A state-wide evaluation of summer youth camp injuries and illnesses, Maryland 2008-2011

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Today’s Objectives

- Youth Camps in Maryland
  - Requirements
  - Injury/Illness Surveillance
- 2008-2011 Injury and Illness Data
  - Reported Illnesses
  - Reported Injuries
- Discussion
  - Challenges
  - Next Steps
Youth Camps in Maryland:

- are defined as “any day, residential, travel or trip camp that accommodates seven or more campers unrelated to the camp operator and provides primarily recreational activities or has a substantial outdoor recreational component”

- are required to obtain annual certification from the Department of Health and Mental Hygiene (DHMH)
  - Establishes standards to protect the health and safety of campers
Youth Camp Injury and Illness Surveillance in Maryland

- 2 Components Mandated in State regulations:
  - Annual Reporting Requirement
  - Injury and Illness Reporting (for incidents meeting criteria)
Which Incidents are Reportable?

- Injury/Illness Events at Licensed Youth Camps
  - Reportable Incidents
    - Requires CPR, Hospitalization, or results in Death (1 Week)
    - Requires Medical Attention (2 Weeks from the end of camp)
    - Reportable Condition/Outbreak in Regulations (1 Week)
  - Non-Reportable Incidents
    - No/Minor injury requiring no medical attention

Camp Reports Incident to DHMH
Injury/Illness Surveillance Process

1. Injury/Illness Events at Licensed Youth Camps
2. Incident Meets Case Definition
3. Camp Reports Incident to DHMH
4. Contact Camp to Request missing/additional needed information
5. Injury/Illness Report Received by DHMH; usually via fax or post
6. Report is reviewed and counted
7. Annual Report Prepared for the Secretary of Health and Mental Hygiene, presenting summary totals
8. Paper Copies of Reports Stored by DHMH
# Injury/Illness Report Form

## A. PERSONAL INFORMATION
1. Name (print)
2. Age
3. Gender □ Male □ Female
4. Check One □ Day Camper □ Residential Camper □ Camp Employee □ Other:

## B. INCIDENT INFORMATION
Complete items 5 through 14 for an injury, illness or medication error.

5. Report Type (check one)
   □ Injury □ Illness □ Medication Error
6. Date of Incident/Illness Onset
7. Time of Incident/Illness Onset: __:__ □ AM □ PM

8. For injuries, specify how the injury occurred and what the injured person was doing at the time of the incident. For illnesses, specify the symptoms and/or relevant medical conditions. For medication errors, specify medication and dose given and symptoms, if any.

9. Did the incident require any of the following:
   - CPR: □ No □ Yes
   - Epinephrine: □ No □ Yes
   - AED: □ No □ Yes
   - Inhaler: □ No □ Yes

10. Did incident result in death? □ No □ Yes
    List Date of death: __/__/____
    List Time of death: __ am/____ pm

11. Was the person transported off-site for medical care? □ No □ Yes
    A. Transported by:
       - Camp or personal vehicle
       - Ambulance
       - Helicopter
    B. Treated or evaluated at (check all that apply, specify the name of facility):
       - Urgent Care Facility
       - Doctor’s Office
       - Hospital
       - Other (specify)

## C. Complete items 15 through 22 only for an injury. See item 23 for an illness.

15. What was the cause of injury:
   - Bite (by what)_________
   - Burn (by what)_________
   - Contact/collision with Person
   - Contact/collision with Object (specify)
   - Drowning or Near-Drowning
   - Fall (from what)_________
   - Hazardous Material Exposure (specify)
   - Poisoning (by what)_________
   - Trip/Slip (on what)_________
   - Weapon (by what)_________
   - Other (specify)_________

16. Was the injury:
   - Unintentional (accidental)
   - Intentional (self-inflicted)
   - Intentional (inflicted by another)

17. Did the individual sustain a (check all that apply):
   - Concussion
   - Other Head Injury

20. Continued
   - Groundskeeping/Maintenance (staff only)
   - Gymnastics/Dance/Cheerleading
   - Horseback Riding
   - Motorized Vehicle (specify)
   - Playground
   - Primitive Camping
   - Rifflery
   - Rock Climbing/Rappelling
   - Ropes Course/Challenge Course/Zip-line
   - Swimming
   - Walking/Running/Hiking
   - Other (specify)

