The only national nonprofit organization dedicated to finding a cure and improving the quality of life for those affected by hepatitis B worldwide.

- **HBF**
  - Outreach and Education
  - Public Health Research
  - National Advocacy
  - PA Biotechnology Center and Biotech Incubator

- **Baruch S. Blumberg Research Institute**
  - Biomedical Research – drug discovery and early detection methods for cirrhosis and HCC
Background

- HBV: a bloodborne infection that attacks the liver leading to liver cancer, cirrhosis, liver failure, and/or death\(^1\)

- Three most common forms of transmission\(^2\):
  - Sexual contact
  - Mother-to-child via birth
  - Injection-drug use

- Hepatitis B has a protective vaccine, the first dose given to newborns, but U.S. adherence is approx. 71.1\%\(^3\)

\(^1\)Centers for Disease Control and Prevention [CDC], 2018; World Health Organization [WHO], 2018
\(^2\)Buckley & Strom, 2016; CDC, 2018; Luu, 2004; WHO, 2018
\(^3\)CDC, 2018
Prevalence Around the Globe

Populations with the highest prevalence are Asian American Pacific Islanders (AAPI), East Asians, and sub-Saharan Africans where transmission is mostly during birth or from exposure during early childhood.4

<table>
<thead>
<tr>
<th>Countries with Highest Prevalence</th>
<th>Countries with Lowest Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kiribati (22.70%)</td>
<td>Norway &amp; UK (0.01%)</td>
</tr>
<tr>
<td>South Sudan (22.38%)</td>
<td>Ireland (0.03%)</td>
</tr>
<tr>
<td>Swaziland (19.00%)</td>
<td>Iceland (0.14%)</td>
</tr>
<tr>
<td>Solomon Islands (18.83%)</td>
<td>Switzerland (0.18%)</td>
</tr>
<tr>
<td>Liberia &amp; Nauru (17.55%)</td>
<td>Mexico (0.20%)</td>
</tr>
</tbody>
</table>

*Data in table was retrieved from Schweitzer, Horn, Mikolajczyk, Krause and Ott (2015)  
4Buckley & Strom, 2016; WHO, 2018
The Problem

Students in allied health programs are finding their hepatitis B status to be a barrier to becoming health care workers (HCWs).

- Allied health programs analyzed:
  - physician assistant (PA)
  - medical doctor/doctor of osteopathic medicine (MD/DO)
  - doctor of dental medicine (DMD)
  - licensed practical nurse (LPN)
  - registered nurse (RN)
Stigma and Barriers

- The last transmission recorded was from a dentist office in 1987 and orthopedic in 1994\(^5\)
- As of 2011, it is not mandatory to disclose HBV status.
- There are reports of individuals losing their jobs due to a positive HIV-status, for “infectious control reasons” — discrimination\(^6\)
- Studies have found that the fear of dying drives irrational fears, and when it refers to disease exposure it can lead to stigma, avoidance, and discrimination\(^7\)
- The CDC has never documented a case where a medical or dental student transmitted a bloodborne pathogen\(^5\)

\(^5\)CDC, 2012  
\(^6\)Brooke, 2013  
\(^7\)Schneiderman and Kaplan, 1992
Federal Laws to Protect Ind. with HBV

42 U.S. Code § 12102 – The Americans with Disabilities Act of 1990 (ADA), Title III

Title VI of the Civil Rights Act of 1964

Section 504 of the Rehabilitation Act of 1973
UMDNJ 2011 Hepatitis B Discrimination Case

- Two students were accepted into the program.
- After disclosing their hepatitis B status, their applications were revoked.
- This was the first time individuals with hepatitis B were protected under the ADA; the DOJ brought the school to court.
- DOJ, DOE, and HHS sent a letter in 2013 to schools across the country regarding the laws, transmission, and CDC recommendations to advocate for students.

8Office of Public Affairs, 2013
Logic Model

- **Goal:** To reduce hepatitis B-related discrimination among students in accredited allied health programs in the state of Pennsylvania.

- **Process Objective:** By 2020, school deans and program administrators will update and review requirements for students in allied health programs in Pennsylvania to reflect recommendations for managing hepatitis B virus-infected students by the Centers for Disease Control and Prevention (2012) and the United States Department of Justice Civil Rights Division (2013).
## Logic Model

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Activities</th>
<th>Outputs</th>
<th>Short-Term Outcome</th>
<th>Intermediate Outcome</th>
<th>Long-Term Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff Time</td>
<td>Set up advocacy meetings with key stakeholders (CDC, HHS, DOJ, DOE and state legislators)</td>
<td>One meeting per key stakeholder</td>
<td>Increased awareness and knowledge of hepatitis B recommendations and legal protections in place for students</td>
<td>Increased compliance of schools with policies consistent with the Americans with Disabilities Act of 1990, Section 504 of the Rehabilitation Act of 1973, and Title VI of the Civil Rights Act of 1964.&lt;br&gt;Journal article on findings</td>
<td>Decreased structural discrimination in allied health program environments regarding students</td>
</tr>
<tr>
<td>School Policy Analysis</td>
<td>Meet with limited number of non-compliant schools</td>
<td>One to two letters of support</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading Materials and Resources</td>
<td>Obtain letters of support</td>
<td>One meeting per few non-compliant schools</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal Implications and School Compliance of DOJ Recommendations</td>
<td>Student health form, handbook, and discrimination policies highlighted to reflect DOJ non-compliance</td>
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<td></td>
<td></td>
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</tr>
</tbody>
</table>
Research Question

- Are health professional schools in Pennsylvania compliant with the DOJ, HHS, and DOE federal laws enacted in 2013 to protect students with hepatitis B?

