A survey of hepatitis C management by Victorian general practitioners post pharmaceutical benefits listing of direct acting antivirals

Wade AJ[1,2], Draper BL[1], Doyle JS[1,3,5], Allard N[3,4,6] , Grinzi P[7], Thompson AJ[4,5], Hellard ME[1,2,3]

[1]Centre for Population Health, Burnet Institute, [2]School of Population Health and Preventive Medicine, Monash University, [3]Department of Infectious Diseases, The Alfred and Monash University, [4]Department of Medicine, University of Melbourne, [5]Department of Gastroenterology, St Vincent's Hospital, [6]WHO Collaborating Centre for Viral Hepatitis, Doherty Institute, [7]Royal Australian College of General Practitioners

Burnet Institute

Disclosures

- AJ Wade
  - NHMRC PhD funding
  - Research funding from AbbVie for investigator initiated project – The Prime Study

Background

- 230,000 people in Australia are infected with hepatitis C virus (HCV)
- Until 2016 treatment uptake low
- Barriers to HCV treatment
  - Treatment related
  - Service related
- New direct acting antiviral (DAA) therapy is highly efficacious and well tolerated
  - Could be provided by a variety of health care professionals to increase access to care

Dore GJ *J Viral Hep* 2014; Sublette VA *Psychology & Health* 2015; Crespo *J Liver Int* 2015

Burnet Institute

Background

- On the 1 March 2016 DAA therapy for HCV was listed on the Australian Pharmaceutical Benefits Scheme (PBS)
- PBS listing aims to increase access to treatment
  - Specialists are eligible to prescribe DAA treatment
  - All other medical practitioners are eligible to prescribe provided that it is done in consultation with a specialist
- Consultation has been defined broadly
- Implementation
  - Peak bodies developed referral proformas
  - Referral pathways have evolved ad hoc at an institutional level
  - No universal consultation form or pathway

Thompson AJ *MJA* 2016; DOH hepatitis-c-faq 2016

Burnet Institute

Background

- Pegylated interferon (PEG) based treatment in the community has been shown to be as effective as treatment in tertiary services
- Data from the US suggests primary care provider prescription of DAA is highly effective
- In Australia
  - GPs have variable knowledge about HCV diagnostics and level of interest in prescribing PEG based treatment
  - FibroScan is not widely available to GPs in the community

Wade AJ *BMC Infectious Diseases* 2016; Kattakuzhy SG CROI 2016; Guy *R Aust Fam Physician* 2009; Guirgus M *Int Med J* 2012

Burnet Institute

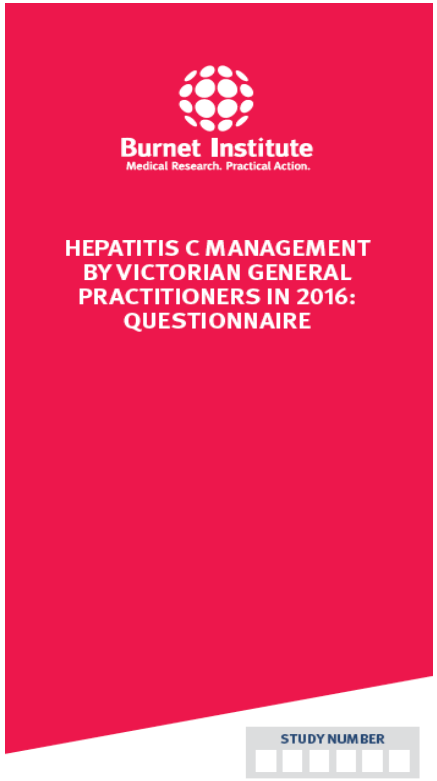
Aim

- A survey of Victorian GPs was undertaken to determine
  - HCV knowledge
  - HCV management
  - Willingness to prescribe DAA treatment for HCV
  - Structural barriers to DAA prescription
- The primary objective was to inform the development of tools to support GP DAA prescribers.

