HEPATITIS B CONTACT TRACING: WHAT WORKS?

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BACKGROUND

Chronic Hepatitis B (CHB) affects 350 million globally[2]; >200,000 patients in Australia.[1] Although infant vaccination is effective[4], Australian's CHB prevalence is increasing[1] due to immigration from endemic countries.

Contact tracing identifies those exposed to an infected individual (the *'index case'*) in order to protect those placed at risk ('*contacts*') via vaccination and to treat those who have already been affected. This should be a priority during CHB management but is done very poorly world-wide according to the minimal literature on the topic has been published in Australia abroad.

This study explores the HBV contact tracing in a Melbourne general practice to determine:

What features of a community-based, hepatitis B virus (HBV) contact tracing system contribute to its effectiveness?

METHODS

How does this system function? – FIELD NOTES

In order to define the structure of the contact tracing system, the primary researcher spent 3 days at the practice prior to commencing further research.

How well does this system function? – CLINICAL AUDIT

Completed from 3rd March to 5th May 2016. Sample consisted of all 122 index cases at the practice. Data were collected from patents' case notes, de-identified, input into and analysed using Microsoft® Excel for Mac, Version 15.13.1 ©2015 Microsoft.

What factors contribute to this system's success? – INTERVIEWS

Purposive sample of 7 relevant professionals took part in semi-structured interviews,

4 clinicians: care plan nurse, nurse immunizer, refugee health nurse, GP

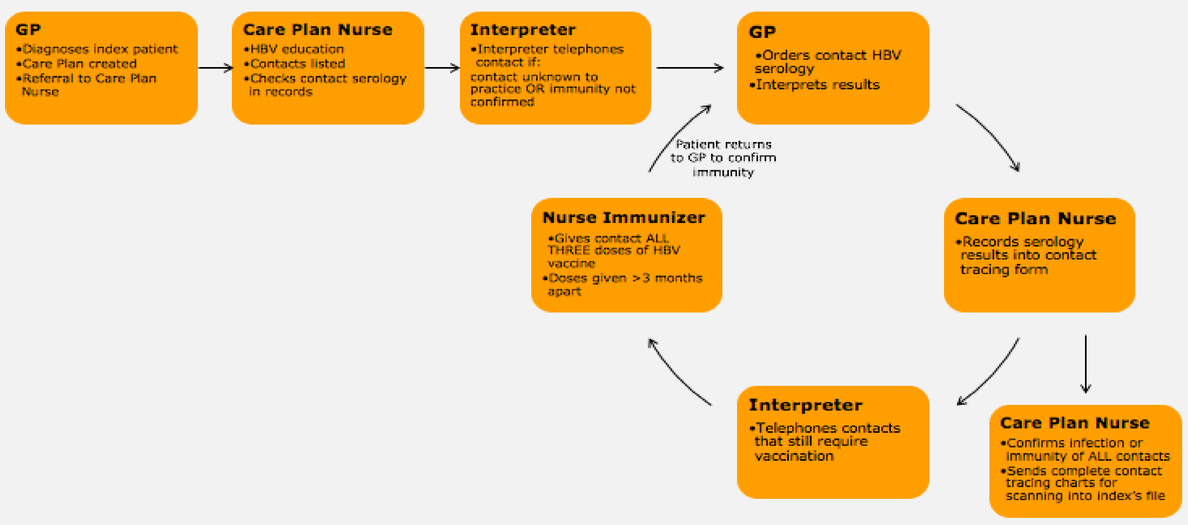
3 non-clinical professionals: interpreter, practice manager, nurse educator

Interviews transcribed and coded using Dedoose software V7.0.23

RESULTS

FIELD NOTES

Figure 1. Visual representation of contact tracing system



CLINICAL AUDIT

122 index patients

•83 index cases were fully contact traced

(all contacts confirmed immune or infected)

•22 index cases had some elements pending

(an average of 70% of contacts traced) (Table 1.)

•14 index cases were incomplete (Table 1.)

See Figure 2.

