

**Report of the Director of Public Health :
Blood-borne Viruses in NHS Greater Glasgow and Clyde**

1. Recommendations:

The NHS Board is asked to receive and note the content of the report and in particular:

- Note the burden of blood-borne virus infections and the approaches adopted by the Board within the national policy context.
- Note the prevention interventions to limit the transmissions of these viruses and the evidence supporting these interventions.
- Note the treatment and care services currently available within the Board.

2. HIV

HIV remains a significant challenge and the Scottish Government has provided leadership and commitment in the form of the Bloodborne Virus and Sexual Health Strategy. NHS GGC is committed to delivering the Framework's ambitions and will continually review its preventive interventions, to ensure that each component of the programme is clearly defined and re-evaluated, against both changing research evidence and the local epidemiology. NHS Board members should note the key points/actions identified by the HIV Prevention and Care Group as follows:

- People living with HIV in NHS GGC have access to excellent treatment and care services including ARV medication, and the proportions that have an undetectable viral load means that these individuals are very unlikely to transmit the virus.
- Challenges remain around diagnosing the undiagnosed fraction and improving the proportion diagnosed late. Therefore the plans to normalise and increase HIV testing in a wider range of clinical settings is a priority
- That progress has been made with community development initiatives among black African subgroups, which have substantially improved access to HIV prevention for this subpopulation at high risk of HIV infection
- Significant progress has been made in relation to testing rates amongst MSM and the new evidence from the Needs Assessment will enable us to enhance our prevention efforts, targeting interventions to those MSM at highest risk of acquiring HIV.
- The success of the antenatal HIV screening programme is proof that prevention programmes can work

3. Hepatitis C

- Hepatitis C is primarily associated with a history of injecting drug use. **Primary prevention** aims are met through the provision of sterile injecting equipment to those at risk and interventions designed to prevent initiation into, and cessation of, injecting drug use. Drug users across NHSGGC have access to information, support and sterile injecting equipment through a range of providers. The MCN and Addiction services are working closely to increase reach into affected communities.
- Recent years have seen a significant reduction in the number of undiagnosed infections. **Diagnostic testing** in addiction services accounts for much of this activity. There are opportunities to increase testing activity in Primary Care settings and prisons. The MCN is developing case-finding initiatives to support this work.
- The majority of people who complete a course of **antiviral treatment** can be cured of their infection. Treatment services across GGC have been developed in line with the number of diagnosed cases. Outpatient and outreach models of care have been established to increase uptake at a range of settings. Local treatment outcomes compare favourably with those across Scotland.
- The **Hepatitis C Managed Care Network**, accredited by NHSGGC in 2012, has driven forward these developments in partnership with a range of organisations involved in the care pathway.

4. Hepatitis B

- Compared to HIV and hepatitis C, there is a relatively low prevalence of hepatitis B in NHSGGC. However, diagnoses continue to increase, primarily among people from countries of high prevalence.
- Arrangements are in place to support the diagnostic testing and vaccination of those most at risk, and the management of close family / sexual contacts of those infected.
- Specialist Care centres and Primary Care services are working together to ensure effective and equitable provision of treatment, where this is indicated.

Blood-borne Viruses in NHSGGC

1. Introduction

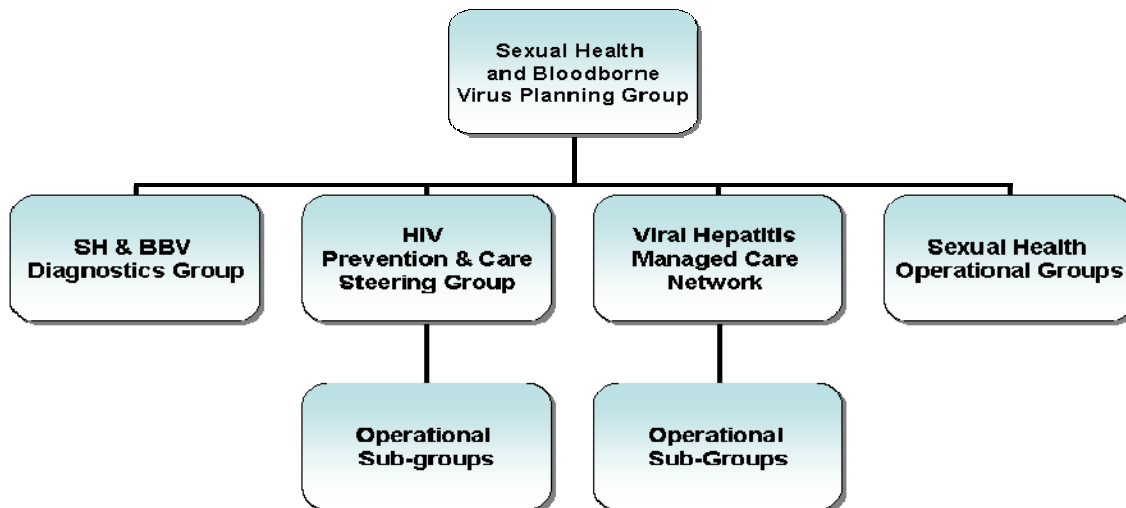
1.1 **BBVs:** blood-borne viruses (BBVs) are those viruses that are transmitted from the blood of one person to the blood of another person. Many blood-borne viruses can also be transmitted by other means, including sexual contact and intravenous drug use. The most common BBVs in the UK and of particular concern in Scotland and NHSGGC are Human Immunodeficiency Virus (HIV), Hepatitis C Virus (HCV) and Hepatitis B Virus (HBV).

1.2 In August 2011 the Scottish Government (SG) published the Sexual Health and Blood-borne Viruses Framework 2011-2015. The Framework brought together the four policy areas of HIV, HCV, HBV and sexual health for the first time in an overarching policy document. The Framework aims to focus delivery on realising five outcomes that are embedded in the Quality Strategy and the inequalities agenda.

