

Employer attitudes towards general health checks and HIV testing in the workplace

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Abstract

Objective: There is a need to increase HIV testing rates in the UK. One approach is to increase access to testing through general health checks (GHCs) in the workplace. However, it is unclear whether GHCs are routinely offered by organisations, and employer perceptions of HIV testing are largely unknown.

Study Design: Online survey to assess attitudes towards and provision of general health checks and HIV testing in the workplace.

Methods: 98 employers from 25 job sectors completed an online survey. Employers were 61 SME, 37 large organisations; 86% employing mobile workers, 77.6% employing migrant workers and 51.7% of employees were male workers. Items included employer attitudes around workplace health, GHC provision, content and delivery, and attitudes towards workplace HIV testing including perceived benefits and barriers to HIV testing.

Results: Only 1 company offered opt-in workplace HIV testing. 78 companies (80%) did not provide any form of workplace GHC for employees. Decisions about health check provisions were not commonly informed by staff consultation (n=6) or national guidelines (n=4). 100% of companies (n=98) reported at least one benefit of HIV testing and 68 (69%) believed that HIV testing *should* be offered in the workplace. Perceived barriers to HIV testing in the workplace were: [a] not having enough knowledge about HIV and testing; [b] not having trained staff to undertake HIV testing; and, [c] not knowing how to access HIV testing kits. 56 companies (57.14%) would consider HIV testing as a future provision at their organisation. 67 companies (68.37%) would like further guidance on workplace HIV testing.

Conclusions: Few employers offer general health testing for employees, and opt-in workplace HIV testing is exceptionally rare, despite positive attitudes towards it. There is a need to provide evidence-based guidance and support for employers around HIV testing in the workplace.

Keywords:

HIV, health screening, workplace, health promotion, health check, employers.

Highlights

- Opt-in HIV testing is rarely offered in the workplace setting
- Employers are positive towards workplace general health testing with opt-in HIV tests
- Barriers include lack of HIV-related knowledge and access to testing resources
- Employer guidance and support is required around workplace HIV testing
- Normalising HIV testing at work may increase access to testing in at-risk groups

Introduction

Key groups affected by HIV/AIDS in the UK are migrant populations (especially from sub-Saharan Africa) and men who have sex with men (MSM).¹ Late diagnosis of HIV is found particularly amongst migrants from Africa, and is associated with increased risk of mortality and morbidity, onward HIV transmission, and high healthcare costs.¹⁻⁶ There is an urgent need to expand HIV testing beyond specialised services in order to increase uptake and reach.⁷⁻¹⁰

The workplace is advocated as an ideal setting for promoting health.¹¹⁻¹³ Workplace health programmes are aimed at improving the mental and physical health and wellbeing of people at work, although they are strategically important for businesses and the economy.^{14, 15} These initiatives may involve health education and awareness raising, preventative lifestyle interventions (e.g. physical activity, weight management, smoking cessation) and health screening. Some organisations offer general health checks (GHCs) to their employees, either in isolation, or as part of a more coordinated workplace health programme. GHCs generally target common risk factors for chronic disease, including weight, body mass index (BMI), fitness testing or blood pressure. These health checks differ to occupational health surveillance where test results have health and safety connotations and may be required by law for employees exposed or potentially exposed to occupational hazards. By contrast, GHCs are promoted to employees as optional check-ups of their overall health, in order that employees can determine their risk of developing certain health problems.

Workplace GHCs may be as a useful mechanism for assessing individual health risks, increasing health awareness, and advocating healthier lifestyle behaviours among employees. Although the evidence for longer-term behavioural changes resulting from GHCs is limited¹⁶, employees value the investment of the organisation in their health and wellbeing and they are accessed by individuals with diverse socio-demographic characteristics and occupational roles.¹⁷ Indeed, the workplace may be a useful platform for reaching individuals reporting risk factors for disease,¹⁷ and other 'high-risk' or vulnerable groups including those with limited access to primary health care or subcultural inertia with respect to anticipatory healthcare.¹⁸

Workplace HIV testing has been utilised in regions of the world where HIV prevalence is particularly high (especially sub-Saharan Africa) and within key sectors (such as mining, military, police, transport and healthcare organisations) that employ population groups that may be particularly vulnerable to HIV.¹⁹⁻²¹ Most programmes provide HIV testing as a distinct service that needs to be specifically sought out, rather than integrating it with other

health tests.²²⁻²⁶ Evidence on the effectiveness of such programmes is extremely limited, but there is ongoing concern over lower than expected uptake of testing.²⁷⁻²⁹ Workplace HIV testing programmes have uncovered a number of challenges from the perspective of workers (primarily fear of stigma and discrimination) and employers (primarily limited recognition of their potential role in HIV prevention and reluctance to bear the costs).^{28, 30}

In the UK, workplace HIV testing (with a particular focus on migrant workers) has recently been found to be feasible, and acceptability among employees for 'normalising' testing within a wider GHC is overwhelmingly high (92%).³¹ Embedding HIV testing within workplace GHCs may therefore serve as a useful approach for increasing access to HIV testing and ultimately increase testing rates in the UK. However, little is known about the current provision of GHCs and whether this differs by job sector or organisational size. There is limited evidence around the nature of health checks being offered in UK workplaces; whether and how they are offered, what they include and whether HIV testing is already part of this provision. Finally, a better understanding of employer's views towards workplace HIV testing including perceived benefits and caveats will inform future delivery strategies.

