Migrant screening for viral hepatitis: two feasible strategies in universities and workplaces in Grampian, Scotland

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Overall HEP Screen project

- EU sponsored project (20101105) – DG SANCO
- October 2011 – 2014
- University of Rotterdam, lead agency
  (Irene Veldhuijzen, Abby Falla, Jan Hendrick Richardus)
- 11 partner organisations, 7 countries
  academic, public health, patient association organisations
- total budget ~ Euros 1.300.000
- general objective:
  to assess, describe and communicate to public health professionals the tools and conditions necessary for implementing successful screening programmes for hepatitis B and C among migrants in the European Union
WP1
Coordination of the project

WP4
Screening, treatment, health care and patient management

WP5
Communication to target population and health professionals

WP6
Pilot investigations using different approaches to screening in England, Scotland, Hungary and Spain

WP7
Integration of results and development of a toolkit

WP2
Dissemination

WP3
Evaluation (internal and external)
aims and objectives – Grampian project

- to test feasibility of models aimed at increasing access to HBV, HCV (and HIV) screening for migrants in universities & workplaces
- to offer BBV screening to at least 500 individuals
- to provide results to screenees and their GP
- to increase access to specialist services
Grampian in Scotland
Grampian background

- area of relative affluence in Scotland (recently...)
- population ~570,000; area 9,000 sq km

- urban & semi-rural geography supports
  - vibrant agricultural industry
  - food processing industry
  - tourism/hospitality industry
  - oil capital of Europe
  - strong University tradition of international standing: oil, business management, healthcare
migrant context - Grampian

- majority Scottish ethnicity ~10% non-UK born

- long-standing migration
  - Indian sub-continent, continental Europe, China

- recent migration in past decade - late 2000s
  - healthcare, oil industry, higher education, manual
  - migration from Africa/E Europe, related to:
    - higher education (India, Middle East, Nigeria)
    - food processing, agricultural (Poland, Lithuania, Latvia)

- length of sojourn for migrants is variable
rationale for pilot - Grampian

• migrant groups with relatively high BBV prevalence
  – different risk factor profile

• increasingly effective prevention and treatments
  – linked to strong Government Hepatitis C Action Plan

• BBV/healthcare barriers for legal migrants included
  – language, time pressure
  – unfamiliarity with healthcare system (e.g. universal access, free)
  – stigma (self and of professionals)
  – lack of perception of own risk status, fear of diagnosis itself

• some permanency of migration (with families)
PREVENTION OF FUTURE PROBLEMS OF PUBLIC HEALTH PROPORTIONS........

phase 1: universities
## university screening process – 6 steps

1. **MEET COLLABORATORS, UNIVERSITY MANAGEMENT AGREEMENT**

2. **PLAN THE MODEL, TARGET GROUP, TIMING, PLACE:** piggy-back, on-site, opt-in

3. **AWARENESS RAISING:** at induction; TB screening now includes BBV offer

4. **ATTENDANCE AT TB SCREENING:** Mantoux test, return appointment

5. **MANTOUX READING, 2 DAYS LATER, BBV SCREENING OFFERED AT SAME SESSION:**
   - drop-in, between classes, no interpreters
   - brief questionnaire, discussion, consent for BBV screen, serology sample

6. **POSITIVE RESULT**
   - communicate to patient
   - communicate to GP
   - generate specialist referral
   - implement contact tracing

6. **NEGATIVE RESULT**
   - communicate to patient
   - communicate to GP
   - consider window period
   - advise repeat screen, if/when indicated
screening results - university

• piggy-back on to bi-annual new entrant TB screening
  – over 7 days across 2 terms
  – on 2 sites: University of Aberdeen, Robert Gordon University
  – TB Mantoux skin test negative cases offered BBV screen on reading day (immediately after)
  – Mantoux pos students already offered BBV screen normally.

• 455 students attended for TB screening (target group)
demographics of 156 screened

- 156 students screened - 34% uptake
  - all except 4 consented to screening for all 3 viruses
  - no requests from non-TB screenees

- 65% male; average age 28y

- 76% African, majority Nigerian (80%), also Ghanaian, Ugandan, remainder from 22 other countries....