- Fewer newly acquired blood-borne viruses and STIs, fewer unintended pregnancies
- A reduction in the health inequalities gap in sexual health and blood-borne viruses
- People affected by blood-borne viruses lead longer, healthier lives
- Sexual relationships are free from coercion and harm
- A society whereby the attitudes of individuals, the public, professionals and the media in Scotland towards sexual health and blood-borne viruses are positive, non-stigmatising and supportive

1.3 In NHSGGC our planning structure for sexual health and blood-borne viruses was revised in 2011 to reflect and align with the National Framework so that effective communication is in place and constructive relationships are developed and maintained. The current BBV Planning and Performance Management arrangements are shown in Figure 1.

Figure 1: Sexual Health and BBV Planning Structure



2. HIV in NHSGGC

2.1 For the majority of those infected, treatment advances have transformed HIV infection, from a fatal disease into a long-term chronic condition. However, because of its potential for serious long term morbidity, premature loss of life, high treatment and care costs and psychosocial impact it remains one of the most important and serious communicable diseases in the UK.

2.2. Within the UK, HIV is most commonly acquired by sexual contact; other transmission routes include sharing injecting equipment, mother to child transmission and receiving donated blood, organs or injections in countries with inadequate infection control or screening procedures.

This section describes changing patterns of HIV in Europe, the UK and in NHS GG&C, the treatment and care services available, and outlines our current programme of preventive interventions.

2.3. HIV Epidemiology: Global, National and Local Context

2.3.1 Global Context - In the 31 years that have elapsed since its initial recognition, globally, HIV is estimated to have killed over 25 million people. However, the latest epidemiological data indicates that the epidemic is slowing. While there were an estimated 2.5 million people newly infected with HIV (approximately equivalent to 7000 per day) in 2011, this was 700,000 fewer newly reported infections than in 2001. Now, an estimated 34 million people are living with HIV but despite this encouraging news, epidemics in many parts of the world continue to expand, particularly in the WHO Regions of Middle East/North Africa , Eastern Europe and Central Asia.

2.3.2 European Context - In 2011, there were 53,974 new HIV diagnoses reported in the WHO European region¹ The 2011 surveillance results suggest that HIV transmission continues in many countries, but the main transmission mode varies by geographical area, illustrating the wide diversity in the epidemiology of HIV in Europe.

In *Western Europe* the epidemic is characterised by a continuing increase in sexual transmission of HIV infection, particularly between men, which accounted for 40% of the infections. 38% of the HIV cases were acquired through heterosexual contact, with more than one third of these cases reported from countries with generalised epidemics, mainly sub-Saharan Africa.

In *Central Europe* rates are low and stable but there is emerging evidence of increasing transmission amongst MSM.

The real differences are in *Eastern Europe*, where numbers continue to increase and this is mostly attributed to Injecting Drug Use (IDU) related heterosexual transmission, however, trends by transmission mode show consistent increase in other routes of transmission too.

2.3.3 The UK, Scotland and NHS GGC are experiencing a similarly concentrated epidemic², to that in Western Europe (and other industrialized Western nations such as the USA and Australia) with men who have sex with men and people born in countries of high prevalence being the main groups affected by HIV.

¹ Data was received from 50 of 53 countries. No data from Liechtenstein, Monaco, Russia and Uzbekistan

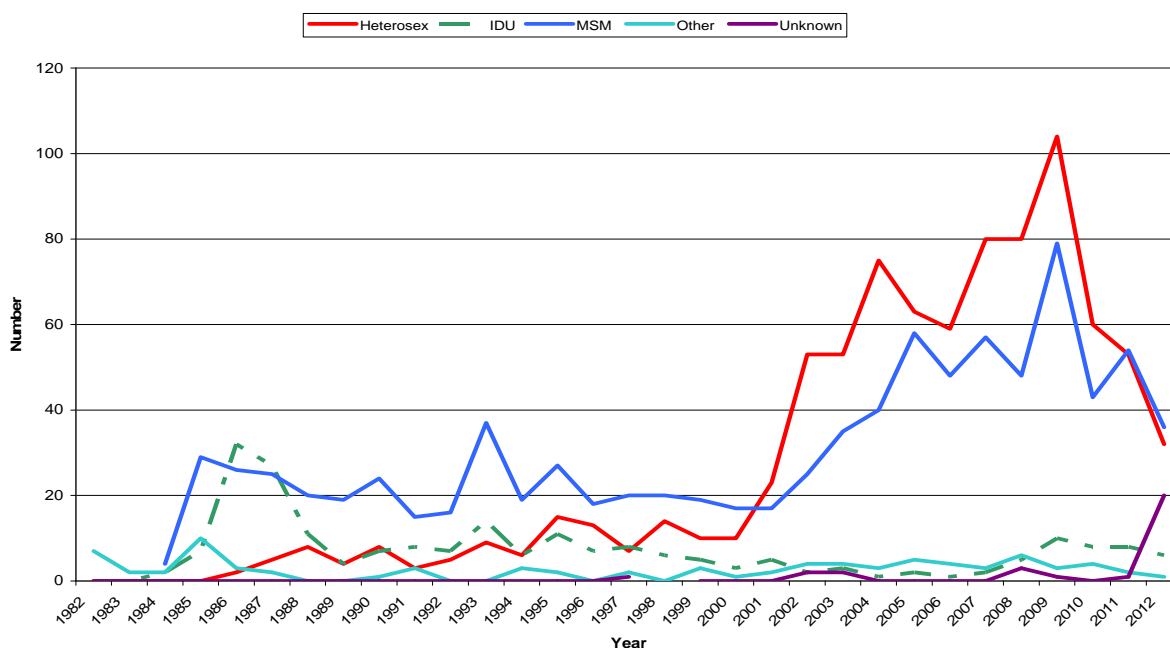
² where HIV prevalence is below 1% in the general population but exceeds 5% in specific at-risk populations

The overall prevalence in the UK in 2011 was 1.5 per 1,000 population with the highest rates reported among men who have sex with men (MSM) (47 per 1,000) and the black African community (37 per 1,000).

2.3.4 In Scotland, the epidemic mirrors that of the UK. There are an estimated 4,315 individuals diagnosed and living with HIV in Scotland. Approximately a quarter are estimated to be living with undiagnosed infection. In the first 9 months of 2012, 260 individuals had been newly diagnosed with HIV. Based on these data, it is anticipated that the annual total for 2012 will be similar to that reported in 2010 (360) and 2011 (367). As with the UK, unprotected sexual intercourse among men who have sex with men (MSM) remains the main route through which new HIV infections are acquired in Scotland.