The overall aim of this study was to determine whether GHCs are routinely offered by organisations, and to ascertain employer perceptions of workplace HIV testing. The main objectives were to ascertain: [1] the proportion of organisations offering opt-in workplace HIV testing; [2] current provision of GHCs; [3] perceived benefits and caveats of workplace HIV testing; [4] interest in future delivery of workplace HIV testing; [5] organisational support needs for testing.

Methods

Ethical approval for the study was received from the University of [insert after blind peer review] Faculty of Medicine and Health Sciences Ethics Committee on 20th March 2017 [Ref: LT12042016]. An online survey was created using Bristol Online Survey (BOS; <https://www.onlinesurveys.ac.uk>), a platform selected due to compliance with all UK data protection laws and the potential for access control, encryption and account security. The survey included nine items on organisation profiles, seven items on employer attitudes around workplace health, and 16 items on company provision of GHCs, their content and the nature of their delivery. There were 13 items on employer attitudes towards workplace HIV testing (including benefits and barriers to HIV testing, and requirements for future guidance for employers around HIV testing). No pre-existing survey was available and so the survey content was developed by the research team and reviewed by an panel of 10 individuals with specific expertise in workplace health, and/or HIV testing. Expert review was undertaken to ensure the relevance of items to the study aims, and since it is recommended for identifying question problems that result in lower survey data quality.³²

An invitation message containing a link to the survey was circulated by email (or twitter) to employers through a list of top 200 regional organisations (East Midlands), and three UK-online professional networks (1 East Midlands; 2 UK-wide) in May-June 2017. Since the

intention was to scope provision and attitudes across sectors and types of organisation, no organisations were deemed ineligible for the study. We requested responses from individuals on behalf of their organisations (including company directors or senior management, human resource managers, or occupational health specialists). Study information was provided online, and anonymous completion of the survey was taken to be informed consent. The invitation was re-circulated to the same networks as a reminder after a period of four weeks. Data were analysed using IBM SPSS Statistics Version 24. Analysis included descriptive statistics, Pearson's chi-square or Fisher Exact Test. The Fisher Exact test results were reported if the 20% or more cells had expected cell count less than 5.

Results

Representatives of 98 organisations from 25 job sectors completed the online survey (see Figure 1). Company and employee profiles are described in Table 1. Seventy-six representatives (77.6%) reported that their organisations employed migrant workers. Of these, 39 reported the proportion of migrant workers in their organisations, which ranged from 1-76% (mean = 19.27%; SD =20.88%).

[insert Figure 1 in colour, and Table 1 about here]

In the 76 organisations who reported employing migrant workers, these workers reportedly came from Sub-Saharan Africa (n=10 organisations, 13.2%); Eastern Europe (n=8 organisations, 10.5%); other parts of Europe (n=7 organisations, 9.2%); Asia and Pacific (n=5 organisations, 6.6%); North Africa and Middle East (n=1 organisation, 1.3%); North America, South America and the Caribbean (n=1 organisation, 1.3%); and other regions of the world (n=2 organisations, 2.6%). However, half of the representatives from organisations employing migrants indicated that one region did not predominate, and that migrant workers came from very diverse regions (n=42 organisations, 55.3%). Eight-six representatives (87%) reported that their organisations employed mobile workers, and 82 (79.6%) of these specified the *proportion* of migrant workers in their organisations.

Details of representative's attitudes around workplace health and company provision of workplace GHCs are summarised in Table 2.

[insert Table 2 about here]

Almost all of the 98 company representatives believed that promoting employee health and wellbeing is important, irrespective of the size or type of organisation (n=95; 96.9%). Over one-third of the company representatives felt that their organisation was not well-equipped to support an employee disclosing a long-term condition (n=35; 35.7%). There was a significant difference between organisations, with micro and small organisations being significantly less well equipped to provide support for employees disclosing long-term conditions than medium or large organisations (Pearson Chi-square 34.85, df 3, $p < 0.001$, Cramer's V 0.60). Less than half of responding organisations had employee health and wellbeing as part of their organisational strategy (n=41; 41.8%), and those that did were significantly more likely to be larger organisations (n=28; 75.7%). Less than one quarter of

the organisations had offered GHCs for their employees within the last year (n=22; 22.4%) (and these were significantly more likely to be larger organisations: n=18; 48.6%), although almost half (n=45; 45.9%) indicated that they would or might consider providing them in the future. Only one third of the companies invited charities into their organisation to raise employee awareness about health and wellbeing (n=33; 33.7%), and these were more likely to be larger organisations (n=24; 64.6%).

Seventy-six companies (77.5%) did not offer any form of GHC (56 SMEs, 20 Large). Companies that did not offer GHCs reported employing migrant workers (n=56, 73.7%; 57.1% of workforce) and mobile workers (n=62, 81.5%; 62.3% of workforce). There were no significant differences in whether organisations offered GHCs or not, between job sectors.

Around one-fifth of responding company representatives (n=20/98) offered some form of GHC during the employment at the workplace (excluding job-related occupational health surveillance, n=2). These were relatively brief, and most commonly lasted between 15-30 minutes (n=10, 50%) or less than 15 minutes (n=8, 40%). At all the companies offering GHCs, these were available to all permanent employees. The majority of the companies offering health checks included employees on temporary contracts (n=18, 90%), and two-thirds of the companies made tests accessible to external contractors or agency workers (n=13, 65%). Testing location varied, with companies offering the GHCs at their occupational health department (n=9, 45%), in another private room (n=13, 65%), or in open areas such as restaurants or common rooms (n=8, 40%).