Table 1: Reasons for contact tracing being incomplete or pending

Reason	No. cases
No attempt yet made	6
Contacts yet to be contacted	7
Serology pending	14
CT chart unavailable	8
Response from GP pending (patient at another practice)	2
Patient refusal	1
Unknown	1

420 contacts

•92% of contacts had their HBV status determined

•80% of all contacts were confirmed immune

See Figure 3.

Figure 2.
Contact Tracing Completeness

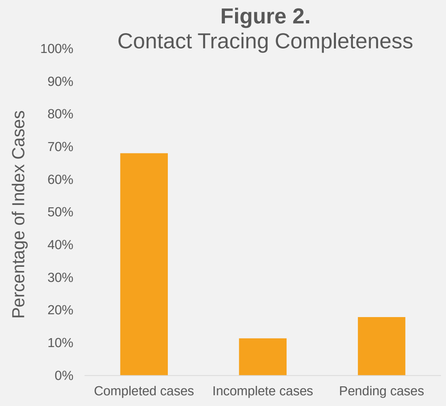
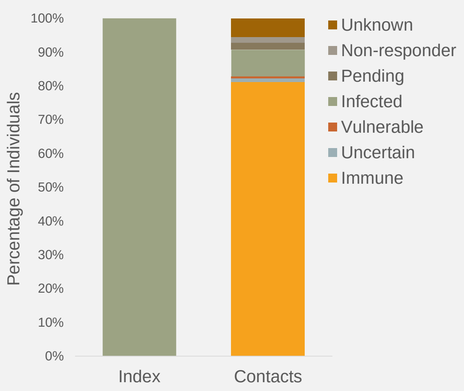


Figure 3.
HBV Status of Index and Contacts



INTERVIEWS

Analysis resulted in 7 themes: Health professional expertise, Patient education, Cultural factors, Use of Nurses as contact tracers, Centralization. The most dominant themes however, Teamwork and Organization, were not previously mentioned in literature.

TEAMWORK

And this is the thing, an effective team… the manager took that on board and said look, we've got [the Chronic Disease Nurse], she can do it […] and it all just transformed into this wonderful, supported system, because the manager listened to people. – Clinician, Interview 7

ORGANIZATION

So the strength I think is that its system-based so it's a very specific process. Its not all over the place, its just step after step after step. – Non-clinical professional, Interview 6

I think the way they manage their system is really organized. – Non-clinical professional, Interview 2

HEALTH PROFESSIONAL EXPERTISE

I think a lot of [other] GPs, [hepatitis B] is not their core business that they do. They do other chronic diseases like heart disease and COPD and all those things that are pretty common and then they [see hepatitis B] and its like 'oh no!'. – Non-clinical professional, Interview 2

PATIENT EDUCATION

I try to put it in very simple language and it depends on the person […] to how much in depth you might go. – Clinician, Interview 1

Repeat, take time, don't get angry. Education is a lifetime goal. – Non-Clinical Professional, Interview 5

CULTURAL FACTORS

Things in our favor is that they come from a very authority-bound culture because of the war they've been fighting, and the doctor is an authority figure, very much so. – Clinician, Interview 4

USE OF NURSES AS CONTACT TRACERS

It's a 'para-clinical' job. […] Its not quite dealing with a disease state, its about safety and epidemiology […] The nurse is particularly appropriate for things where we need a bit of the clinical background… – Clinician, Interview 4

CENTRALIZATION OF THE SYSTEM

So I think that's a huge strength – that its all on site, it's a team approach and you're not dealing with different bureaucratic organizations or anything like that. – Clinician, Interview 7

CONCLUSIONS

Contact tracing completeness compares favorably with international literature[4-7] though lack of standardized protocols and measurement techniques makes comparison difficult.

What works?

- A **team approach** – it seems all contributing roles are well-defined, promoting efficiency.
- A **well-structured process** – paper and computer files are kept organized and are continually updated and cross-checked.
- **Centralizing** the system and **integrating** it into the Chronic Disease Management Care Plan scheme – gives Care Plan Nurse time for **patient education** and administration.

While the unique patient demographic may have influenced it's success, results indicate that similar systems may be implemented effectively in other general practices.

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