21. Was the activity supervised? □ Not Applicable □ No □ Yes (specify)
### Injury/Illness Report Form (2)

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
<th>Description</th>
</tr>
</thead>
</table>
| 12. After off-site or on-site medical evaluation, the person (check all that apply): | □ Was admitted to the hospital  
□ Went home. Date: ___________  
□ Returned to camp with medical restrictions  
□ Returned to camp with no restrictions | 18. Specify the body part(s) injured: |
| 13. Did the incident involve physical abuse, neglect, sexual abuse, or mental injury? | □ No  
□ Yes (specify)  
Government Agency: ___________  
Report/Investigation Date: ___________  
Report/Investigation Number: ___________ | 19. Describe where the injury occurred: |
| 14. Did the incident prompt a report or investigation by government authorities or officials? | □ No  
□ Yes (specify)  
Government Agency: ___________  
Report/Investigation Date: ___________  
Report/Investigation Number: ___________ | 20. Specify the activity the individual was engaged in at the time of injury (select most applicable activity): |

#### D. Complete item 23 for an illness, not for an injury.

23. DHMH requires certain diseases, conditions, outbreaks and unusual manifestations reported to the local health department.

- Was the illness a suspected reportable disease, condition or outbreak?  
  □ No  
  □ Yes  

For the required DHMH reportable diseases list and outbreak information-go to: http://ideha.dhmh.maryland.gov/reportable-diseases.aspx

- Was the illness reported to a local health department?  
  □ No  
  □ Yes  

If Yes (specify department): ___________

The camp health supervisor or responding health care provider completes Provider Report Form # 1140 when reporting to the local agency - go to: http://ideha.dhmh.maryland.gov/pdf/what-to-report/DHMH1140.pdf

#### E. GENERAL REPORT INFORMATION

Complete items 24 through 27 for an injury, illness or medication error.

24. Report Completed By-Employee Name (print): ___________  
Title: ___________

25. Camp Name: ___________  
Address: ___________  
DHMH CAMP ID #: ___________

26. Notification

- Parent, Guardian, or Emergency Contact was notified  
  □ No  
  □ Yes  
  Date: ___________  
  Method: ___________

- Camp Health Supervisor was notified  
  □ No  
  □ Yes  
  Health Supervisor Name: ___________  
  Date: ___________  
  Method: ___________

- DHMH/CHS was notified within 24 hours  
  □ No  
  □ Yes  
  Not Applicable  
  DHMH Contact Name: ___________  
  Date: ___________  
  Method: ___________

27. Employee Signature: ___________  
Date: ___________  
Phone Number: ___________

Maintain this report for at least 3 years.
Methods

- Microsoft Access™ database designed to store Annual Reports (AR) and Injury/Illness Reports (IIR)
  - Modeled after the 2011 IIR Form
- Data Entry
  - All available ARs and IIRs for 2008-2011
- Data Cleaning/Quality Evaluations
- Summary and Analysis-SAS version 9.2
  - Descriptive Statistics
  - Injury/Illness Rates
    - Merged the AR Data and IIR Counts
    - Rates per 1,000 “Camper Days”
    - Assessed rates by Individual Camp and Camp Type
Results

- General Information
- Injury Reports
- Illness Reports
In Maryland, most licensed camps are day camps.

Maryland Camps, 2011
(n = 608 licensed camps, 26 pending)

- Residential & Day 4%
- Residential 9%
- Day 87%
As of February 2012 approximately 83% of 2011 Annual Reports were received.
2008-2011 Injury and Illness Reports Received

1,984 Reports Received
- 2008: 502
- 2009: 562
- 2010: 402
- 2011: 518

1,873 Reportable

1,712 Campers
- 1,123 Injuries
- 589 Illnesses

111 Non-reportable

161 Staff Members
An annually more camper injuries than illnesses are reported.

![Bar chart showing camper injury or illness reports by year and report type from 2008 to 2011. The graph indicates that the number of injury reports is consistently higher than illness reports each year.]

