Promoting HIV testing in primary care following a randomised trial: An MRC phase IV study

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Background

HIV remains underdiagnosed. UK national guidelines recommend routine testing at general practice registration, but evidence of effective implementation of this policy is lacking.[1-3]

The Rapid HIV Assessment (RHIVA2) randomised controlled trial, promoting nurse-led HIV screening at registration in general practice, led to increased and earlier HIV diagnosis, and was cost-effective.[4 5]

However, interventions effective in the context of a trial may be less so when implemented in routine practice.

Objectives

To investigate the impact of implementing the RHIVA programme into routine care, by comparing the impact of RHIVA on trial intervention practices vs. practices that had never received the intervention.

Study setting

After RHIVA2, we wished to implement routine HIV testing across the borough. 20 practices had received the trial intervention. Thus of the 44 practices in City and Hackney, we attempted to: a) implement training in the 24 naïve practices (20 control, 4 non-participating) that had never been trained, and b) reinforce training in the 20 intervention practices.

Study design

MRC phase IV study, using an interrupted time series analysis.

Study duration

19 April, 2010 to 30 June, 2015.

Study population

- Individuals aged 16 years or older registering at study practices
- Individuals able to undertake the pre−test discussion in English or with a suitable translator.

Statistical analysis

We calculated HIV testing rates, HIV diagnosis rates and CD4 counts at diagnosis, comparing the periods before and after the trial intervention, and the implementation respectively; and (2) Pearson correlation between HIV testing and diagnosis, and CD4 count at diagnosis respectively, across all practice cohorts.

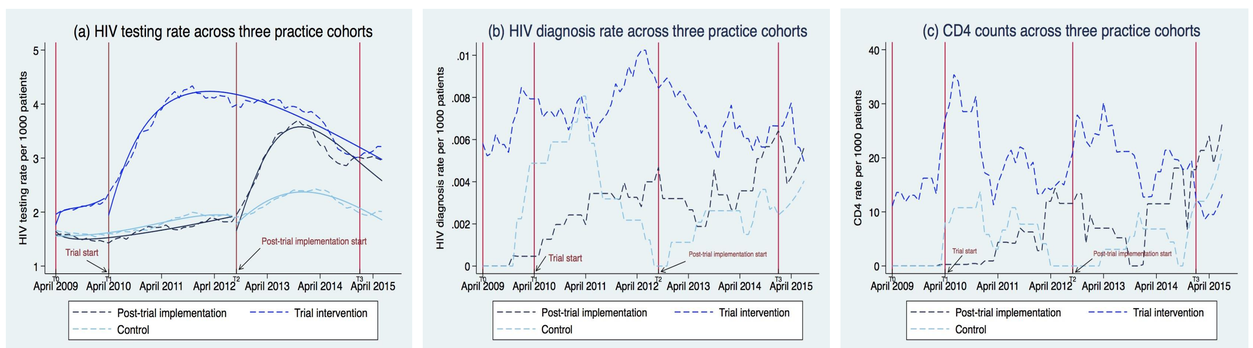

Figure 1(a)-(c). HIV testing rate (a), HIV diagnosis rate (b) and (c) CD4 counts between April 2009 to July 2015 across trial intervention, implementation, and control practices.

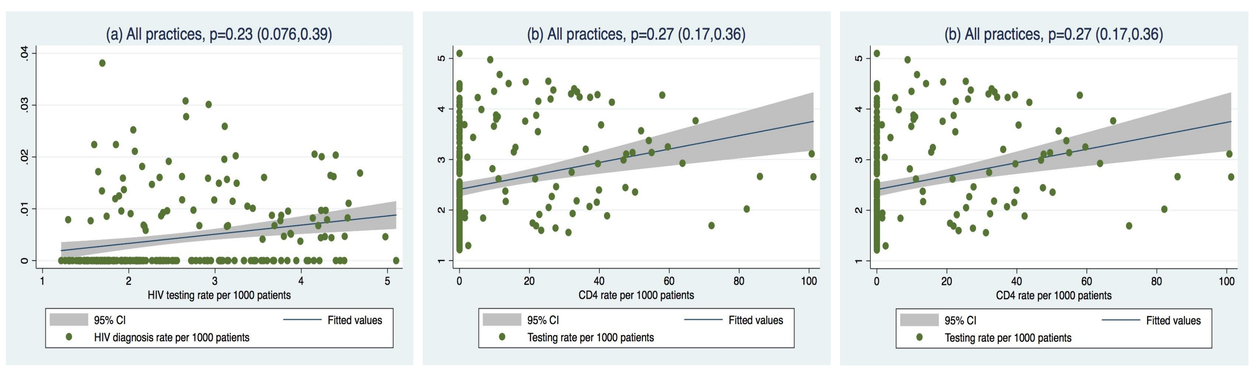

Figure 2(a)-(c). Pearson correlation coefficient showing the correlation between data on (a) testing rate and diagnosis rate, (b) testing rate and CD4 count and (c) diagnosis data and CD4 count over the entire observation period (April 2009 to July 2015) and across all GP cohorts combined.

RHIVA2 Interventions

The RHIVA2 trial intervention (2010-2012) included:

- Practice-based educational training session for the primary care team to promote rapid HIV testing (INSTI™ HIV-1/HIV-2 Rapid Antibody Test, bioLytical Laboratories, Canada) at GP registration
- Follow up meeting with a nominated practice lead nurse
- Incentive payment of £10 per rapid HIV test performed
- External quality assessment including support by the researchers
- Regular data monitoring for safe diagnosis and referral of newly diagnosed patients into secondary care.

The post-trial implementation (2012-2015) differed from the trial intervention as follows:

- Promotion of both rapid and serology HIV testing at all practices in any clinical setting
- External quality assessment by a not-for-profit company (UK-NEQAS).

Data collection

Electronic patient record searches for anonymised HIV test results, and HIV diagnoses data from the local sexual health department.

Study findings

For data analysis, please see Figures 1 & 2.

Implementation uptake:

A total of 12 naïve practices (11 former trial control practices and 1 former non-participating practice) received the implementation, and 6 former trial intervention practices were reinforced.

Trial intervention practices:

During the 28-month intervention period, mean HIV testing rate, mean HIV diagnosis rate and mean CD4 count at diagnosis increased from pre-trial baselines by 79% (95% CI=(60%,97%), 29% (-49%,105%) and 19% (-70%,107%) respectively (Figure 1(a)-(c)).

Implementation practices:

During the 28-month implementation, mean HIV testing rate increased by 80% (59%,100%)) in the implementation practices compared to 21% (13%,30 %) in control practices. Mean HIV diagnosis rate and mean CD4 counts at diagnosis increased by 66% (-193%,324%) and 40% (-134%,215%) respectively among implementation practices, but decreased in control practices by -67% (-109%,-25%) and -54% (-126%,18%)) (Figure 1(a)-(c)).

Across the whole borough and during the entire 63-month observation period, HIV testing rates were positively correlated with both HIV diagnosis (p=0.23 (95% CI=[0.076,0.39])) and CD4 count at diagnosis (p=0.27 (95% CI=[0.17,0.36])) (Figure 2(a)-(c).

Conclusions

Post-trial implementation implementation of nurse-led HIV screening into routine general practice was associated with increased HIV testing, and increased and earlier HIV diagnosis. HIV testing in high prevalence general practices is key in enabling access to treatment and care.

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