2.3.5 NHS GG&C: Cumulatively to 30 September 2011, a total of 2,080 GG&C residents have been diagnosed with HIV infection; of these, 880 are men who have sex with men (MSM), 854 heterosexual and 218 injecting drug users; the remainder acquired HIV infection from other/undetermined routes. The recent decline in the annual number of new HIV cases has followed a prolonged and substantial upsurge in new diagnoses (Figure 2). Approximately 71% of people in the heterosexual risk category acquired their infection in sub-Saharan Africa, a drop from last year, which corresponds to that observed in the rest of the UK.

Figure 2: New HIV diagnoses in NHS GG&C residents, by prevention group 1982-2010

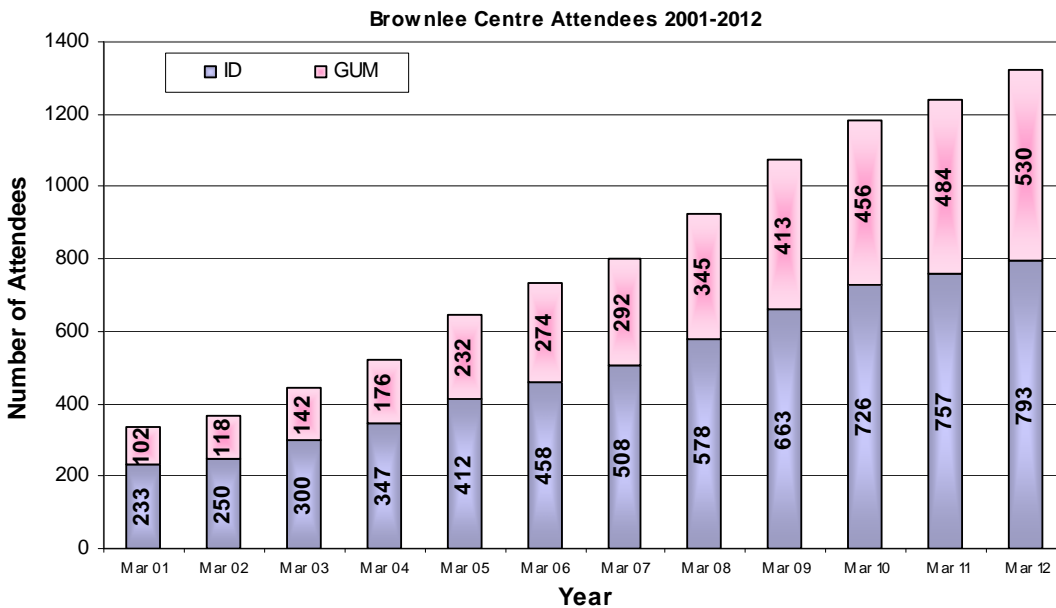


2.4 HIV Treatment and Care

2.4.1 All adults diagnosed with HIV and living in NHSGGC, attend the Brownlee Centre for Infectious Diseases for their treatment and care. Patients are treated by both ID and GUM consultants and benefit from a range of multidisciplinary inputs including Sexual Health Advisors, specialist nursing, peer support and counseling services. Children infected with HIV attend the pediatric infectious diseases service at Yorkhill Hospital

A total of **1323** patients attended for care at the Brownlee Centre during the period **01 April 2011 to 31 March 2012**. This is a **7.6% rise** on the cohort at 31 March 2011 (Fig. 3). There is a continuing year on year rise in cohort numbers.

Figure 3: Brownlee Centre Attendees for HIV Care – 2001-2012



2.4.2 Antiretroviral Treatment: For the past seven years, there has been a year on year increase in the proportion of the cohort being treated with antiretrovirals. During 2011-2012 1,084 patients were treated with antiretroviral therapy which equates to 81.9% of the cohort, a 7.6% rise on March 2011. Of the 1084 patients, 90.9% have an undetectable viral load.

Factors influencing the greater proportion of the cohort now on ART include guidelines on when patients should commence treatment and studies such as the SMART study which clearly showed treatment interruptions to be harmful to patients, therefore very few patients are now taking treatment holidays.

The cumulative cost of HIV medication for 2011/12 was £8,448K (11.1% increase on 2010/11) The total spends on HIV medication has more than doubled since 2005/6.

However, economic evaluation studies demonstrate that ART is highly cost effective, with an incremental cost-effectiveness ratio of £11,000 per quality adjusted life-year gained, well below the conventional NICE threshold of £30,000 for considering the cost effectiveness of pharmacological interventions.

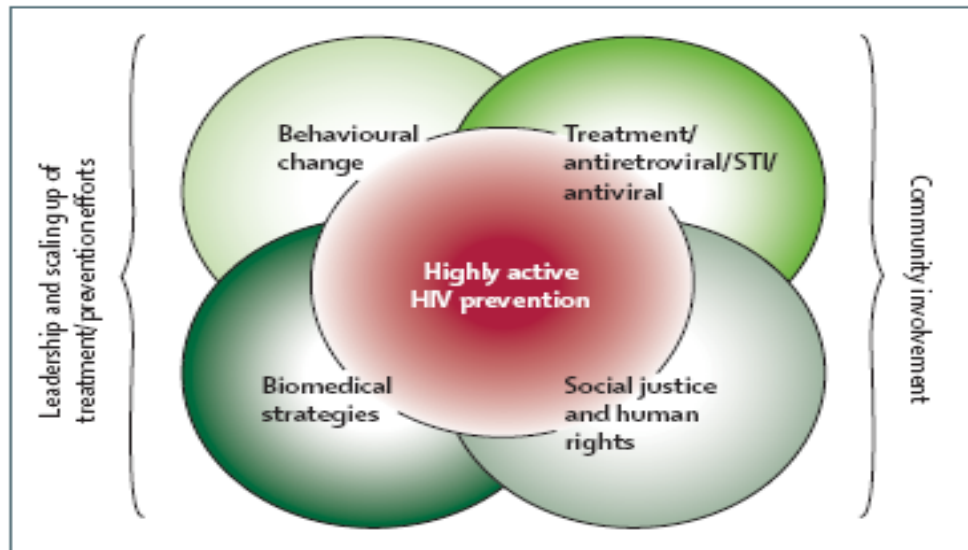
2.4.3 AIDS related events and deaths – due to the success of ART there has been a considerable decrease in HIV related events and deaths across the world and this is no exception in NMSGGC.