Burnet Institute

Methods

- Survey developed by a steering committee
- 20 questions
  - Demographics
  - HCV knowledge
  - HCV management
  - Interest in prescribing DAA
  - Experience of prescribing DAA



Burnet Institute

Methods

- 1000 Victorian GPs were invited to participate
  - Participation was by mail or online
  - First mail out was 6 weeks after DAA were listed on PBS
- Data entered into REDCap 6.12.0 and analysed with Stata 13.1
- Univariate regression undertaken to investigate factors associated with participants knowledge, interest in prescribing DAA and HCV management
  - Geographic location
  - Opioid substitution therapy (OST) S100 training
  - HCV caseload
- Approval from Alfred Ethics Committee

Wade AJ *Plos One* 2015; Grebely J *Addiction* 2016; Horberg MA *HIV/AIDS* 2012

Burnet Institute

Results – participant characteristics

Completed surveys were returned by 191 of 1000 GPs

Variable (number of available data)	**N (N=191)**	**Proportion (%)**
Age, median (IQR) (n=188)		52 years (42, 61)
Male (n=190)	105	56
Type of general practice (n=187)		
Private	173	93 ←
Community	10	5
Other	4	2
Location (n=191)		
Metropolitan	120	63 ←
Regional	27	14
Rural	44	23

Burnet Institute

Results – participant characteristics

Variable (number of available data)	N (N=191)	Proportion (%)
Co-location with specialized services (n=191)		
NSEP	6	3
OST prescriber	8	4
OST prescriber & community hepatitis nurse	1	0.5
NSEP, OST prescriber & community hepatitis nurse	2	1
NSEP & OST prescriber	2	1
Correctional facility	4	2
None of the above	168	88

NSEP needle and syringe exchange program; OST opioid substitution therapy

Burnet Institute

Results – participant characteristics

Variable (number of available data)	N (N=191)	Proportion (%)
Previous S100 training (n=190)		
Opiate substitution therapy training	30	16
HCV training	9	5
Estimated number of patients with known HCV infection (n=190)		
< 10	148	78
10 - 50	29	15
50 - 100	2	1
> 100	3	2
Unsure	8	4

Burnet Institute

Results – risk factors

Variable (number of available data)	N (N=191)	Proportion (%)
Correct HCV risk factor identification (n=190)		
Unsterile tattooing or body piercing	179	94
Injecting drug use	190	100
History of imprisonment	170	89
Unprotected heterosexual intercourse, not a risk factor for HCV	111	58
Unprotected male-male sexual intercourse without HIV, not a risk factor for HCV	45	24
Unprotected male-male sexual intercourse if HIV infected, is a risk factor for HCV	170	89

Burnet Institute

Results - diagnostics

- What test would you order to screen for hepatitis C infection? (n = 189)
  - Hepatitis C serology 184 (97%)
  - Unsure 5 (3%)

- Which of the following results are diagnostic of hepatitis C infection? (n = 188)
  - HCV antibody positive and HCV RNA positive 139 (74%)
  - HCV antibody positive 26 (14%)
  - Unsure 22 (12%)

Burnet Institute

Results - fibrosis assessment

- 22 (12%) participants were able to directly order a FibroScan through their local liver clinic
- 23 (12%) had ever ordered a FibroScan
- 2 (1%) knew their local radiology service offered acoustic radiation force impulse (ARFI) scanning
- Knowledge about interpretation of FibroScan results

Burnet Institute

Results - HCV management

- 135 (72%) of respondents refer all their patients with HCV to a specialised service for HCV treatment

- 102 (53%) were interested in prescribing DAA therapy
- 113 (59%) were interested in prescribing DAA therapy in consultation with a specialist
- 140 (73%) were interested in reading DAA guidelines from a peak body
- 135 (70%) were interested in attending HCV education sessions
- 98 (51%) were interested in engaging in a training program about DAA

Results - HCV management

- Regarding DAA treatment and people who currently inject drugs:
- DAA treatment decisions for people who currently inject drugs should be managed on individualized evaluation
  - 68 (37%) respondents
- People who currently inject drugs are not eligible for DAA
  - 14 (8%) respondents
- Unsure if people who currently inject drugs are eligible to receive DAA
  - **101 (55%) respondents**

Burnet Institute

Results - HCV management

- 40 (21%) respondents had tried to access specialists to gain approval for DAA prescription
  - 21 (52%) agreed there was a defined local consultation pathway
  - 24 (60%) had found the consultation process satisfactory
  - 22 (55%) found the consultation process to be timely
  - 25 (62%) thought that clinical decision making support was available
  - 22 (55%) thought their patients had found the consultation process satisfactory