* Fewer reports were collected in 2010 due to internal funding changes in the program.
Male campers comprise a larger percent of reported injuries, while female campers accounted for a higher percent of reported illnesses.
The age distribution was the same for boys and girls.
Reported Illnesses
Most illness reports come from residential camps.
Overall less than 1 illness was reported for every 1,000 reported camper days.

* Illness rate peak in 2009 is associated with H1N1 flu.
42% of illnesses reports did not list a diagnosis
Camper Illness Outcomes

- Of the 589 Reported Camper Illnesses:
  - 4.1% resulted in the camper being admitted to a hospital
    - Diagnoses included: appendicitis, pneumonia, kidney infection, psychological issues and other conditions or unspecified diagnoses
  - 54% of reported illnesses resulted in the camper being sent home for camp.
    - Of these:
      - 10% Returned to camp
      - 9% Did not return to camp
      - Whether the camper returned was unknown for 81%
Reported Injuries
Approximately half of all injury reports come from day camps.

Injury Reports, by Camp Type, 2008-2011
(n = 1,123)

- Day Camp: 51.7%
- Residential Camp: 37.8%
- Residential/Day Camp: 5.3%
- Unknown Camp: 5.2%
Residential camps had the highest overall reported injury rates.
Few injuries occur during participation in specialized activities compared to other camp activities.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooking/Food Preparation</td>
<td>5</td>
</tr>
<tr>
<td>Arts &amp; Crafts</td>
<td>9</td>
</tr>
<tr>
<td>Biking</td>
<td>18</td>
</tr>
<tr>
<td>Playground</td>
<td>79</td>
</tr>
<tr>
<td>General Camp Life</td>
<td>151</td>
</tr>
<tr>
<td>Walking/Running/Hiking</td>
<td>160</td>
</tr>
<tr>
<td>Other</td>
<td>179</td>
</tr>
<tr>
<td>Competitive Sport/Game</td>
<td>332</td>
</tr>
<tr>
<td>Archery*</td>
<td>0</td>
</tr>
<tr>
<td>Riflery*</td>
<td>0</td>
</tr>
<tr>
<td>Rock Climbing/Rappelling*</td>
<td>1</td>
</tr>
<tr>
<td>Motorized Vehicle*</td>
<td>11</td>
</tr>
<tr>
<td>Ropes/Challenge Course/Zip-Line*</td>
<td>13</td>
</tr>
<tr>
<td>Gymnastics/Dance/Cheerleading*</td>
<td>22</td>
</tr>
<tr>
<td>Horseback Riding*</td>
<td>44</td>
</tr>
<tr>
<td>Boating*</td>
<td>45</td>
</tr>
<tr>
<td>Swimming*</td>
<td>54</td>
</tr>
</tbody>
</table>
Most camper injuries occur at the camp-site, at a sport or recreational field.

Camper Injury Locations, 2008-2011
(n=1,123)
Falls and Trips or Slips caused nearly half of all camper injuries.
Fractures are the most commonly confirmed diagnosis listed on an injury report.
Upper extremity and head injuries accounted for most camper injuries

Body Region Injured

- Head/Face/Neck: 32.4%
- Trunk: 6.1%
- Lower Extremity: 23.2%
- Upper Extremity: 34.8%
Of the 1,123 reported camper Injuries:

- 3.4% resulted in the camper being admitted to a hospital
  - Injuries Included: Fractures, concussions, lacerations, an animal bite, and other injuries/no outcome specified.

- 48% resulted in the camper being sent home for camp. Of these:
  - 19% Returned to camp
  - 10% Did not return to camp
  - Whether the camper returned was unknown for 71%
Discussion

- First-ever evaluation of the injury/illness experience of campers in Maryland

- Challenges/Limitations Identified
  - Paper based reporting system
  - No data on the underlying camper population
  - Lack of outcome/diagnosis information
  - No established way to assess under-reporting
    - Were there no incidents, or were incidents not reported?
Next Steps

- Anticipated that data quality and completeness will improve in the coming years due to the new forms
- Maintaining the Injury/Illness Report Database
- Will add in 2012 data as it becomes available to see how this compares
- Surveillance System Evaluation—Identifying areas for improvement
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Thank You.

Questions?