There was a 45% decrease in the number of deaths in 2011/12 - 11 compared to 20 in 2010/11. Five of the 11 deceased patients had had a previously reported AIDS-defining illness in the period 01 April 2011 to 31 March 2012, and only four deaths were directly related to HIV infection (36%). Six patients (55.0% of those deceased in 2011/12) died equal to or more than 10 years after being diagnosed with HIV and none of these deaths were related to HIV infection

2.5. Combination Prevention

AS can be seen from the global epidemiology, HIV prevention programmes are working. UNAIDS 2010 Report on the global AIDS epidemic confirms that the global decline in new HIV infections over the past 10 years is clearly linked with changes in behaviour and social norms together with increased knowledge of HIV. Yet with two new HIV infections occurring for every individual started on antiretroviral treatment, strengthening HIV prevention remains an urgent global health priority.

The approach known as “combination prevention” offers the best prospects for generating significant, sustained reductions in HIV incidence. Combination prevention relies on the evidence informed, strategic, simultaneous use of complementary behavioural, biomedical and structural prevention strategies which operate on different levels e.g. individual, relationship, community, societal to address the specific, but diverse needs of the populations at risk of HIV infection.



Coates, Richter & Caceres (2008) Behavioural strategies to reduce HIV transmission: how to make them work better, *Lancet*, Published online August 6, 2008

Prevention programming in NHS GGC therefore needs to be targeted at those most at risk, reflecting their needs and utilising appropriate elements from the combination prevention model.

Accordingly, the majority of our current HIV prevention activity and expenditure is targeted to the two large subgroups most at risk of acquiring HIV - Gay, bisexual and other men who have sex with men and people from countries with generalised epidemics, i.e. Sub-Saharan Africa.

However it also includes programmes that target the general population e.g. antenatal screening and other sub-populations at risk of BBVs e.g. people who inject drugs.

2.5.1 Prevention of HIV acquisition: male latex condoms are the single most effective available technology for reduction of the sexual transmission of HIV; consistent condom use provides an overall protection of around 80-85% against HIV (estimated plausible range: 76 to 93%). There has therefore been significant investment and redesign of the NHS GGC Free Condoms service to ensure that those most at risk of HIV have consistent access to condoms and where appropriate lubricant, with over 200 sites now taking part.

2.5.2 Early detection of HIV infection: HIV testing is a vital part of HIV prevention; as well as individual clinical benefits arising from earlier detection, HIV testing is highly cost effective at a population level, because earlier ART has such a powerful effect on reduction of transmission. Late diagnosis, after the point at which ARV should have been started to ensure optimal benefit, is an on-going problem, with around 50% of new diagnoses characterised as 'late'. For this reason, we are concentrating efforts on increasing recognition and diagnosis in non-specialist settings as patients have often attended services with HIV related conditions prior to their diagnosis being made.

2.5.3 Prevention activities for gay, bisexual and other men who have sex with men:

The dominant HIV prevention strategy for this prevention group has been a generalised community level approach, focusing on HIV testing, condom provision and encouraging condoms use. This has succeeded in increasing HIV testing, however HIV incidence and rates of unprotected anal intercourse (UAI), remain unaffected. Therefore, in collaboration with NHS Lothian a major needs assessment is currently underway which aims to identify the characteristics and HIV prevention needs of MSM at highest risk of HIV transmission. This evidence will shape future HIV prevention interventions for MSM. Our current combination approach to HIV prevention for MSM includes:

- Provision of condoms and lube and peer education on the commercial gay scene, and via new media and the internet
- Promotion of regular STI and HIV testing
- Dedicated sexual health clinic at Sandyford, and associated community testing clinics
- Tailored risk reduction interventions with men most at risk of acquiring, including motivational interviewing, CBT programmes and group work
- Promotion of Post-exposure Prophylaxis (PEP)

2.5.4 Prevention interventions for people from African communities:

The emergence of black African communities in NHS GGC is relatively recent and the work programme is only now starting to mature and embed as populations become settled, trust is built and relationships are strengthened. The interventions for this community are similar to that of MSM, however the approach is tailored to the specific needs and culture of the community. The combination prevention model includes:

- Provision of condoms and femidoms in the community including African businesses such as hairdressers and shops, and at African events
- Peer education to raise awareness of HIV, STIs and sexual health services with community groups and organisations where Africans spend their time
- Support and raise awareness with community leaders, including faith leaders to increase skills, confidence and capacity around HIV

- Promote and support HIV testing
- Delivery of sexual health group work to groups of men and women including parenting programmes
- Promotion of Post-exposure Prophylaxis

2.5.5 Generic HIV prevention interventions: Although HIV is generally concentrated within defined subpopulations in NHS GG&C; there is a need to maintain proportionate investment in preventing HIV in the population as a whole, via standard sexual health and health improvement activities. All pregnant women are offered screening for HIV in pregnancy because of the existence of highly effective interventions to reduce HIV transmission. In 2011-12 the antenatal HIV screening uptake rate across NHS GGC was 98%, which illustrates the acceptability of the programme. Over the last seven years 142 babies have been born to HIV positive mothers attending the Brownlee Centre for their treatment and care. Thanks to the excellent treatment and care pathways in place, none of these babies have been born HIV positive. BHIVA/ CHIVA recommend the complete avoidance of breastfeeding for children born to HIV-infected mothers, however, for women on low incomes, access to formula can be a barrier to implementing this recommendation, therefore, to support HIV positive mothers to overcome this financial disadvantage a free infant formula milk scheme was made available to HIV-positive mothers in NHS GGC who are without “independent means”.

