

# Towards integrated Hepatitis C care

---

Dr Jack Lambert & Prof Walter Cullen  
UCD School of Medicine



# Acknowledgements

Hepcare Team - Tina McHugh, Suzanne Barror, Des Crowley, Geoff McCombe, Carol Murphy, Gordana Avramovic, Eileen O'Connor, Davina Swan

Colleagues and patients at: Coombe Healthcare Centre and other practices, Domville House, Rialto Drug Treatment Team, St. Patrick's Street Clinic, Community Response, St. Vincent's University Hospital, St. James's Hospital, Mater Misericordiae University Hospital

Consortium members – J Macias (Seville), J Surey (UCL), P Vickerman (Bristol), C Oprea (Bucharest)

EU Third Health Programme, HSE, Gilead, Abbvie, ICGP, IEHG



Anthony (aged 31) has been attending his GP each week for methadone treatment. He was diagnosed with hepatitis C in 1997, and was referred for assessment soon thereafter, but has never had this problem treated...



# Outline

- Hepcare – EU / Dublin
- Rationale
- Links with SVUH and other opportunities



# Hepcare

“To enhance hepatitis C treatment for populations at risk across Europe”

- Heplink: Integrated model of care
- Hepcheck: Enhanced screening and access to treatment





Anthony (aged 31) has been attending his GP each week for methadone treatment. He was diagnosed with hepatitis C in 1997, and was referred for assessment soon thereafter, but has never had this problem treated...



# HCV prevalence among problem drug users attending primary care

| Setting             | Prevalence (%) |
|---------------------|----------------|
| Dublin, Ireland     | 73             |
| Liverpool, UK       | 67             |
| Victoria, Australia | 67             |
| Baltimore, US       | 63             |
| Sydney, Australia   | 59             |



Assess HCV status

Advise on safe drug use, transmission

Assess other bloodborne viruses too



Refer to clinic for evaluation / treatment

Address lifestyle / psychosocial issues

Immunise (HBV, HAV)



Provide ongoing psychosocial support

Review / monitor for liver disease

Provide continuing, holistic care



# **Hepatitis C infection among injecting drug users in general practice:**

a cluster randomised controlled trial  
of clinical guidelines' implementation

*Walter Cullen, June Stanley, Deirdre Langton, Yvonne Kelly, Anthony Staines and Gerard Bury*



*Cullen et al, BJGP, 2006*

# Implementation

Clinical guidelines + education + referral  
resources + nurse support



**Table 3. Comparison of primary outcome measures between intervention and control populations at study completion analysed at patient and cluster level.**

| Evidence of primary outcome in clinical record | Intervention<br><i>n</i> (%) | Control<br><i>n</i> (%) | Odds ratio <sup>a</sup><br>(95% CI) | Adjusted odds ratio <sup>b</sup><br>(95% CI) | <i>P</i> -value | ICC<br>(95% CI)   |
|--|------------------------------|-------------------------|-------------------------------------|--|-----------------|-------------------|
| Screened for hepatitis C by GP                 | 51/104<br>(49)               | 25/92<br>(27)           | 2.58<br>(1.4-4.7)                   | 3.76<br>(1.3-11.3)                           | 0.02            | 0.09<br>(0.0-0.3) |
| Referral initiated if HCV antibody positive    | 44/73<br>(60)                | 13/41<br>(32)           | 3.27<br>(1.5-7.3)                   | 3.15<br>(0.9-10.7)                           | 0.06            | 0.13<br>(0.0-0.5) |

<sup>a</sup>Patient level analysis. <sup>b</sup>Cluster level analysis. ICC = intraclass correlation coefficient.

# Implementation

Clinical guidelines + education + referral  
resources + nurse support



| <b>Outcome<br/>(Among HCV+ patients)</b> | <b>Intervention</b> | <b>Control</b> |
|--|---------------------|----------------|
| Referral initiated                       | 60                  | 32             |
| Attended hepatology                      | 51                  | 22             |
| Liver Bx                                 | 25                  | 7              |
| Antiviral therapy initiated              | 7                   | 3              |