Burnet Institute

Results univariate regression

Variable	Metro n (%) N = 120	Rural & regional n (%) N = 71	OR (95% CI)	P value
Correctly identified all risk factors that should prompt HCV screening	13 (11)	11 (15)	1.5 (0.6-3.5)	0.36
Correctly identified results diagnostic of HCV infection	87 (73)	52 (73)	1.1 (0.6-2.2)	0.74
Expressed interest in prescribing DAA	65 (54)	48 (68)	1.7 (0.9-3.3)	0.07
Have tried to access specialists to gain approval to prescribe DAA	24 (20)	16 (23)	1.2 (0.6-2.4)	0.67
Aware that PWID are eligible for DAA	42 (35)	26 (37)	1.0 (0.6-1.9)	0.88

Burnet Institute

Results univariate regression

Variable	Non OST n (%) N=160	OST n (%) N=30	OR (95% CI)	P value
Correctly identified all risk factors that should prompt HCV screening	19 (12)	5 (17)	2.61 (8.8-7.9)	0.09
Correctly identified results diagnostic of HCV infection	112 (70)	26 (87)	2.61 (0.8-7.9)	0.09
Expressed interest in prescribing DAA	90 (56)	22 (73)	2.05 (0.9-4.9)	0.10
Have tried to access specialists to gain approval to prescribe DAA	**24 (15)**	**15 (50)**	**5.6 (2.4-12.9)**	**<0.001**
Aware that PWID are eligible for DAA	52 (33)	16 (53)	2.24 (1.01-4.9)	0.05

Burnet Institute

Results univariate regression

Variable	Low case n (%) N=156	High case n (%) N=34	OR (95% CI)	P value
Correctly identified all risk factors that should prompt HCV screening	18 (12)	6 (18)	1.6 (0.6-4.5)	0.32
Correctly identified results diagnostic of HCV infection	**108 (69)**	**30 (88)**	**4.3 (1.2-14.8)**	**0.02**
Expressed interest in prescribing DAA	**83 (53)**	**30 (88)**	**6.3 (2.1-18.8)**	**0.001**
Have tried to access specialists to gain approval to prescribe DAA	**23 (15)**	**17 (50)**	**5.7 (2.6-12.8)**	**<0.001**
Aware that PWID are eligible for DAA	**46 (29)**	**22 (65)**	**4.1 (1.9-9.1)**	**<0.001**

Burnet Institute

Discussion

- HCV knowledge
  - Excellent knowledge that injecting drug use, imprisonment or unsterile tattooing should prompt HCV screening
  - Confusion regarding which sexual risk factors should prompt screening
  - Excellent knowledge of which test to use to screen for HCV
  - 74% of respondents correctly identified pathology results diagnostic of HCV infection
- Fibrosis assessment
  - Inadequate access to FibroScan
- HCV management
  - 72% continue to refer patients to specialist services for treatment
  - 53% interested in prescribing DAA
  - 21% have used the 'in consultation' process to prescribe DAA
- GPs with high case loads appeared to have the most knowledge of HCV and were more likely to prescribe DAA

Discussion

- In Australia the building blocks are in place for elimination.
- Adequate support for community prescribers is still a barrier to overcome.
- Our findings suggest that tertiary institutions and specialists need to:
  - engage with key community HCV care providers
  - develop user friendly, locally relevant, 'in consultation' pathways
  - provide clinical support

Burnet Institute

Discussion - limitations

- The response rate of 19.1% is low, but not dissimilar to the response rates of other GP surveys regarding HCV
- Participant bias may tend to overestimate the degree of interest in DAA prescribing and knowledge
- This study was conducted shortly after the PBS listing of DAA, and further service development may have occurred

Lambert SM *Aust Journal Primary Health* 2011

Burnet Institute

Conclusion

- Most GP are interested in prescribing DAA, but education, access to FibroScan and clear "in consultation" pathways will be required to translate this interest into increased HCV treatment accessibility.
- PBS eligibility of people who currently inject drugs needs to be promoted, as treatment of this priority population has the duel benefit of curing their infection and reducing ongoing transmission.

Burnet Institute

Thank you

- Fellow authors
  - Bridget Draper
  - Nicole Allard
  - Joseph Doyle
  - Paul Grinzi
  - Alex Thompson
  - Margaret Hellard
- Participants
- Burnet Institute
  - Long Nguyen
  - Liz Nicol