General Health Checks (GHCs)

Amongst the 20 companies that offered some form of GHC, the checks predominantly included measures of weight (85%), body mass index (80%), resting heart rate (45%), blood glucose level (55%), blood cholesterol level (55%) and stress (25%). A small number of organisations offered additional testing such as blood pressure, body/ visceral fat, hearing, eye, skinfold thickness, waist-to-hip ratio, lung function or spirometry if offered by voluntary or third sector organisations. The GHCs very rarely included other forms of health testing such as strength and aerobic fitness tests, bone density, or tests for Tuberculosis (TB), HIV and Hepatitis C. Testing for Tuberculosis (TB), HIV and Hepatitis C was provided only by one respondent, a single large organisation from within the health sector, and this was offered as part of a GHC. All organisations offering GHC provided test results and some form of tailored advice for attendees (n=20, 100%), which may be verbal (n=17, 85%), written (n=14, 70%) or both. Most of the organisations provided information for employees to take away in the form of written feedback or other resources (n=17, 85%). None of the companies offered results in braille and only two companies (10%) offered written results in a language other than English.

In this sample of 20 organisations offering GHCs, these were most commonly offered 1-2 times per year (n=13, 65%), with a small number of organisations offering them more frequently, or on demand from employees (n=7, 35%). Decisions about the content of workplace GHCs were predominantly based on direct approach from external organisations with offers of particular testing provision (n=5), or alternatively, decisions were made

through discussion about the content within internal team meetings (n=3) or both of these approaches (n=8). Only six organisations consulted with their employees about which tests to include in the health checks, and only four organisations reported that national initiatives or public health guidance had informed their decisions regarding which health tests to include.

GHCs were mostly conducted by occupational health advisors or on-site nurses (n=10, 50%), or by health and wellbeing coordinators from external organisations (n=10, 50%). The majority of the companies offering health checks provided signposting where appropriate to the employee's general practitioner (GP), with some offering signposting to on-site occupational health staff, counselling services, or third sector organisations. Two-thirds of the companies reported signposting their employees to online health resources. Test results were stored by eight of the 20 companies providing health checks (40%, 1 medium, 7 large). Details of the GHCs are presented in Table 3.

[insert Table 3 about here]

Of the 98 responding organisations, 68 believed that HIV testing *should* be available within workplace GHCs. However, most of the organisations (n=83, 85%) offered neither HIV testing or HIV education. Ten organisations offered only HIV education, two offered only HIV testing and three offered both HIV testing and HIV education. Of the five organisations providing HIV testing, only one offered HIV testing within a general health check, and the remaining four offered HIV testing as part of job-related occupational health surveillance. Employer opinions relating to HIV testing in the workplace are summarised in Table 4.

[insert Table 4 about here]

All 98 organisation representatives reported at least one perceived benefit of HIV testing in the workplace. The most commonly reported benefits of workplace HIV testing were increasing employees' access to health testing (n=74, 75.5%) and knowledge about health (n=72, 73.4%), and supporting the promotion of employee health and wellbeing (n=69, 74.4%). Representatives reported several specific benefits of workplace HIV testing. These included the potential for workplace HIV testing to: [a] serve as a mechanism for increased employee engagement; [b] demonstrate that the organisation values its employees; [c] provide support for corporate social responsibility programmes, and [d] reduce stigma around HIV. The most commonly reported barriers to HIV testing in the workplace were: [a] not having enough knowledge about HIV and testing (n=65; 66.3%); [b] not having trained staff to undertake HIV testing (n=61; 62.2%); and, [c] not knowing how to access HIV testing kits (n=62; 63.3%). A minority of company representatives reported that their employees would not be interested in GHCs (n=5, 5.1%) or HIV testing (n=10, 10.2%). One quarter of company representatives reported that their employees may have privacy concerns related to HIV testing at work and a small number of representatives believed there would not be enough support from company management for HIV testing at work. However, no reasons for these views were provided, and none of these organisational representatives reported having consulted with either employees, or other company managers on the provision of workplace GHCs, and/or HIV testing.

Over two-thirds of the company representatives (n=67, 68.4%) were keen to receive further guidance on workplace HIV testing and more than half of the participants (n=56, 57.1%) would consider HIV testing as a future provision at their organisation. The majority of participants would prefer to receive guidance in PDF format (n=65, 97%), with informatics and picture support (n=60; 89.6%), and half of them would value case studies of best practice (n=33; 49.3%). It was reported that guidance on workplace HIV testing should be provided to human resource departments (n=43; 64%), occupational health departments (n=18; 26.9%), line managers (n=15; 22.4%), health and wellbeing coordinators (n=10; 14.9%) or company owners/directors (n=17; 25.4%). All of the organisational representatives indicated that guidance should be available in the English language. Only a very small number of organisations expressed a desire for guidance in other languages, including French, Spanish, Polish and Arabic.

Discussion

This study is the first to scope the provision of HIV testing in organisations across diverse job sectors in the UK. Opt-in HIV testing is currently not provided by almost all employers in this study and HIV education and awareness is generally not included in workplace health promotion campaigns, although employer views towards HIV testing at work were largely positive.