2.6 Summary and conclusion

HIV remains a significant challenge and the Scottish Government has provided leadership and commitment in the form of the Bloodborne Virus and Sexual Health Strategy. NHS GGC is committed to delivering the Framework’s ambitions and will continually review its preventive interventions, to ensure that each component of the programme is clearly defined and re-evaluated, against both changing research evidence and the local epidemiology. NHS Board members should note the key points/actions identified by the HIV Prevention and Care Group as follows:

- People living with HIV in NHS GGC have access to excellent treatment and care services including ARV medication, and the proportions that have an undetectable viral load means that these individuals are very unlikely to transmit the virus.
- Challenges remain around diagnosing the undiagnosed fraction and improving the proportion diagnosed late. Therefore the plans to normalise and increase HIV testing in a wider range of clinical settings is a priority
- That progress has been made with community development initiatives among black African subgroups, which have substantially improved access to HIV prevention for this subpopulation at high risk of HIV infection
- Significant progress has been made in relation to testing rates amongst MSM and the new evidence from the Needs Assessment will enable us to enhance our prevention efforts, targeting interventions to those MSM at highest risk of acquiring HIV.
- The success of the antenatal HIV screening programme is proof that prevention programmes can work

VIRAL HEPATITIS

3 Hepatitis C

3.1 Introduction: Hepatitis C infection is caused by the hepatitis C virus (HCV) that is transmitted through blood-to-blood contact and primarily affects the liver. Following infection, around 20% of cases are naturally resolved within the first six months, and the remainder develop chronic, lifelong infection. One third of chronic cases are likely to develop cirrhosis of the liver within 20-30 years, of these around 7% will develop liver failure or primary liver cancer per year.

In 2004, the Scottish Government recognised that “*hepatitis C is one of the most serious and significant public health risks of our generation*”. By December 2006 HPS estimated that 50,000 persons in Scotland had been infected with the virus, and that 38,000 were chronic carriers.

Treatments are available that can clear the virus in the majority of patients completing a course, according to genotype. HCV treatment is deemed cost-effective and approved by the Scottish Medicine Consortium (SMC). In 2006, HPS estimated that only 20% of chronic cases had ever attended specialist care, and only 5% had ever received treatment.

In response, the Scottish Government published the Hepatitis C Action Plan for Scotland in two phases, Phase I (Sep 2006-Aug 2008) and Phase II (May 2008-Mar 2011). These tasked Health Boards to significantly develop local services to make step-wise improvements in the prevention, detection and treatment of HCV. The Action Plan was supported by central funding of £4M in phase I and £43.2M in phase II.

Following completion of the Phase II HCV Action Plan, the Scottish Government incorporated hepatitis C into the new Sexual Health and Blood-borne Virus Framework (2011-15). This document defines outcomes and performance indicators for hepatitis B, C, HIV and Sexual Health, aligned to the government’s spending cycle.

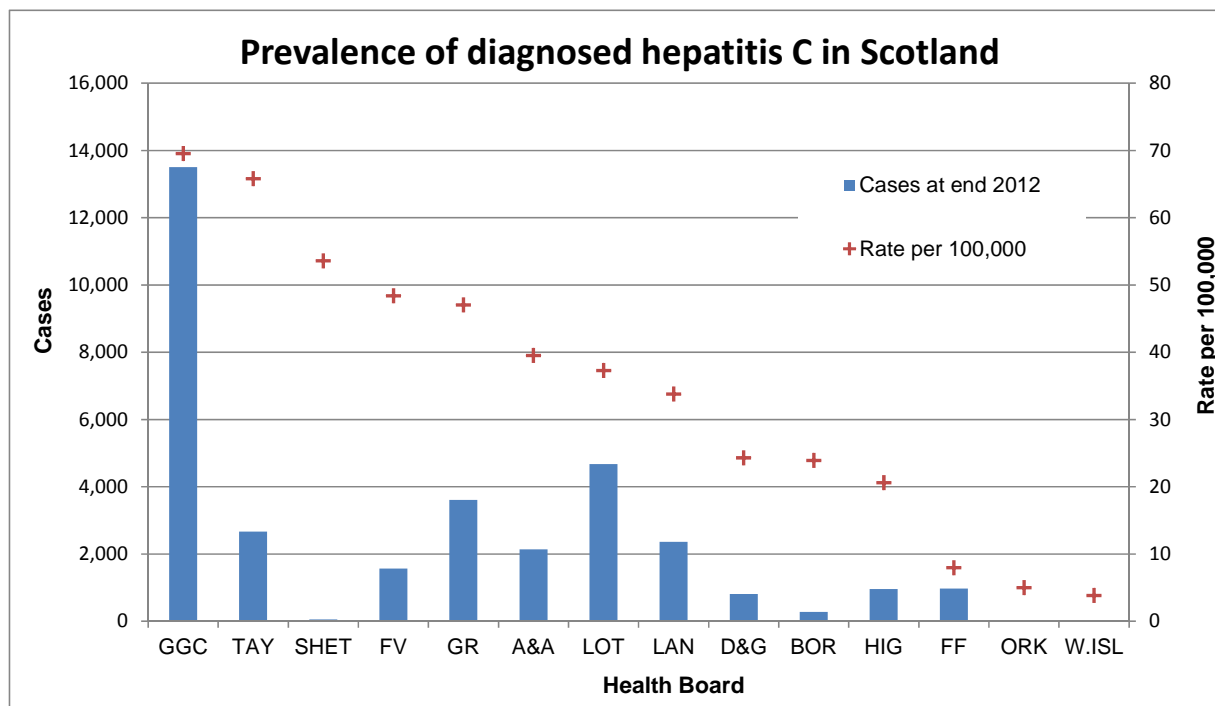
3.2 Epidemiology:

The World Health Organisation estimates that 150M people are chronically infected with hepatitis C worldwide. Countries where hepatitis C is endemic include Egypt (15%), Pakistan (4.8%), and China (3.2%).

In the UK the prevalence is lower and remains concentrated in specific populations, primarily among Injecting Drug Users and those who receive invasive medical / dental procedures in areas of high prevalence where infections control is sub-optimal. The estimated prevalence of hepatitis C in Scotland is 1% of the population, compared with 0.5% in England and Wales.

At the end of 2012 13,502 people were diagnosed to have ever infected with HCV in NHS GGC. Of these around 20% (2701/13503) will have cleared the virus within 6 months of infection and 80% (10802/13503) will be chronically infected. In the 2011 Sexual Health and Blood-borne Virus Framework, the Scottish Government noted that more than half of HCV cases remain undiagnosed, suggesting that the total number of infected individuals in GGC exceeds 27,000.