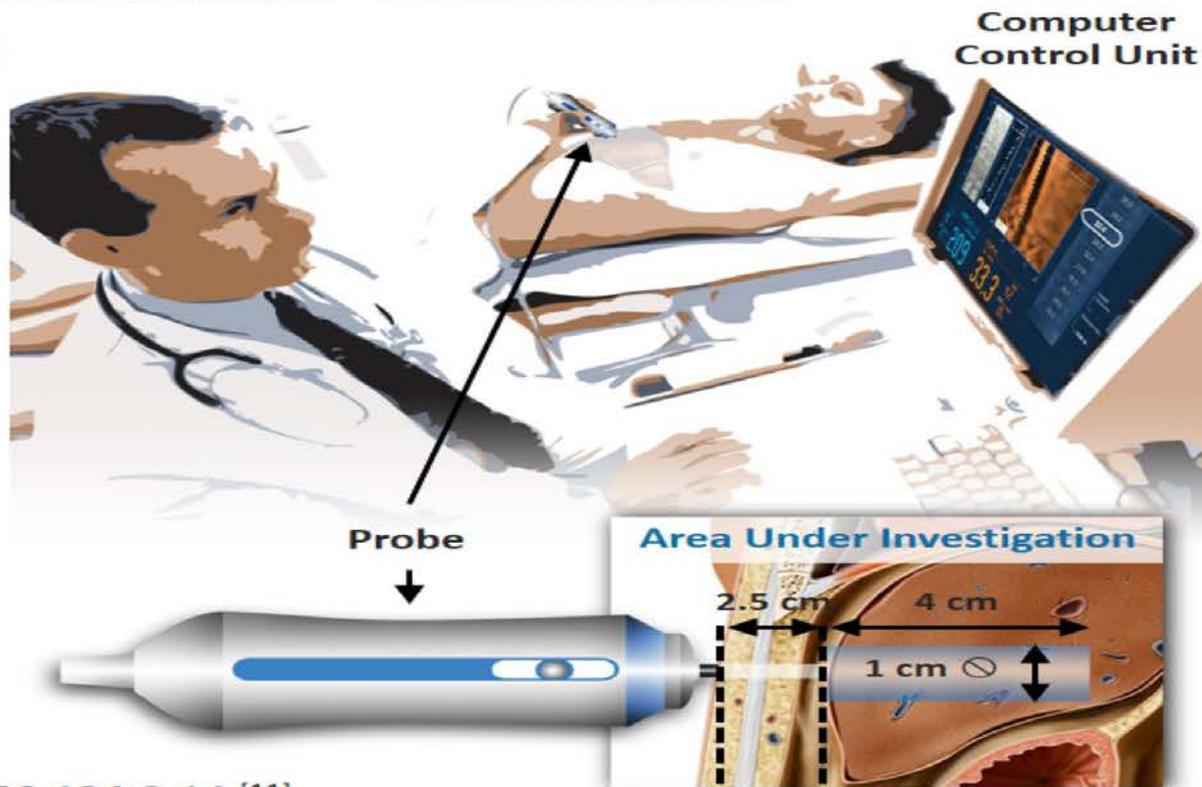


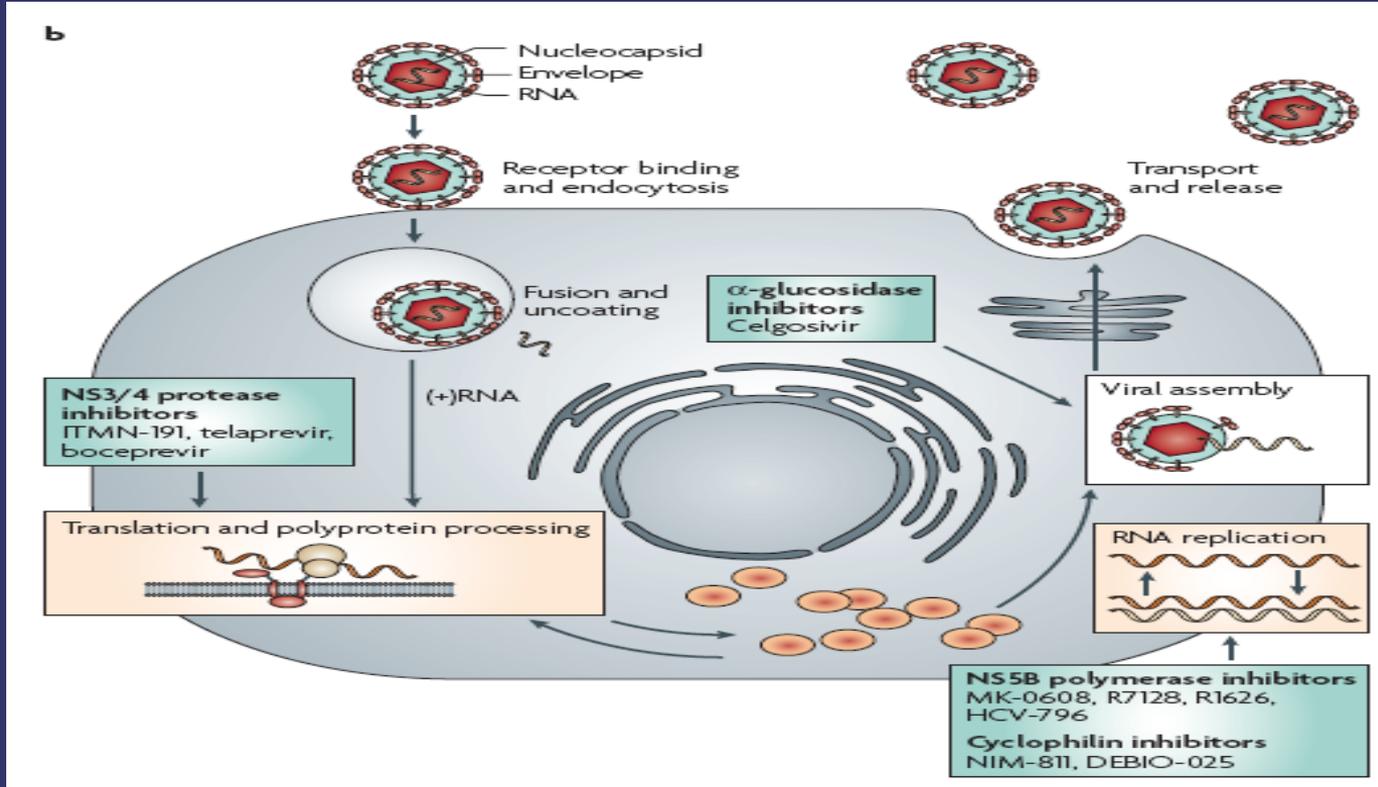
# HCV TEST



# Vibration-Controlled Transient Elastography

Vibrations of mild amplitude and low frequency are transmitted by the transducer, inducing an elastic shear wave that propagates within the liver. Pulse echo ultrasonic acquisitions are performed to follow the shear wave and measure its speed, which is directly