Despite the strategic importance of employee wellbeing to public health and the economy¹¹⁻¹³, it was notable that less than half of the participating organisations had employee wellbeing as part of their organisational strategy, even though all organisational representatives (irrespective of the size and type of the organisation) believed that promoting health and wellbeing among employees is important. Although workplace health initiatives take many forms, most employers did not provide any form of general health check for their employees even though GHCs have been shown to be feasible and well-accepted.^{17, 33} Those that do provide health tests are more likely to be large organisations (rather than SMEs), offering brief tests of usually 15-30 minutes incorporated within a wider health and wellbeing programme. Where GHCs are offered, they generally focus on assessing risk factors for chronic disease, most commonly including weight, BMI, and blood pressure. While these are important checks of lifestyle health behaviours, this finding does indicate that there may be a need to support employers to offer check-ups for other conditions, including communicable diseases such as HIV or TB. The fact that HIV is not currently included may reflect the dominant 'exceptionalist' discourse that has surrounded the disease where diagnosis has been seen to require specialist skills and support³⁴. As treatment has become widely available and as life expectancies (on treatment) have reached near normal levels, there has been a shift to 'normalise' HIV by offering testing in a range of settings, by a range of people (including lay persons) and within different services.^{35, 36} Our study suggests that the shift towards normalising HIV testing is yet to occur within the workplace environment. One method of normalising HIV testing might be to offer optional testing within a wider workplace GHC³¹, and this is consistent with the

previously established notion that multi- component health interventions are the most effective in inducing long term change in worker's lifestyles.³⁷

This study identified 3 main barriers for companies in offering workplace HIV testing, which are amenable to intervention and support: [a] not having enough knowledge about HIV and testing; [b] not having trained staff to undertake HIV testing; and, [c] not knowing how to access HIV testing kits. There is a need for guidance to be developed to support employers with understanding more about HIV and testing, where to access support for delivery of testing, and how to manage employee disclosure of HIV. However, in spite of the perceived barriers to workplace HIV testing, there were positive attitudes towards it, since two-thirds of respondents wanted more information on workplace HIV testing and more than half would consider HIV testing as a future provision.

Companies offering general health checks made their decisions about the types of tests to include based on discussion among management, or through direct approach from external organisations. It was notable that the decisions were not generally informed by national public health guidance, or by consultation with employees. However, participatory approaches to workplace health intervention are known to be beneficial,³⁷ and workplace health programmes need to be responsive to public health recommendations, and the changing nature of the UK workforce and their needs.

Migrant workers, for example, present unique challenges for employers. The share of foreign-born persons in total employment was estimated to be 16.7% in 2015.³⁸ Economic migrants, although often highly skilled, more commonly work in low skilled occupations such as process operative work in manufacturing, domestic services, hospitality, elementary construction and labouring roles.³⁸ Although often healthy on arrival³⁹ they are affected by a combination of social and economic disadvantage, including employment type.⁴⁰ For a variety of reasons, they may be less likely to access NHS services than non-migrants.⁴¹

Workplace health programmes therefore offer a unique opportunity to promote uptake of HIV testing, particularly among migrant workers (as a 'high-risk' group). There is a clear need for further guidance on both HIV testing and workplace health testing more generally, particularly for SMEs with fewer resources and/or less well established workplace wellbeing programmes, from whom there were more reports of feeling ill-equipped to deliver workplace health programmes or support employees disclosing long-term conditions. For all organisations considering workplace HIV testing, attention would need to be paid to cultural differences in health literacy, and communication about workplace health testing that is sensitive to the influence of language, culture, faith and religion on health beliefs and practices.

Limitations

Due to the nature of data collection through professional online networks, it was not possible to determine the number of organisations that received and/or opened the invitation message without accessing the survey, or whether the survey was forwarded to other organisations. It is therefore not possible to calculate an accurate response rate. Further, employers in this study self-selected to complete the online survey and so results

may not represent the views of companies that did not respond. However, the sample was broadly representative of employers more generally as it included micro, small, medium (SMEs) and large organisations from the public, private and third sector across 25 job sectors. Responding organisations employed groups at highest risk for HIV and reported over 50% male employees, and they employed both mobile and migrant workers from diverse regions including those from countries with higher prevalence rates for HIV.

Conclusions

Few employers offer general health testing for employees, and workplace HIV testing is exceptionally rare, despite broadly positive attitudes towards it. The most common barriers to HIV testing are mostly around lack of knowledge about HIV and how to access resources for testing, which are amenable to intervention. There is a need to provide evidence-based guidance and support for employers around HIV testing in the workplace to increase access to HIV testing through the workplace.

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Author contributions: HB and AB collected, analysed and interpreted the data. All authors contributed to the conception and design of the study, drafting the article and revising it critically for important intellectual content, final approval of the version to be submitted.

References

1. Public Health England. HIV in the UK: 2016 report. London 2016 [23 August 2017]; Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/602942/HIV_in_the_UK_report.pdf.
2. Nakagawa F, Miners A, Smith CJ, Simmons R, Lodwick RK, Cambiano V, et al. Projected Lifetime Healthcare Costs Associated with HIV Infection. PLoS One. 2015; 10:e0125018.
3. Public Health England. Addressing late HIV diagnosis through screening and testing: An evidence summary. London 2014 [22 August 2017]; Available from:

http://webarchive.nationalarchives.gov.uk/20140722054022/http://www.hpa.org.uk/webc/HPAwebbFile/HPAweb_C/1317141126407