Where route of transmission is known, 91% (8223/9076) of infections were acquired as a result of Injecting Drug Use. In Glasgow the incidence of HCV is steady at around 20-30 infections per 100 person years of injecting. Seventy-one percent of individuals (9556/13502) were aged between 20-40 years at the time of diagnosis.

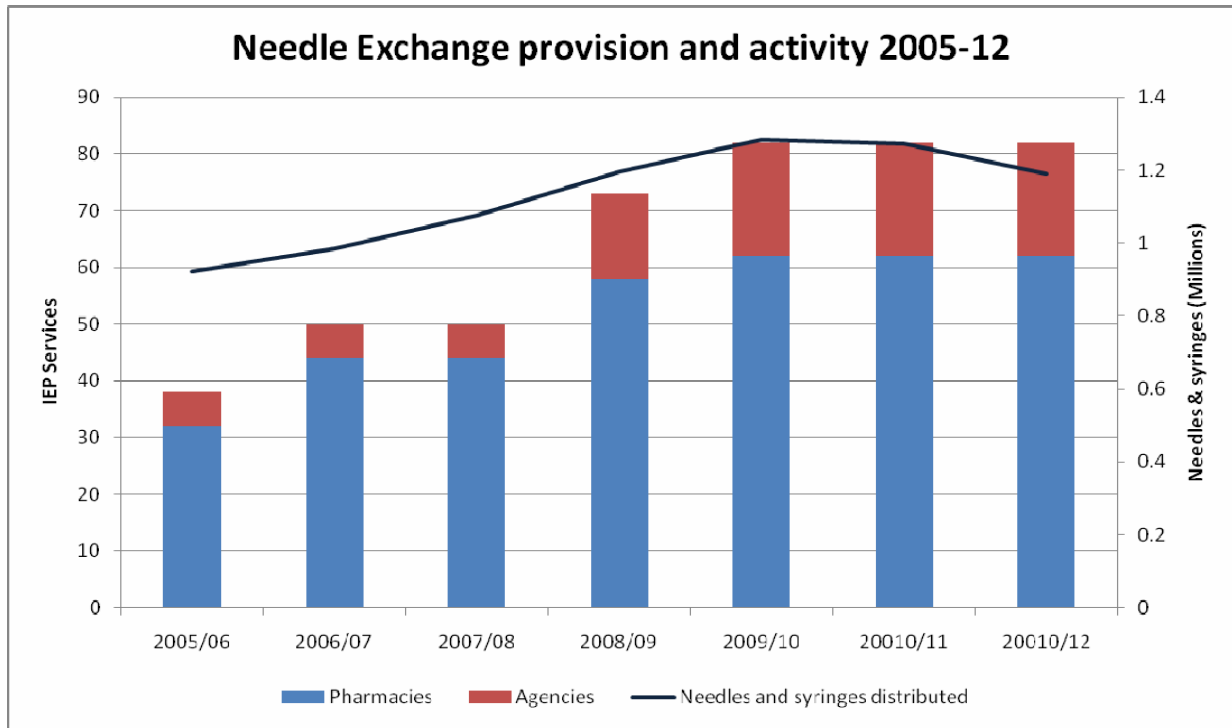


3.3 Viral Hepatitis Managed Care Network (VH MCN):

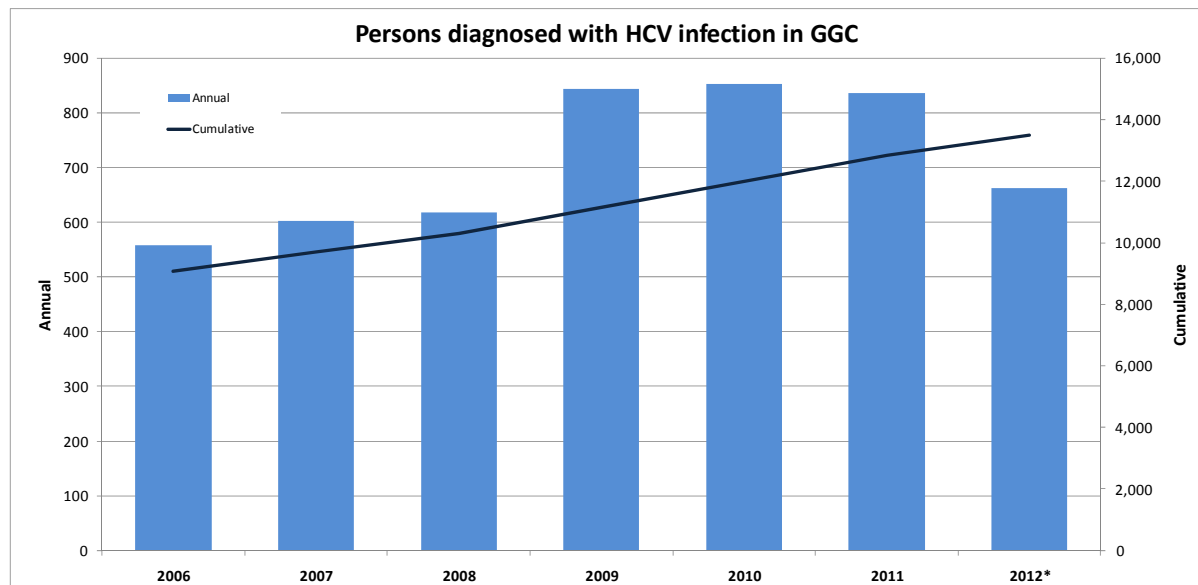
The VH MCN addresses prevention, treatment, care and support issues for hepatitis C, and treatment, care and support issues for hepatitis B. In line with local epidemiology and service provision, Hepatitis B prevention will be discussed both at this group and also at the HIV Prevention and Treatment Group. The VH MCN was formally accredited by the Sexual Health and Blood Borne Virus Planning and Implementation Group in Dec 2012.