related to the tissue stiffness. The harder the tissue, the faster the shear propagates.





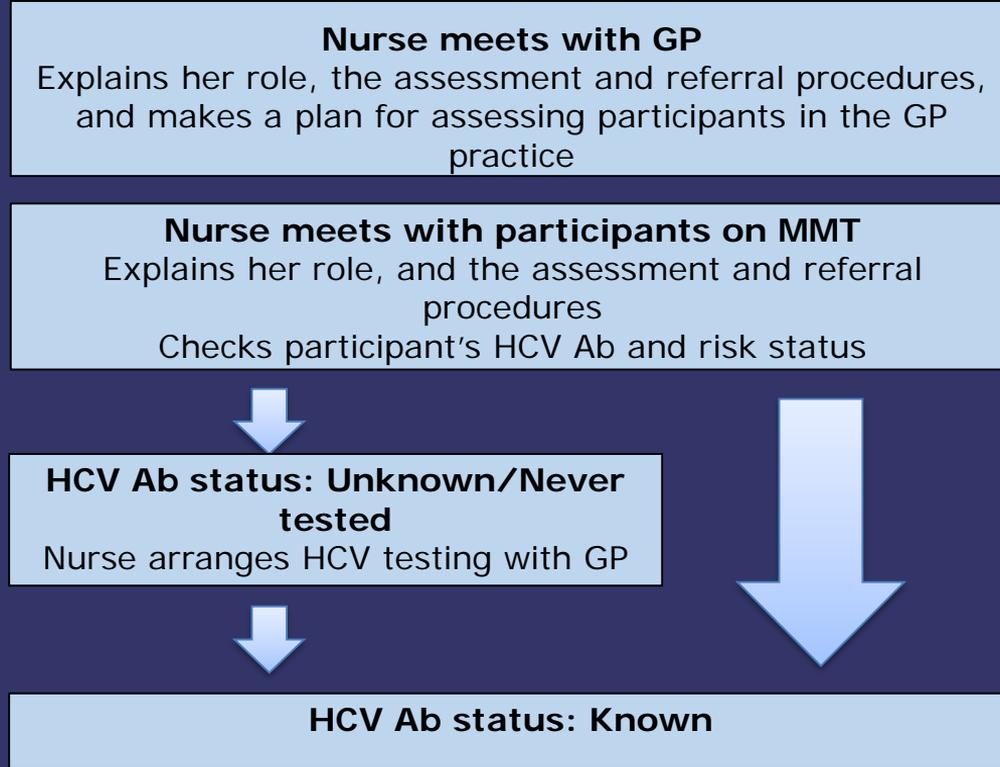
# Hepcare 'model of care'

An '**integrated**' model of HCV care includes:

- Education of community practitioners
- Outreach of a HCV trained nurse into GP practices
- Enhanced access of patients to community-based evaluation of HCV disease (including fibroscan)