4. Antinori A, Coenen T, Costagiola D, Dedes N, Ellefson M, Gatell J, et al. Late presentation of HIV infection: a consensus definition. *HIV Med.* 2011; 12:61-4.
5. Alvarez-del Arco D, Monge S, Azcoaga A, Rio I, Hernando V, Gonzalez C, et al. HIV testing and counselling for migrant populations living in high-income countries: a systematic review. *Eur J Public Health.* 2013; 23:1039-45.
6. Public Health England. HIV testing in England: 2016 report. London 2016 [23 August 2017]; Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/610237/HIV_testing_in_England_2016_Report.pdf
7. Thornton A, Delpech V, Kall M, Nardone A. HIV testing in community settings in resource rich countries: a systematic review. *HIV Med.* 2012; 13:416-26.
8. WHO. Consolidated Guidelines on HIV Testing Services, 5Cs: Consent, Confidentiality, Counselling, Correct Results and Connection. Geneva: World Health Organisation 2015.
9. Health Protection Agency. Time to test for HIV: Expanding HIV testing in healthcare and community services in England, Final Report. London: Health Protection Agency 2011.
10. Amo J, Broring G, Fenton K. HIV Health Experiences among Migrant Africans in Europe: How are we Doing? *AIDS.* 2003; 17:2261-3.
11. Black C. Working for a Healthier Tomorrow: A Review of the Health of Britain's Working Age Population. London: TSO. 2008.
12. Department of Health. Choosing Health: Making healthy choices easier 2004; 16 November 2004.
13. National Institute for Health and Care Excellence. Workplace health: policy and management practices overview 2017: Available from: <https://pathways.nice.org.uk/pathways/workplace-health-policy-and-management-practices>.
14. ERS Research and Consultancy. Health at Work: Economic Evidence Report 2016.
15. Lee S, Blake H, Lloyd S. The price is right: making workplace wellness financially sustainable. *Int J Workplace Health Manag.* 2010; 3:58-69.
16. Krogsbøll LT, Jørgensen KJ, Grønhøj Larsen C, Gøtzsche PC. General health checks in adults for reducing morbidity and mortality from disease. *Cochrane Database Syst Rev.* 2012.
17. Blake H, Bennett E, Batt M. Evaluation of occupational health checks for hospital employees. *Int J Workplace Health Manag.* 2014; 7:247-66.
18. Wynn P. Periodic health checks in the workplace—is it time to change the prescription? *Occup Med.* 2013; 63:248-50.
19. International Labor Office. An ILO code of practice on HIV/AIDS and the world of work. Geneva 2001 [22 August 2017]; Available from: http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---ilo_aids/documents/normativeinstrument/kd00015.pdf
20. UNAIDS. AIDS is everybody's business: UNAIDS & business working together. Geneva, http://www.unaids.org/sites/default/files/media_asset/jc1369_priv_sector_business_en_0.pdf 2007.
21. International Organization of Employers, UNAIDS. Employer's handbook on HIV/AIDS: A guide for action. Geneva 2002 [22 August 2017]; Available from: http://data.unaids.org/publications/irc-pub02/jc767-employershandbook_en.pdf
22. Mahajan AP, Colvin M, Rudatsikira JB, Ettl D. An overview of HIV/AIDS workplace policies and programmes in southern Africa. *AIDS.* 2007; 21 Suppl 3:S31-9.
23. Corbett EL, Dauya E, Matambo R, Cheung YB, Makamure B, Bassett MT, et al. Uptake of workplace HIV counselling and testing: a cluster-randomised trial in Zimbabwe. *PLoS Med.* 2006; 3:e238.

24. Khan R, Yassi A, Engelbrecht MC, Nophale L, van Rensburg AJ, Spiegel J. Barriers to HIV counseling and testing uptake by health workers in three public hospitals in Free State Province, South Africa. *AIDS Care*. 2015; 27:198-205.
25. Sasaki Y, Arifin A, Ali M, Kakimoto K. Willingness to undergo HIV testing among factory workers in Surabaya, Indonesia. *AIDS Care*. 2011; 23:1305-13.
26. Van der Borgh SF, Schim van der Loeff MF, Clevenbergh P, Kabarega JP, Kamo E, van Cranenburgh K, et al. Long-term voluntary counseling and testing (VCT) uptake dynamics in a multicountry HIV workplace program in sub-Saharan Africa. *AIDS Care*. 2010; 22:195-205.
27. Ojo O, Verbeek JH, Rasanen K, Heikkinen J, Isotalo LK, Mngoma N, et al. Interventions to reduce risky sexual behaviour for preventing HIV infection in workers in occupational settings. *Cochrane Database Syst Rev*. 2011:CD005274.
28. Ramachandran V, Shah MK, Turner GL. Does the private sector care about AIDS? Evidence from firm surveys in East Africa. *AIDS*. 2007; 21 Suppl 3:S61-72.
29. George G. Workplace ART programmes: Why do companies invest in them and are they working? *Afr J AIDS Res*. 2006; 5:179-88.
30. Weihs M, Meyer-Weitz A. Barriers to workplace HIV testing in South Africa: a systematic review of the literature. *AIDS Care*. 2016; 28:495-9.
31. Hand J. HIV Innovation Fund Projects Showcase: Innovative HIV testing in the workplace. National HIV Prevention England Conference; 18 May 2017; London 2017.
32. Olson K. An examination of questionnaire evaluation by expert reviewers. *Field Methods*. 2010; 22:295-318.
33. Lloyd B, Khanal S, Macoun E, Rissel C. Development of a multiple risk factor Brief Health Check for workplaces. *Public Health Res Pract*. 2016; 26:e2641649.
34. Bayer R, Edington C. HIV Testing, Human Rights and the Global AIDS Policy: Exceptionalism and its Discontents. *J Health Polit Policy Law*. 2009; 34:301-23.
35. Bayer R, Fairchild A. Changing the Paradigm for HIV Testing: The End of Exceptionalism. *N Engl J Med*. 2006; 355:647-9.
36. Wynia M. Routine Screening: Informed Consent, Stigma and the Waning of HIV Exceptionalism. *Am J Bioeth*. 2006; 6:5-8.
37. Goetzel RZ, Pronk NP. Worksite Health Promotion. How Much Do We Really Know About What Works? *Am J Prev Med*. 2009; 38:S223-S5.
38. Rienzo C, Vargas-Silva C. Migrants in the UK: An Overview. *Migration Observatory Briefing* 2016.
39. Rechel B, Mladovsky P, Ingleby D, Mackenbach JP, McKee M. Migration and health in an increasingly diverse Europe. *The Lancet*. 2013; 381:1235-45.
40. Robinson D, Reeve K. The Experiences and Consequences of New Immigration at the Neighbourhood Level: Reflections from the evidence base. *Neighbourhood Experiences of New Immigration*. York: : Joseph Rowntree Foundation; 2006. p. 25-36.
41. Verdict: What do we know about the impact of immigration on the NHS? 2015 [22 August 2017]; Available from: <https://www.kingsfund.org.uk/projects/verdict/what-do-we-know-about-impact-immigration-nhs>.

