

## **Emerging Public Health Issues: Unnecessary Exposures to Hepatitis-C (Hep-C) Through Sharing of Needles, Illegal Tattooing and Unregulated Body Art (piercings and implants)**

**Hepatitis C (Hep-C):** Hep-C is classified two ways; Chronic Hep-C and Acute Hep-C. Chronic Hep-C is a slow-progressing disease, with symptoms that may not appear for years, if at all. If left untreated, Chronic Hep-C can lead to liver damage, and potentially even liver cancer. Acute Hep-C is a short term viral infection that occurs within the first 6 months after someone is exposed to the Hepatitis C virus. For most people an Acute Hep-C infection will turn into Chronic Hep-C.<sup>i</sup> Hep-C is usually spread when blood from a person infected with the Hep-C virus enters the body of someone who is not infected. Hep-C is the most common bloodborne infection in the US, and there is no vaccine; however, it is treatable condition. Today, most people become infected with the Hep-C virus by sharing of needles or other equipment used for injection purposes. Other ways Hep-C can be spread is through contact with dried blood on equipment or surfaces, and/or blood splashes in the eyes, nose, or mouth.

The number of acute Hep-C cases is on the rise in North Carolina (NC). Between 2010 and 2015 the number of reported cases of acute Hep-C has tripled (close to a 300% increase). Acute Hep-C is a reportable disease under state law; however, it continues to go under-reported and underestimated. It is estimated that there are approximately 110,000 North Carolinians with Chronic Hep-C. Some Facts about Hep-C:

- Hep-C virus is 10X more infectious than HIV;
- 50% of cases are more than likely unaware they've been infected;
- 41% of cases are between the ages of 21 and 30;
- 75% of adults with Hep-C are Baby Boomers (born between 1945 & 1965);
- 37% of those infected reported injection drug use; and
- 75% to 85% of people infected with Hep-C will develop chronic illness.<sup>ii</sup>

**Hep-C in Western North Carolina (WNC):** In Macon County and many surrounding counties, Hep-C has become a significant health concern. A recent Center for Disease Control and Prevention (CDC) study identified five counties in NC, three of which are in WNC: Graham, Clay and Cherokee as being in the top 220 counties in the United States as having a *high prevalence of Acute Hep-C infections*.<sup>iii</sup> Macon County shares a border with these counties.

Tattoos, piercings and other forms of body modifications (all referred to as “body art”) are prevalent in today’s society including here in WNC. While it used to be uncommon to encounter someone with a tattoo or piercing outside of certain groups, one can hardly go about their day without encountering someone who has been tattooed or pierced.

Research studies show that in the informal, unregulated tattooing and piercing settings, where poor infection-control practices are used that the transmission of Hep-C is possible.<sup>iv</sup> These same studies show that when tattooing and piercing are properly regulated Hep-C is not spread.

In recent months, we have seen a rise in the number of illegal tattoo artists operating in Macon County. There have been three that we know of. This department has invested a significant number of work hours to ensure these individuals cease and desist from tattooing. Additionally, we have had to invest significant time in investigating this illegal operation in an effort to identify the people this individual tattooed so as to make sure they were appropriately tested for Hep-C, Hep-B and HIV as these viruses can make them sick and possibly their families sick. This is not just a Macon County problem. As the department has been working to address this issue, we have determined that other county health departments are experiencing a similar problem. Given how common body art is today, and due to the high prevalence of Hep-C in WNC, an examination of the impacts on health and possible further regulation of these industries should be considered.

**Tattooing in NC:** The tattoo industry in NC is currently regulated and enforced at the local level by the county health department. These laws are in place to protect the health and safety of both artist and the client due to the potential ease of transmission of bloodborne pathogens during the tattooing process. Improper (and illegal) tattooing techniques lead to the transmission of diseases (including Hep-C) that are serious and have a lifelong impact on the individual and could create significant increases in cost of health care for everyone. Proper tattooing

techniques ensure that those who do receive tattoos do so in a safe manner. In addition to the techniques used, the use of proper equipment (such as an autoclave and disposable needles), and the proper treatment of inks are important to prevent blood borne pathogens from being spread to those receiving tattoos.

There are consequences to those found to be tattooing without a permit in NC law. However, these consequences are not proving to be severe enough to discourage those who tattoo illegally (class I misdemeanor), and enforcing these consequences has proven to be difficult (not viewed by the legal system as a significant crime).

**Piercings and Body Modifications in NC:** Piercing and other body modifications (such as dermal implants) are currently unregulated in NC; however, there is mention in General Statute 14-400 that body piercing of a minor is prohibited. Professional organizations (such as Association of Professional Piercers) that support safe piercing techniques and practices exist; however, membership is voluntary and uncommon.

Piercing and body modification have their own set of issues in the spread of bloodborne pathogens. The use of equipment similar to what is found in a permitted tattoo establishment along with procedures to minimize the risk of spreading infection such as Hep-C to those who wish to be pierced are lacking or non-existent in most of these establishments.

Piercing and body modification also presents other health risks. For example individuals with diabetes, hemophilia, autoimmune disorders, cardiac issues, skin conditions or who are or may be pregnant may experience serious complications from the procedure (i.e. bleeding, skin rashes or lesions, scars, viral or bacterial infections, etc.).

**The Following are Areas of Concern Regarding Tattooing, Piercing and Body Modification in Relation to Hep-C:**

- Penalties for tattooing without a permit do not discourage individuals from practicing without a permit.
- The act of piercing or body modifications is not regulated or inspected even though many times these procedures require the insertion of a needle and/or in some cases a surgical incision with a scalpel to place rings, plugs, eyelets, gauges, and other articles of jewelry.
- Piercing and tattooing, done improperly, pose a risk for infection; training in prevention of bloodborne pathogen exposure for those practitioners would minimize these risks for them and their clients.
- Occupational Safety and Health Administration Bloodborne Pathogens Standards that address accidental needle sticks do apply to this industry and this industry is required to maintain an OSHA Exposure Control Plan for accidental needle sticks, but these standards are generally not followed or enforced.
- Food and Drug Administration recently became aware of tattoo inks that had confirmed bacterial contamination in unopened bottles available for purchase online: neither tattoo inks nor tattoo equipment are regulated by the FDA.
- Non-sterile water used to dilute concentrated inks can contaminate the ink with harmful germs which can lead to infections when deposited under the skin and spread to the bloodstream.
- Though Hep-C is a treatable disease, the cost of treatment is extremely expensive and in many cases out of reach for the average person.

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<sup>i</sup> Center for Disease Control and Prevention: <http://www.cdc.gov/hepatitis/hcv/cfaq.htm> 8/5/2016

<sup>ii</sup> NC DHHS, DHP, Communicable Disease Branch, Hepatitis-C In NC 2016 Fact Sheet 05/13/2016

<sup>iii</sup> Center for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, County-level Vulnerability to Rapid Dissemination of HIV/HCV Infection Among Persons who Inject Drugs 3/8/2016

<sup>iv</sup> Bloodborne pathogen risk reduction activities in the body piercing and tattooing industry. Lehman, EJ; Huy, J; Levy, E; Viet, SM; Mobley, A; McCleery, TZ, American Journal of Infect Control 2010 Mar; 38(2):130-138. <http://dx.doi.org/10.1016/j.ajic.2009.07.008>.