# Nurse intervention



# Nurse intervention

HCV Ab negative



**Nurse conducts:**

- Addiction assessment
- Information/Education
- Arranges re-testing with GP if HCV risk since last tested; otherwise, advises GP (during handover) to re-screen in one year
- Handover with GP

HCV Ab positive



**Nurse checks PCR status**



**PCR negative**



**PCR pos/unknown**



**Nurse conducts:**

- Addiction assessment
- Fibroscan
- Information/Education
- Arranges RNA testing with GP if status unknown
- Handover with GP



# Nurse intervention

## REFERRAL CRITERIA:

HCV Ab+ and Ag/RNA positive / unknown



## Referrals submitted to:

Dr Lambert, ID department  
or

Dr Stewart, Liver Centre, MMUH

- Referral to Hepatology/ID
- Liaison between GP/Patient and OPD



# Hepcare Dublin – ‘Link’

- Development/mapping of ‘HepLink’ model of care
- Recruitment of 14 GP practices and 135 patients to study
- Delivery of HCV education to participating practices
- Baseline data collection (N=134) from participating patients
- Delivery of nurse liaison/enhanced specialist assessment to all participating practices



# Heplink progress

|   | DUBLIN | LONDON | BUCHAREST                    | SEVILLE | TOTAL | TARGET |
|---|--------|--------|------------------------------|---------|-------|--------|
| No. of <b>GP practices/clinical sites</b> recruited   | 14     | 1      | 9                            | 3       | 27    | 24     |
| No. of <b>patients</b> recruited  | 135    | 39     | 169                          | 109     | 452   | 240    |
| No. of patients on whom <b>baseline data</b> has been collected                                     | 134    | 39     | 169                          | 96      | 438   | 240    |
| No. of GP practices/clinical sites received <b>HCV education/academic detailing</b>                 | 14     | 1      | 35                           | 3       | 53    | 24     |
| No. of GP practices/clinical sites received <b>nurse specialist liaison</b>                         | 14     | 1      | 0                            | 3       | 18    | 24     |
| No. of GP practices/clinical sites received <b>enhanced specialist assessment</b> (incl. fibroscan) | 14     | 1      | 2<br>(SVB and Rahova prison) | 3       | 20    | 24     |

# Hepcare Dublin – ‘Hepcheck’

- ‘Seek & Treat’ established in Mountjoy prison Dublin
- 712 prisoners offered screening / 569 screened / 137 ab positive
- 20 new chronic cases identified, had fibroscan and referred to prison in-reach hepatology services/community services



# Hepcheck progress

|  | DUBLIN                       | LONDON                         | BUCHAREST                               | SEVILLE   | TOTAL        |
|--|------------------------------|--------------------------------|---|---|--------------|
| <b>1. No. of individuals offered/screened</b>  | <b>712/569</b>               | <b>-/310</b>                   | <b>-/469</b>                            | <b>657/401</b>  | <b>1,749</b> |
| <b>2. Proportion of individuals with positive HCV antibody on screening</b>  | <b>137/569</b><br><b>24%</b> | <b>123/310</b><br><b>41.8%</b> | <b>166/469</b><br><b>35%</b>            | <b>140/401</b><br><b>34%</b>                                  | <b>559</b>   |
| <b>3. No. of individuals screened (Ab only, bloods only, both Ab and bloods)</b>   | <b>Pending</b>               | <b>Pending</b>                 | <b>Ab 365</b><br><b>Ab + bloods 104</b> | <b>Ab: 264</b><br><b>Bloods:116</b><br><b>Ab + bloods: 21</b> | <b>-</b>     |
| <b>4. No. of HCV Ab+ individuals (either new or previously diagnosed) attending specialist appointment for HCV assessment.</b> | <b>Pending</b>               | <b>60</b>                      | <b>65</b>                               | <b>51</b>   | <b>222+</b>  |

# Hepcare – opportunities

- Mapping exercise has identified priorities for future developments in service delivery
- MMUH...SVUH...Ireland East Health Group
- A demonstration 'integrated care' project



Anthony (aged 46) has been attending his GP each week for methadone treatment. He was diagnosed with hepatitis C in 1997, and was referred for assessment soon thereafter, but has never had this problem treated...

He was diagnosed with type 2 diabetes, hypertension in 2014 and was recently found to have abnormal LFTs...



# THANK YOU

---

e: [walter.cullen@ucd.ie](mailto:walter.cullen@ucd.ie)

w: [ucd.ie/medicine/primaryconnections](http://ucd.ie/medicine/primaryconnections)

t: [@walter\\_cullen](#)