Figure 1: Number of responding companies per job sector (n=98)

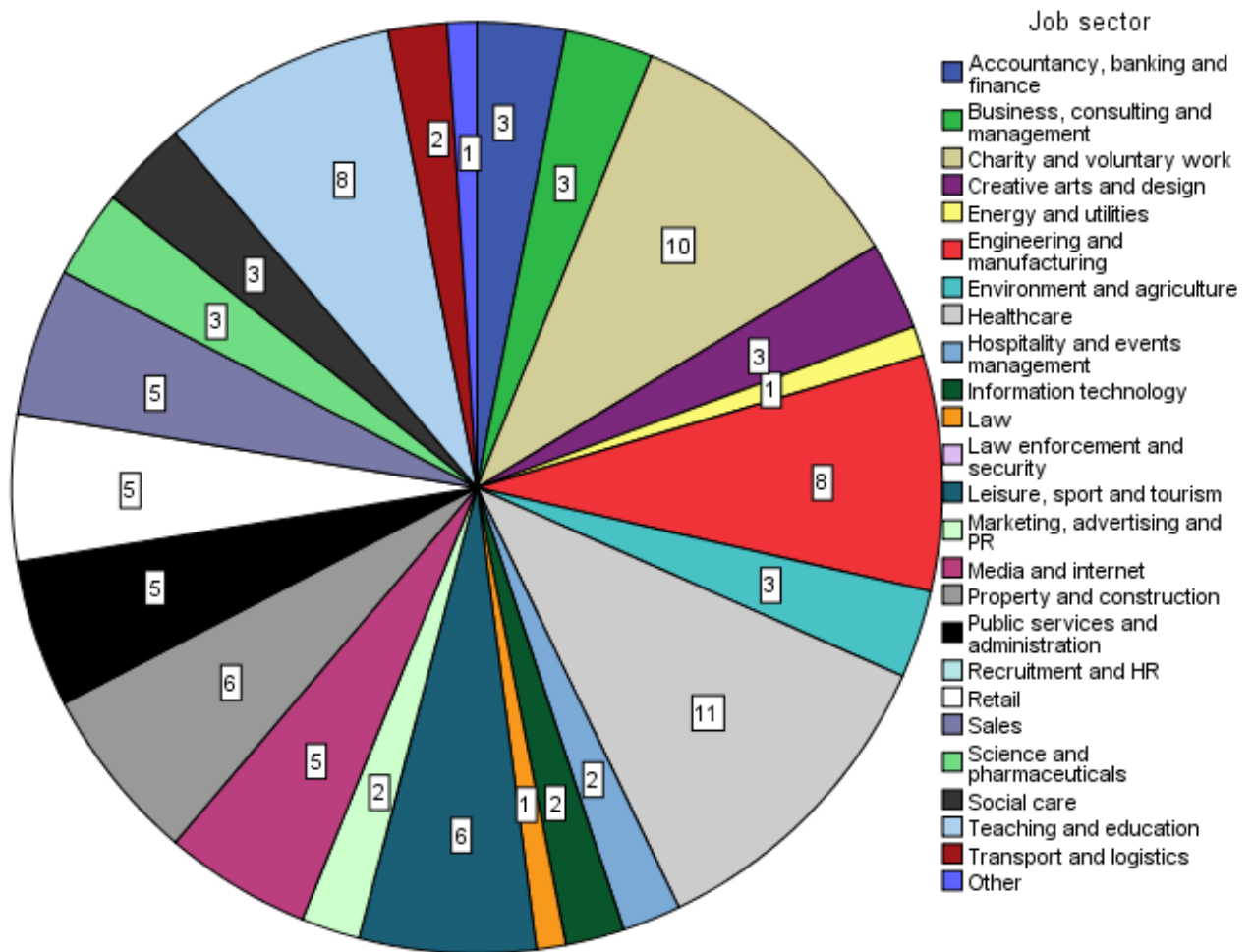


Table 1: Characteristics of companies and employees

Items	COMPANY SIZE	ALL N=98		MICRO N=14		SMALL N=20		MEDIUM N=27		LARGE N=37	
		n	%	n	%	n	%	n	%	n	%
Average age of employees† Fisher Exact Test 22.14, df 9, $p=0.003$, Carmer's V 0.28	18-30 years	21	21.4	7	50	7	35.0	4	14.8	3	8.1
	31-50 years	32	32.7	2	14.3	9	45.0	6	22.2	15	40.5
	>50 years	2	2.0	1	7.1	0	0.0	0	0.0	1	2.7
	Diverse age range	43	43.9	4	28.6	4	20.0	17	63.0	18	48.6
Mobile workers	0-10%	49	50	6	42.8	12	60	16	59.2	15	40.5
	11-50%	31	31.7	3	21.3	4	20	7	25.9	17	45.9
	51-90%	11	11.2	2	14.2	3	15	2	7.4	4	10.8
	91-100%	7	7.1	3	21.4	1	5	2	7.4	1	2.7
		mean	SD	mean	SD	mean	SD	mean	SD	mean	SD
Gender breakdown (%) (n=95)	Female	47.8	25.5	51.4	39.0	48.9	24.3	43.5	21.1	49.2	23.0
	Male	51.7	25.2	48.6	39.0	50.0	24.0	56.1	21.2	50.4	22.5
	Transgender	0.3	1.1	0.0	0.0	0.2	0.4	0.1	0.4	0.8	1.8
Staffing breakdown (%) (n=95)	Full-time	52.0	29.9	62.7	46.6	52.6	35.4	44.9	21.5	53.1	23.5
	Part-time	23.6	21.2	13.6	29.8	24.1	27.2	30.1	18.1	22.2	12.8
	Others	24.8	28.2	20.5	37.7	22.9	29.8	27.1	27.6	26	23.7