3.4 Prevention: Over 90% of Scottish HCV cases are acquired as a result of Injecting Drug Use. A key primary prevention priority was to reduce the incidence of new infections through increased provision of sterile injecting equipment to those at risk. Health Boards were tasked to improve the quality, quantity and nature of injecting equipment provision (IEP), and to develop local HCV Prevention Networks to oversee this work.

Between 2005-12, there was a 116% increase in the number of IEP outlets. Over the same period there was a 30% increase in number of sets of sterile needles and syringes provided to injectors, from 0.92M sets in 2005/06 to 1.19M in 2011/12. This increase in activity closely matched developments in the number of outlets. Activity data showed a 7% decrease in the number of needles and syringes distributed between 2009/10 and 2011/12. This experience was reflected in other Health Boards, and is associated with a decrease in the availability of heroin in Scotland, and a reduction in the prevalence of Injecting Drug Use.



3.5 Diagnostic testing and referral: The Phase II Action Plan noted that *“the majority of persons infected with HCV remain undiagnosed [and that] the uptake of HCV testing among past and current IDUs is sub-optimal following test offer.”* In response, the HCV Managed Care Network sought to increase testing activity in a range of settings, with specific focus on Addiction services and Primary Care providers engaging with people with a history of injecting drug use.



Source of referral	Pre-2006	2006	2007	2008	2009	2010	2011	2012*	Total	%
GP	1911	185	208	171	218	149	182	160	3,184	24%
Acute	3176	186	196	224	202	174	177	214	4,549	34%
GUM Clinic	436	37	32	50	59	50	52	44	760	6%
Prison	630	9	21	20	21	33	33	28	795	6%
Drug Service	9	0	4	2	148	292	224	82	761	6%
Other	1797	60	65	53	52	34	31	30	2,122	16%
Not Known	569	81	77	98	144	121	137	104	1,331	10%
Total	8,528	558	603	618	844	853	836	662	13,502	100%

* Est. based on Jan-Jun actual

N.B. the sharp increase in tests attributed to Drug Services follows a change in coding source of referral by HPS in 2009.

Diagnostic testing activity has significantly increased in the Health Board area since the national Action Plan was introduced. Data from HPS indicate that from 2006-12 an average of 711 HCV antibody positive cases were first diagnosed each year. Of these, around 80% will have chronic infection and require referral to specialist care.

Testing activity decreased in 2012, reflecting feedback from drug services that the majority of their current caseload have been offered testing, and that uptake reflects testing of new clients, and established clients with on-going risk factors.

A key priority for the MCN in 2013-14 is to reduce the number of undiagnosed infections among prior injectors who are no longer in contact with Addiction services. A case finding approach will be offered to Practices in areas of high deprivation which can identify patients with a recorded risk factor for hepatitis C so that GPs can offer them a discussion and testing at their next attendance. The MCN and Public Health are developing a proposal for unlinked, anonymous testing of blood samples submitted as part of the Keep Well initiative. This will provide an estimate of the prevalence of hepatitis C among Keep Well participants. The findings will inform a discussion regarding inclusion of hepatitis C testing as part this intervention.

3.6 Specialist Care: A key priority of the Phase II Action Plan was to increase the number of infected persons who clear their infection and thus reduce the number of infected persons who develop severe hepatitis C-related liver disease. Each Health Board was tasked to increase the number of infected individuals attending for clinical assessment, and targets were set for treatment activity in each Board area.

Within GGC clinical management of HCV cases is provided from Depts. of Gastroenterology at the Gartnavel, Glasgow Royal, Southern, Victoria, Inverclyde Royal and Royal Alexandra Hospitals and the Dept. of Infectious Diseases at the Brownlee Centre.

In order to effectively manage the increasing numbers of cases, additional clinical capacity was supported. As a result of this investment, the number of consultant sessions devoted to management of HCV was doubled, and Specialist Nursing capacity increased by a factor of 3.5.

HCV Clinic Staffing (wte)	Pre-2006	HCV Funded	Current
Consultants	1.8	2	3.8
Clinical Nurse Specialists	2.7	7	9.7

As well as support the increased workload in HCV outpatient clinics, this additional capacity enabled centres to deliver clinical assessment and treatment in other community settings.

3.6.1 Outreach model of care: The majority of HCV patients are from areas of high social deprivation, with a history of injecting drug use. These individuals are more likely to have concomitant health and social care needs including recovery from addiction, low household income, mental health problems, and alcohol excess; consequently, the default rate for first outpatient appointment was historically high at 20-70% across Scotland. This resulted in missed opportunities to assess and treat diagnosed individuals, and suboptimal utilisation of clinical resources.

In response to these factors, the MCN developed an Outreach approach to initial clinical assessment and, where appropriate, treatment of infected persons. Effective working links were developed between treatment centres, addiction services and prison establishments. Clients with chronic HCV were offered the opportunity to see specialist nurses in a setting that they were familiar with, and were more likely to attend. This provided an opportunity to address their information and support needs, provide accurate information on their condition, promote the benefits of antiviral treatment, and conduct initial clinical assessment.

The Brownlee Centre for Infectious Diseases supports outreach treatment at HMPs Barlinnie and Low Moss, and at Leven Addiction Services. The Inverclyde Royal Hospital manages patients at HMP Greenock. The Gartnavel General Hospital provides outreach treatment at Clydebank Addiction Service.

3.6.2 Treatment activity: These developments enabled Acute centres to significantly increase the number of patients initiated onto antiviral treatment. By 2010 the number of people starting HCV treatment had increased by 178% compared to the 2006 baseline. Between 2006-11, local treatment activity exceeded targets set by the Scottish Government.

There was a slight decrease in activity in 2012, primarily related to the introduction of a new class of antiviral therapies. Whilst these new drugs increase the cure rate for the majority of patients completing a course, they require more intensive monitoring and impacted on the number of treatment initiations last year.