- all English-speaking

- 97% had arrived in UK within past 2 years
  - mostly 1 year post-graduate courses
  - nearly all registered with a GP
clinical results – university setting

- 26% hepB/C tested previously
- 58% HIV tested previously
- 16% HBV vaccinated; 53% unsure
- 22 (14%) HBV exposure
- 4 HBV chronic infection (of which 2 new diagnoses)
- no HCV/HIV cases
reflections - hepatitis B pilot prevalence

• 2.6% of 156 migrants screened
• 3.4% of African migrants screened

• 3.2% of Nigerians screened
  – published prevalence 12-15%
• 8.3% of Ghanaians screened
  – published prevalence 11-16%

• caution with small numbers
• known positives may not have come forward
HEP Screen pilot projects - Grampian

onto phase 2: workplaces
workplace screening process – 5 steps

1 - FIND COLLABORATORS, WORKPLACE MANAGEMENT AGREEMENT:
letter of invitation, introductory visit, agreement

2 - PLAN THE MODEL, TARGET GROUP, TIMING, PLACE: workplace benefit, on-site, opt-in

3 - AWARENESS-RAISING OF BBV SCREENING OFFER TO WORKERS
middle management brief, posters, staff session, information sheet

4 - ON-SITE SCREENING:
appointment model, mostly during work hours, translations/interpreters
brief questionnaire, discussion, consent for BBV screen, serology sample

5 - POSITIVE RESULT
• communicate to patient
• communicate to GP
• generate specialist referral
• implement contact tracing

5 - NEGATIVE RESULT
• communicate to patient
• communicate to GP
• consider window period
• advise repeat screen, if/when indicated
screening results - workplace

- 6 companies, semi-rural settings
  - of 20 approached by mail and telephone
  - fish processing, meat processing/slaughter, bakery
  - 8 screening sites across 10 days over 6½ week period
- 1,465 employees in total
  - 905 migrants (estimated) = 64% (range 32% - 85%)
- elements of the model
  - awareness-raising posters, staff briefings, both
  - during work-time, on breaks, between shifts
  - appointments, drop-in
  - translation via live, telephone or informal interpreter
  - sufficient consideration of informed consent
  - without disrupting business, preserving confidentiality
demographics - 362 screened

- 305 migrants screened - 33% uptake (range 23-47%)
- all accepted screening for 3 BBVs

- 36% male
- average age 37y
- 97% Eastern European (296)
  - mainly Polish, Lithuanian, Latvian
  - <10 each from Russia, Bulgaria, Ukraine, Estonia, Czech Rep, Portugal, Philippines, Ireland, Brazil, Switzerland

- UK arrival: 29% less than 2 years, 44% more than 5 years
  - 53% used language aid, problematic self-assessment
clinical results – workplace screening

- little recall of testing previously <10%
- little previous vaccination (10% but 36% unsure)

**hepatitis B**
- 32 (10.5%) exposure - HBsAb+
- <5 (1.3%) chronic infection - HBsAg
  - all new cases, 1 previously tested negative

**hepatitis C**
- 7 (2.3%) exposure - HCVAb+
- <5 (1.3%) chronic infection - HCVPCR+
  - all new cases, 2 previously tested negative

- no HIV diagnoses identified

- no positive cases among 57 UK screenees
referral of positive cases, both settings

- all referred, within 3 weeks
- all attended, within 2 months, most within 6 weeks
- all offered full work-up
  - genotype, LFTs, U/S, fibroscan

- no indication for treatment for 8 HBVs
  - one year later, positive student cases had left Grampian
- all 5 HCVs completed treatment
protocol challenges

• common to both
  – logistic needs – rooms, telephone points
  – recruitment needs (local)
  – on-site vaccination

• university model
  – benefit perspective
  – follow-up

• workplace model
  – finding businesses – migrant aspects
  – translation support
  – devising the model takes time
  – stigma?
lessons learned

• workplaces and universities present feasible settings for case-finding viral hepatitis infection among migrants.

• key points for successful models include:
  • understanding international mix of target population
  • facilitatory approach with management in settings
  • logistical preparedness
  • clear information and consent procedures in multiple languages
  • quick turn around of screening results
  • easy referral into specialist services
  • general flexibility with non-health partners

• stigma issues not apparent, however potential for self-selection bias
Further workplace aspects in migrant screening?

- Investigate variation in uptake rates
  - Amongst different migrant groups
  - In different settings
  - In migrants of differing legal status

- Use dry blood spot testing to increase uptake

- Investigate attitudes before/after screening rounds

- Consider return sessions to the workplace

- Consider family screening (focusing on adults?)
references


- [www.hepscreen.eu](http://www.hepscreen.eu)
  - How to... Estimate the Burden in your Area
  - A Repository of Good Practice Screening Projects
  - The HEPSCREEN Pilots
  - Organising Community-based (outreach) Screening for Chronic Viral Hepatitis among People Born in Endemic Countries: A Practical Guide
and more....
Local collaborators:
• Maria K Rossi, Laura Kluzniak, Helen Corrigan: Public Health Directorate, NHS Grampian
• Rachel Thomson, Pauline Dundas, Andrew Fraser: Liver Service, ARI, NHS Grampian
• Admin team, Corporate Services, NHS Grampian
• Virology Services, ARI, NHS Grampian
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HEP Screen Consortium:
thank you – questions…

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