Best Practice Advisory to Improve Adherence to Hepatitis B Vaccination Guidelines in Undergraduate Nursing Students

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Background

- 362,000 people have chronic Hepatitis B infections in the United States, 15-25% will die prematurely from liver cirrhosis or cancer
- Healthcare costs resulting from complications related to Hepatitis B infections estimated $1 billion annually
- Only 35% of adults 19-49 years of age report having 3-doses of hepatitis B vaccination
- Despite being at risk of occupational exposure, 64% of healthcare workers have the recommended hepatitis B vaccinations and anti-HB titer
- Healthcare students are at a greater risk of exposure than licensed healthcare workers; students have an 18% higher risk of needle-stick injuries
- Many undergraduate healthcare students are not vaccinated as recommended for Hepatitis B
- Most frequently cited barriers to hepatitis B vaccination are provider’s lack of clarity about the recommended guidelines, and patient’s financial barriers

Purpose and Aims

**Purpose**: To increase the rate of documented Hepatitis B immunization and anti-HB titers among undergraduate nursing students through provider/staff education and Best Practice Advisory

**Aim 1**: Determine if provider education and a best practice advisory (BPA) increases the rate of documented Hepatitis B status

**Aim 2**: Evaluate if initiating Hepatitis B immunization protocol, and providing access to Hepatitis B vaccination/ titers will increase the rate of positive anti-HB titers

Methods

**Pre-implementation**

Create Best Practice Advisory (BPA) in PointClick

Educate providers about ACP Recommendations, BPA and documentation updates in PointClick

**Implementation**

Providers educate students about Hepatitis B and ACP recommendations

Initiate immunization protocol

**Post-implementation**

Chart review

**Design**: Pre-/ Post-intervention

**Setting**: Community College Wellness Clinic, Allied Health Review visit

**Sample Population**: Undergraduate nursing students

Pre- Fall 2019 (n=33) & Post- Fall 2020 (38)

**Intervention**: Provider Education, BPA; student access to vaccine/ titers

**Data Collection**: 16-weeks

### Results

**Aim 1: Provider Education & BPA and documented Hepatitis B status**

<table>
<thead>
<tr>
<th>Results</th>
<th>Fall 2019</th>
<th>Fall 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Documented HepB Status during AHR</td>
<td>12%</td>
<td>21.10%</td>
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</tbody>
</table>

**Aim 2: Provider initiation of Hepatitis B protocol and student access to hepatitis B vaccine/ titers**

<table>
<thead>
<tr>
<th>Results</th>
<th>Total Titers</th>
<th>Positive Titers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2019</td>
<td>24%</td>
<td>24%</td>
</tr>
<tr>
<td>Fall 2020</td>
<td>57.9%</td>
<td>37.60%</td>
</tr>
</tbody>
</table>

### Sample Demographics

<table>
<thead>
<tr>
<th>Demographic characteristics</th>
<th>Fall 2019 (n=33)</th>
<th>Fall 2020 (n=38)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, mean, (SD)</td>
<td>26 (6.6)</td>
<td>25 (8.5)</td>
<td>.120</td>
</tr>
<tr>
<td>Sex n(%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>6 (18.2%)</td>
<td>8 (21.1%)</td>
<td>.762</td>
</tr>
<tr>
<td>Female</td>
<td>27 (81.8%)</td>
<td>30 (78.9%)</td>
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### Limitations

The COVID-19 pandemic restrictions in place at the college in Fall 2020 impacted student access to vaccination and serology testing. The 16-week project implementation period did not allow time for students to complete a full 3-dose booster and repeat serology.

### Conclusions

This QI project increased awareness and access to hepatitis B vaccination for undergraduate healthcare students.

Educating providers about hepatitis B immunization best practice guidelines and embedding , a best practice advisory in the visit encounter note supports implementation of the ACIP guidelines for hepatitis B immunization.

Student access to hepatitis B vaccination and anti-HB titers through the wellness clinic improves student adherence to best practice immunization guidelines.

### References

Albers, G. W., Giannini, A., Schiller, S., Mehlman, B., & Harris, A. M. (2017). Hepatitis B vaccination, screening, and linkage to care: Best practice advice from the American college of physicians and the Centers for Disease Control and Prevention. Archives of Internal Medicine, 167(11), 746-754.


Infectious Diseases Society of America (IDSA), Society for Healthcare Epidemiology of America (SHEA), Pediatric Infectious Disease Society (PIDS) (2012). IDSA, SHEA, and PIDS joint policy statement on mandatory immunization of health care personnel according to the ACP-recommended vaccine schedule.