Centre	2006	2007	2008	2009	2010	2011	2012
Brownlee	41	59	82	93	157	150	116
Glasgow Royal	30	39	51	77	92	100	110
Gartnavel General	36	46	41	54	70	54	53
Southern & Victoria	18	21	22	34	50	46	48
Inverclyde Royal	18	21	13	14	19	19	22
Royal Alexandra	0	1	2	8	10	17	20
Annual total	143	187	211	280	398	386	369
Compared with 2006 baseline	n	44	68	137	255	243	226
	%	31%	48%	96%	178%	170%	158%
Compared with Scottish Govt. targets	Target		169	253	337	354	371
	Actual	n	42	27	61	32	-2
		%		25%	11%	18%	9%

3.7 Hepatitis C summary

The NHSGGC Board is asked to note the following:

- Hepatitis C is primarily associated with a history of injecting drug use. **Primary prevention** aims are met through the provision of sterile injecting equipment to those at risk and interventions designed to prevent initiation into, and cessation of, injecting drug use. Drug users across NHSGGC have access to information, support and sterile injecting equipment through a range of providers. The MCN and Addiction services are working closely to increase reach into affected communities.
- Recent years have seen a significant reduction in the number of undiagnosed infections. **Diagnostic testing** in addiction services accounts for much of this activity. There are opportunities to increase testing activity in Primary Care settings and prisons. The MCN is developing case-finding initiatives to support this work.
- The majority of people who complete a course of **antiviral treatment** can be cured of their infection. Treatment services across GGC have been developed in line with the number of diagnosed cases. Outpatient and outreach models of care have been established to increase uptake at a range of settings. Local treatment outcomes compare favourably with those across Scotland.
- The **Hepatitis C Managed Care Network**, accredited by NHSGGC in 2012, has driven forward these developments in partnership with a range of organisations involved in the care pathway.

4. Hepatitis B

4.1 Introduction: Hepatitis B is an infection of the liver caused by the hepatitis B virus (HBV). Many new infections are sub-clinical or may have a flu-like illness and only a small

proportion of cases may present with jaundice. Like the previous two BBVs, HBV is transmitted by exposure to infected blood or body fluid through vaginal or anal intercourse, blood-to-blood contact, (for example sharing of needles and other equipment by injecting drug users, needle stick injuries), or transmission from mother to child during birth.

In adults, most acute HBV infections occur among the high risk groups due to their lifestyle. Most recover from infection without any treatment and any long term sequelae. However, in a small proportion of these cases (approximately 5-10%) the infection will become chronic. If infection is acquired peri-natally, over 90% will become chronic. Cirrhosis occurs in up to 40% of chronic infections acquired in childhood vs 20% of adult acquired infections. Up to 9% of them may go on to develop hepatocellular carcinoma.

4.2 Epidemiology: The World Health Organisation (WHO) has estimated that over 350 million people worldwide are chronically infected with HBV. The WHO has categorised countries based upon the prevalence of chronic infection into high (more than 8% of the population), intermediate (2 to 8%) and low (less than 2%) endemicity countries. High prevalence regions include sub-Saharan Africa and most of Asia whereas most of Western Europe and North America are low prevalence countries.

HBV is uncommon in NHS GGC and in Scotland and at the moment reported data in Scotland does not discriminate between cases of acute or chronic infections. Anecdotally however, there is evidence that the number of cases have been increasing over recent years. Most of these cases are diagnosed among those people who were born outside the UK and were probably infected at birth. Approximately 200 new diagnoses (both acute and chronic) of HBV infection were made annually in NHS GGC during 2009 and 2010. Around half of these were diagnosed in general practice and the antenatal clinic settings as part of the routine screening of all pregnant women for this infection.

4.3 Prevention: A vaccine against hepatitis B has been available since 1982. It is an extremely effective vaccine in preventing HBV infection and its chronic consequences and is the first vaccine against a human cancer. Based on the WHO recommendation, by 2009; 177 countries had included the hepatitis B vaccine into their national infant immunisation programme. However, in the UK, this vaccine is not included in the routine childhood immunisation programme but instead the UK adopted a policy of vaccination based on lifestyle and occupational risks. Groups targeted for hepatitis B vaccination in NHS GGC include:

- Babies born to infected mothers – all pregnant women are offered screening for HBV infection and if positive arrangements are in place to vaccinate their babies at birth. Approximately 70-75 mothers are identified every year in NHS GGC as being infected.
- Current and former injecting drug users – arrangements are in place to offer the vaccine in prison, in addiction services and shared care GP services
- Close family contacts of those with chronic infection through primary care
- NHS staff and others who are at occupational risk

Other prevention work targeted at those at risk of HIV (safer sex) and HCV (safer injecting) infections will also prevent the transmission of HBV infection.

4.4 Clinical management of cases: Antiviral drugs are available for the treatment of HBV infection but therapy simply suppresses the viral load rather than cure the infection. Over the last decade, the treatment available has expanded with new and more potent antiviral agents becoming available. In NHSGGC, the Hepatitis MCN produced a guideline on the assessment and management of patients with HBV infection and all newly diagnosed (acute and chronic) infections are recommended to be referred to a specialist unit for assessment and treatment. The number of patients currently on treatment are relatively small (approximately 20 patients) but this number is expected to increase significantly over the next few years in keeping with the aspirations of the National Framework.

- In 2012 the Viral Hepatitis Managed Care Network updated the local hepatitis B treatment guideline based on emerging international evidence of safety and effectiveness.
- A new approach to the management of close family / sexual contacts of newly-diagnoses cases has been developed by Public Health, the Specialist Virus Laboratory, the Sandyford Primary Care support team, and Viral Hepatitis MCN. Following a new diagnosis, Sandyford Health Advisers make contact with the testing professional and patient's GP to confirm and monitor requirements for the vaccination, contact tracing and testing of contacts.
- New shared care protocols have been developed to support consistency in provision of treatment via Primary Care, following Specialist physician request / initiation of therapy.
- The existing Hepatitis C Clinical Database is being expanded to include hepatitis B. This will provide data on referral, attendance, assessment and treatment activity, and help inform service planning, clinical governance and audit.

4.5 Hepatitis B summary

The NHSGGC Board is asked to note the following:

- Compared to HIV and hepatitis C, there is a **relatively low prevalence** of hepatitis B in NHSGGC. However, diagnoses continue to increase, primarily among people from countries of high prevalence.
- Arrangements are in place to support the **diagnostic testing** and **vaccination** of those most at risk, and the **management** of close family / sexual contacts of those infected.
- Specialist Care centres and Primary Care services are working together to ensure effective and equitable provision of **treatment**, where this is indicated.