† p-value < 0.01, SD standard deviation

Table 2: Workplace Health Checks: company attitudes and provision

Items		COMPANY SIZE		ALL N=98		MICRO N=14		SMALL N=20		MEDIUM N=27		LARGE N=37	
		n	%	n	%	n	%	n	%	n	%		
Promoting employee health and wellbeing is important Fisher Exact Test 2.46, df 3, $p=0.49$, Carmer's V 0.14	Yes	95	96.9	13	92.9	19	95.0	27	100	36	97.3		
	No	3	3.1	1	7.1	1	5.0	0	0.0	1	2.7		
Well-equipped to support employee with long term condition† Pearson Chi-square 34.85, df 3, $p=0.000$, Carmer's V 0.60	Yes	63	64.3	3	21.4	6	30.0	20	74.1	34	91.9		
	No	35	35.7	11	78.6	14	70.0	7	25.9	3	8.1		
Employee health and wellbeing within organisational policy† Pearson Chi-square 29.35, df 3, $p=0.000$, Carmer's V 0.55	Yes	41	41.8	2	14.3	3	15.0	8	29.6	28	75.7		
	No	57	58.2	12	85.7	17	85.0	19	70.4	9	24.3		
Invite charities in for health and wellbeing awareness-raising† Fisher Exact Test 25.36, df 3, $p=0.000$, Carmer's V 0.52	Yes	33	33.7	2	14.3	4	20.0	3	11.1	24	64.6		
	No	65	66.3	12	85.7	16	80.0	24	88.9	13	35.1		
Currently offering health check to employees† Fisher Exact Test 17.26, df 3, $p=0.000$, Carmer's V 0.44	Yes	22	22.4	1	7.1	1	5.0	3	11.1	17	45.9		
	No	76	77.6	13	92.9	19	95.0	24	88.9	20	54.1		
Types of health check offered (n=22) Fisher Exact Test 6.51, df 6, $p=0.48$, Carmer's V 0.30	Occupational screening only	2	9.1	0	0.0	0	0.0	1	33.3	1	5.9		
	General health check only	4	18.2	0	0.0	0	0.0	1	33.3	3	17.6		
	Both the above	16	72.7	1	100	1	100	1	33.3	13	76.5		
Offered general health checks in the past year† Fisher Exact Test 24.38, df 6, $p=0.000$, Carmer's V 0.36	Yes	22	22.4	1	7.1	1	5.0	2	7.4	18	48.6		
	Maybe	1	1.0	0	0.0	0	0.0	0	0.0	1	2.7		
	No	75	76.5	13	92.9	19	95.0	25	92.6	18	48.6		

Plan to develop general health checks in the future† Fisher Exact Test 24.60, df 6, $p=0.000$, Carmer's V 0.36	Yes	12	12.2	1	7.1	0	0.0	2	7.4	9	24.3
	Maybe	33	33.7	1	7.1	6	30.0	7	25.9	19	51.4
	No	53	54.1	12	85.7	14	70.0	18	66.7	9	24.3

† p-value < 0.01

Table 3: Workplace health checks and HIV testing (n=98)

Items	COMPANY SIZE		ALL N=20		MICRO N=1		SMALL N=1		MEDIUM N=2		LARGE N=16	
	n	%	n	%	n	%	n	%	n	%	n	%
General health checks provision												
In the last 6 months	2	10.0	0	0.0	0	0.0	0	0.0	0	0.0	2	12.5
In the last year	5	25.0	0	0.0	0	0.0	0	0.0	0	0.0	5	31.3
In the last 2 years	3	15.0	0	0.0	1	100.0	0	0.0	0	0.0	2	12.5
In the last 5 years	3	15.0	0	0.0	0	0.0	1	50.0	1	50.0	2	12.5
In the last 5-10 years	3	15.0	1	100.0	0	0.0	1	50.0	1	50.0	1	6.3
More than 10 years ago	4	20.0	0	0.0	0	0.0	0	0.0	0	0.0	4	25.0
Components of general health checks												
Weight	17	85.0	1	100.0	1	100.0	2	100.0	14	87.5	14	87.5
Body mass index	16	80.0	0	0.0	0	0.0	2	100.0	14	87.5	14	87.5
Resting heart rate	9	45.0	1	100.0	0	0.0	2	100.0	6	37.5	6	37.5
Blood glucose (diabetes)	11	55.0	1	100.0	1	100.0	1	50.0	8	50.0	8	50.0
Cholesterol	11	55.0	1	100.0	1	100.0	1	50.0	8	50.0	8	50.0
Strength test	3	15.0	1	100.0	0	0.0	0	0.0	2	12.5	2	12.5
Aerobic fitness test	2	10.0	0	0.0	0	0.0	0	0.0	2	12.5	2	12.5
Bone density	1	5.0	0	0.0	0	0.0	0	0.0	1	6.3	1	6.3