  - Objective 1: To educate school administrators, healthcare workers, and students in knowing their rights in regard to disease status and disclosure
  
  - Objective 2: To inform overhead administration, i.e., state legislators, CDC, HHS, DOE and DOJ, of policy compliance analysis results
Methodology

- Content analysis within a survey
- Used Google search engine to find PA accredited school websites, student handbooks, and student physical forms – 83 schools
- Microsoft Word Excel spreadsheet to document the name of the school, the type of program, program administrator information, policies in place regarding immunization or antibody titer, policies in place to protect students with hepatitis B, outcomes/limitations, and further action to be taken
<table>
<thead>
<tr>
<th>Name of School</th>
<th>Contact Information</th>
<th>Health Policy</th>
<th>Health Policy in Place (%)</th>
<th>Documents / Webpage</th>
<th>Outcomes</th>
<th>Further Action</th>
<th>School Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arcadia University</td>
<td>Dir, Kerdon, Dir of Graduate Admissions (215-572-2819)</td>
<td>health record requires surface antibody titer</td>
<td>health record requires surface antibody titer</td>
<td><a href="https://www.arcadia.edu/sites/default/files/PA_health_record.pdf">PDF in folder:</a></td>
<td>Within health record form</td>
<td>Need to contact school</td>
<td></td>
</tr>
<tr>
<td>Chatham University</td>
<td>Carrie Rote, Admission Counselor (215-376-7202)</td>
<td>Immunization policy: Students will also have to provide evidence of immunity to Measles, Mumps, Rubella, Varicella, and Hepatitis B by obtaining their results. They must also submit a Hepatitis B certification.</td>
<td><a href="https://mychatham.edu/documents/documentcenter/Non-Discrimination%20and%20Grievance%20Procedure%207-1-17.pdf">PDF in folder:</a></td>
<td>In clinical manual for PA program</td>
<td>Need to contact school</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delaware University</td>
<td>Evan Williams, Assoc Dir, Grad Program</td>
<td>Immunization paperwork sent to student or admission, not on website</td>
<td>Immunization paperwork sent to student or admission, not on website</td>
<td><a href="https://www.arcadia.edu/sites/default/files/PA_health_record.pdf">PDF in folder:</a></td>
<td>In clinical manual for PA program</td>
<td>Need to contact school</td>
<td></td>
</tr>
<tr>
<td>Drexel University</td>
<td>Chell, College of Nursing and Health Professions</td>
<td>health record requires surface antibody titer</td>
<td>health record requires surface antibody titer</td>
<td><a href="https://www.drexel.edu/oei/policies/overview/DEO-k/">PDF in folder:</a></td>
<td>In Imm. Form</td>
<td>Need to contact school</td>
<td></td>
</tr>
</tbody>
</table>
Evaluation Plan

- Information gathered is used to calculate a percentage of compliance
  - Schools should have a policy in place for students with hepatitis B as per the recommendations sent in a letter from HHS, DOJ and DOE in 2013
- Schools where more information is needed will be contacted via email and/or telephone to the program administrators
- Schools that have a policy in place that is discriminatory will be sent an email asking to discuss current policies with attachments to the letter and most recent CDC recommendations in the 2012 MMWR report
Define a discriminatory policy…

- A policy is considered discriminatory to a student with hepatitis B if:
  - Proof of surface antibody or antigen is required for attendance or clinical rotations (with or without a policy in place for hepatitis B or bloodborne pathogens)
  - The student is asked to disclose their disease status as a condition of attendance
  - The student’s track in the program will be altered due to their positive status
  - The student can be revoked from the program for having hepatitis B
Results

- 35 schools have good policies where nothing needs to be changed
  - $\frac{35}{83} = 42.1\%$

- 33 schools have policies that need to be changed or need an updated letter sent with the reason as to why they are receiving this notice
  - $\frac{34}{83} = 41.0\%$

- 19 schools have policies in place where more information is needed b/c nothing could be found or the policy was questionable in how it was written
  - $\frac{14}{83} = 16.9\%$
Unexpected Findings & Limitations

- In the beginning, results showed more discrimination in policies than not.
- While doing the project, there have been HCWs, along with students, contacting HBF about hepatitis B being a barrier with employment — supporting the literature.
- Schools have been either supportive or ignoring requests to discuss the current policy/supply information.
- Data is anecdotal.
- Time and scheduling — the largest limitations.
Concluding Statements

- There is still an almost even divide among program and policy discrimination
- This may discourage AAPIs and African Immigrants from applying to applied health programs.
  - Healthcare is an industry that feeds on diversity to increase cultural competency
- Policy leaders and school administrators are advised to be made aware of the issue as it is reported to the foundation nationally
References


Prohibition against exclusion from participation in, denial of benefits of, and discrimination under federally assisted programs on ground of race, color, or national origin, 42 U.S.C.A. § 2000d (n.d.).


Acknowledgements

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