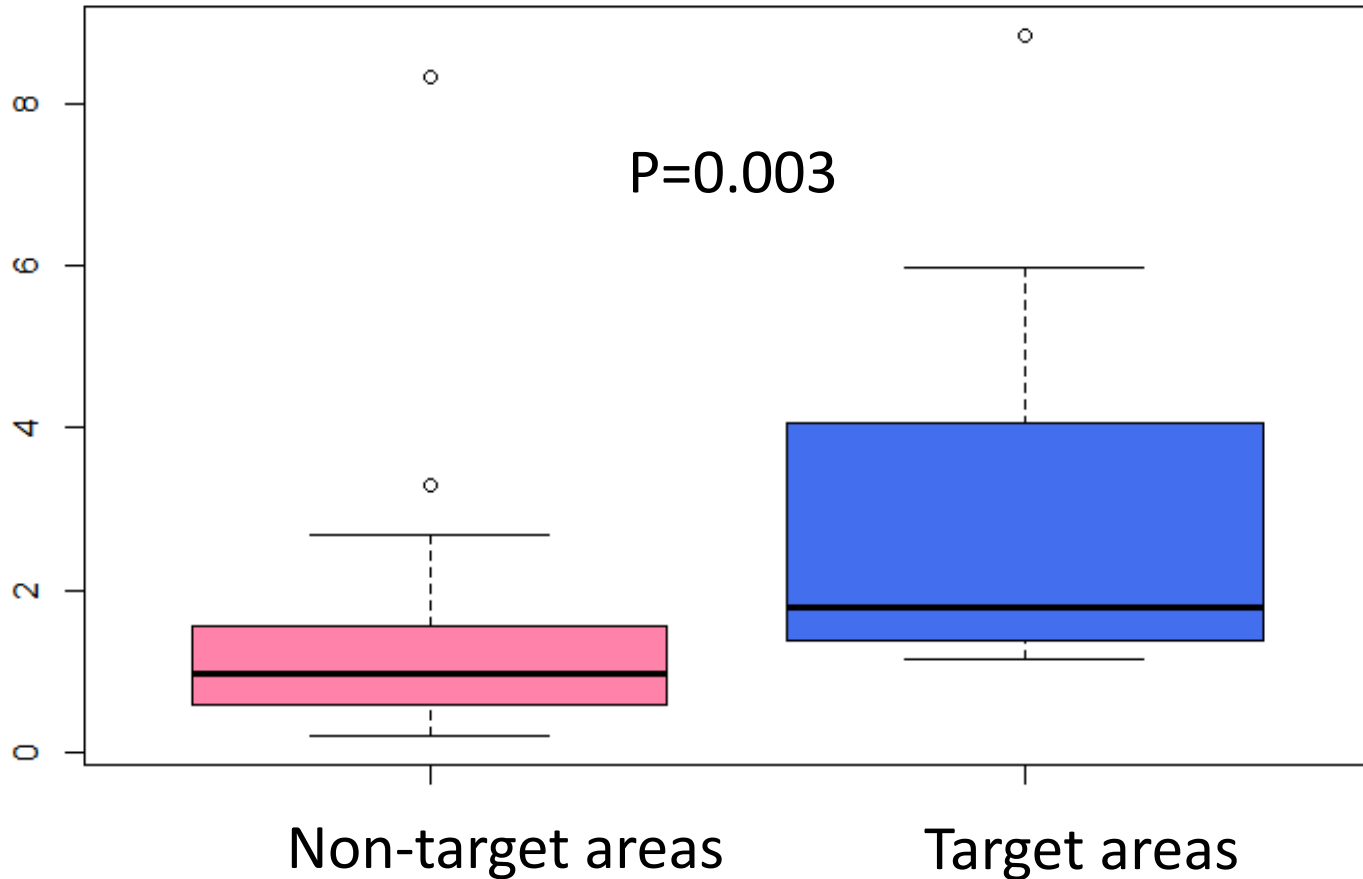
Average number of tests per GP



Significantly higher variance in number of tests in target areas

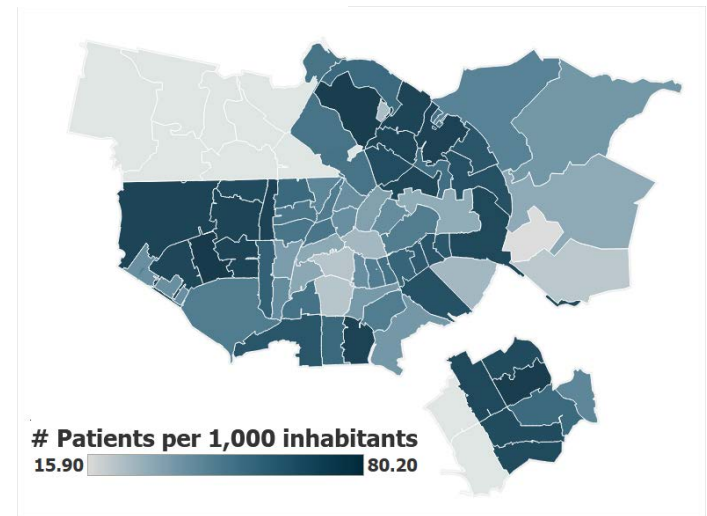
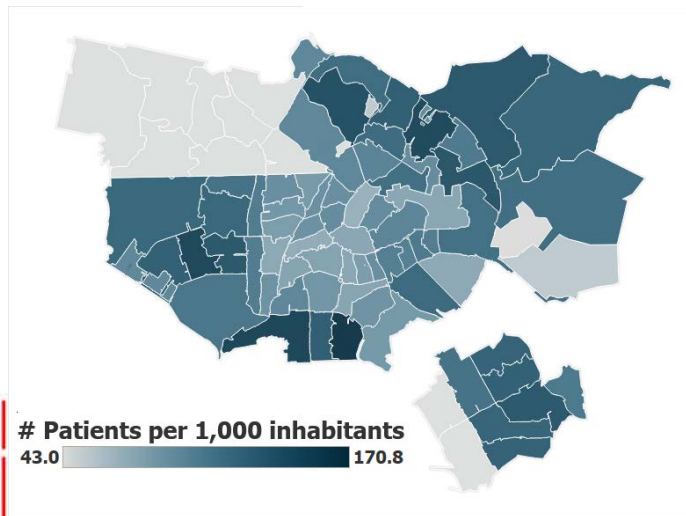
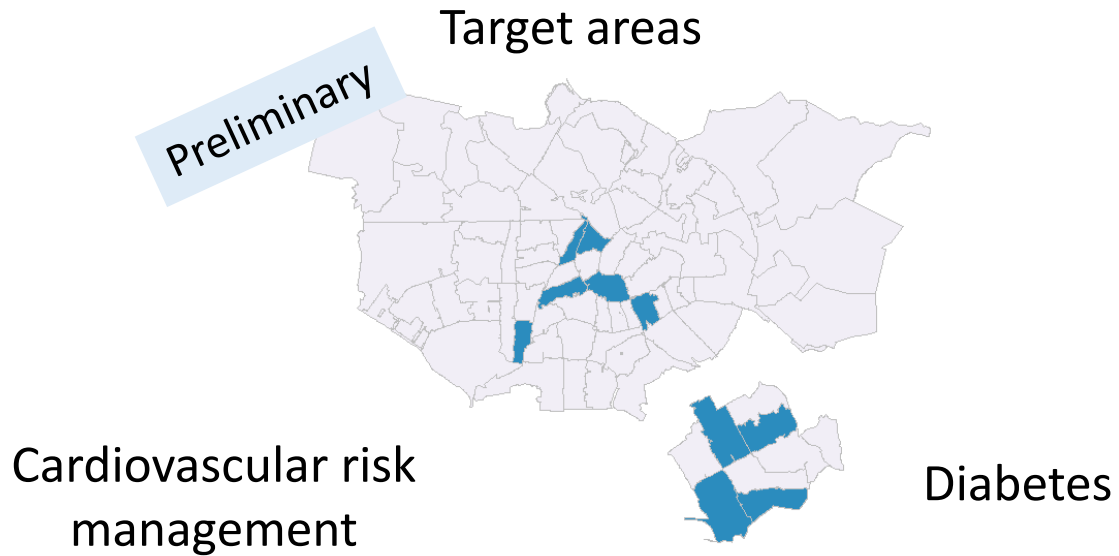
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Variance in number of tests per GP



Note: Tests are per 1,000 individuals, normalized by the average number of tests.

Overlap of target areas with NCDs in Zuidoost



Conclusion

1. Working on approach for target area identification.
2. Number of tests among GPs within target areas significantly more varied.
3. Differences in testing may provide incentive for optimization and targeted training for GPs.
4. Localized distribution of people living with HIV across Amsterdam, as well as CVD and DM → rationale for combining testing in health check to lower barriers for testing

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