HIV testing	1	5.0	0	0.0	0	0.0	0	0.0	1	6.3
Hepatitis C	1	5.0	0	0.0	0	0.0	0	0.0	1	6.3
Tuberculosis	1	5.0	0	0.0	0	0.0	0	0.0	1	6.3
Stress	5	25.0	0	0.0	1	100.0	0	0.0	4	25.0
Other tests (blood pressure, body/ visceral fat, hearing, eye, skin thickness, waist hip ratio, lung function or spirometry)	9	45.0	1	100.0	1	100.0	2	100.0	7	43.8
Frequency of health checks										
1-2 occasions per year	13	65.0	0	0.0	0	0.0	2	100.0	11	68.8
3-4 occasions per year	2	10.0	1	100.0	0	0.0	0	0.0	1	6.3
5-10 occasions per year	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
More than 10 occasions per year	1	5.0	0	0.0	0	0.0	0	0.0	1	6.3
On demand	4	20.0	0	0.0	1	100.0	0	0.0	3	18.8
Decision-making about health checks										
Consultation with employees	6	30.0	1	100.0	0	0.0	2	100.0	3	18.8
Discussion within team meetings and agenda	11	55.0	1	100.0	0	0.0	1	50.0	9	56.3
Availability of tests or training in-house	6	30.0	0	0.0	0	0.0	1	50.0	5	31.3
Approached by external organisation	13	65.0	1	100.0	1	100.0	1	50.0	10	62.5
Follow national initiatives or guidance	4	20.0	0	0.0	0	0.0	0	0.0	4	25.0
Health check delivery										
Internal occupational health advisors / doctor / site nurse	10	50.0	0	0.0	0	0.0	1	50.0	9	56.3

Internal health and wellbeing coordinators	3	15.0	0	0.0	0	0.0	0	0.0	3	18.8
Workplace Health Champion (Employees) - Peer to peer	1	5.0	0	0.0	0	0.0	0	0.0	1	6.3
External occupational health advisors / doctor / nurse	5	25.0	1	100.0	0	0.0	1	50.0	3	18.8
External health and wellbeing coordinators / organisation	10	50.0	1	100.0	1	100.0	1	50.0	7	43.8
Follow up options										
No further support or signposting	2	10.0	0	0.0	0	0.0	0	0.0	2	12.5
Occupational health or on-site nurse	9	45.0	0	0.0	0	0.0	1	50.0	8	50.0
Health and wellbeing coordinator	2	10.0	0	0.0	0	0.0	1	50.0	1	6.3
Signposted to GP	19	95.0	1	100.0	1	100.0	2	100.0	15	93.8
Signposted to hospital services	6	30.0	0	0.0	1	100.0	1	50.0	4	25.0
Signposted to counselling services	11	55.0	0	0.0	1	100.0	1	50.0	9	56.3
Signposted to third sector organisations	10	50.0	1	100.0	1	100.0	1	50.0	7	43.8
Other (HIV consultant, condition specific)	2	10.0	0	0.0	1	100.0	0	10.0	1	6.3
Signposted to online resources	13	65.0	1	100.0	1	100.0	1	50.0	10	62.5

Table 4: Perceptions of the benefits and caveats of offering workplace HIV testing (n=98)

Items	COMPANY SIZE		ALL N=98		MICRO N=14		SMALL N=20		MEDIUM N=27		LARGE N=37	
	n	%	n	%	n	%	n	%	n	%	n	%
Perceived benefits of workplace HIV testing												
Increases access to personal health testing	74	75.5	13	92.9	16	80.0	20	74.1	25	67.6		
Increases knowledge about health	72	73.5	12	85.7	17	85.0	19	70.4	24	64.9		
Promotes employee health and wellbeing	69	70.4	12	85.7	17	85.0	19	70.4	21	56.8		
Helps to keep employees engaged	60	61.2	13	92.9	13	65.0	16	59.3	18	48.6		
Demonstrates that the organisation values its employees	59	60.2	9	64.3	14	70.0	16	59.3	20	45.9		
Supports corporate social responsibility	55	56.1	9	64.3	11	55.0	15	55.6	20	54.1		
Reduces stigma around HIV	55	56.1	6	42.9	14	70.0	14	51.9	21	56.8		
Other benefits	13	13.3	1	7.1	3	15.0	4	14.8	5	13.5		
Perceived caveats to workplace HIV testing												
Don't know enough about HIV and testing	65	66.3	10	71.4	18	90.0	20	74.1	17	45.9		
Don't know how to access HIV test kits	62	63.3	9	64.3	15	75.0	20	74.1	18	48.6		
No trained staff to undertake testing	61	62.2	9	64.3	14	70.0	19	70.4	19	51.4		
Not enough time to do this	45	45.9	9	64.3	10	50.0	12	44.4	14	37.8		
Would not be enough support from management	27	27.6	0	0.0	4	20.0	10	37.0	13	35.1		
Employees have privacy concerns	26	26.5	0	0.0	3	15.0	8	29.6	15	40.5		

HIV screening not appropriate in the workplace	21	21.4	1	7.1	1	5.0	6	22.2	13	35.1
No space to host this	16	16.3	4	28.6	6	30.0	3	11.1	3	8.1
Other (e.g. company too small, HIV stigma)	13	13.3	2	14.3	4	20.0	2	7.4	5	13.5
Employees not interested in HIV testing	10	10.2	2	14.3	3	15.0	1	3.7	4	10.8
No barriers to HIV testing	6	6.1	0	0.0	2	10.0	2	7.4	2	5.4
Employees not interested in health checks	5	5.1	1	7.1	3	15.0	1	3.7	0	0.0