Hygiene Heroes:
Teaching Health and Infectious Diseases with a Combination of Stories, Games and Fun Activities

Introduction

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This is an early draft manual for using stories, games and engaging activities to teach health topics to students ages 5 to adult.

As you know, each year a million or more children die from water-borne diseases, even more die from household air pollution, largely from smoky fires, malaria infects hundreds of millions, HIV and even measles take their deadly toll, and so forth. As you also know, simple interventions can prevent almost all of these illnesses: Washing hands with soap, bednets, and so forth.

Importantly, illness, lack of nutrition, and parasites make it hard for students to learn when they are in school, substantially lowering test scores. Thus, teaching this material will not get in the way of your regular teaching. Instead, a healthier class will be better able to learn what you have to offer.

Unfortunately, teaching about these risks and behaviors usually does not lead to sustained safe behaviors. This manual is based on the hypothesis that we can teach these familiar health lessons using a combination of stories, games and vivid activities.

While the stories, games and activities are meant to be fun, the curriculum is very serious. The activities are based in theories of education that stress the importance repetition, vividness, and engaging students. The contents of the activities are built on theories of behavior change that stress information, habit formation, and social support for new behaviors (for example, creating norm within a classroom to wash hands with soap). Germs fit well with stories and games because (1) the illnesses directly affect the students; (2) preventing germs is a conflict, and conflict makes stories and games vivid and exciting; and (3) much of prevention is about poop – a topic many younger students find fascinating.

The manual covers:
- Unit 1. Handwashing
- Unit 2. Safe water
- Unit 3. Sanitation
- Unit 4. Respiratory Infections
- Unit 5. Stay Healthy Together
- Unit 6. Malaria
- Unit 7. Accidents and First Aid
- Unit 8. Prevention, Diagnosis and Treatment

Each unit begins with a needs assessment, understanding the current health risks, attitudes and behaviors relating to each topic. This assessment may require observation and interviews with local nurses or other health professionals. The assessment also covers your program’s resources. The assessment will help you prioritize activities and fine-tune each unit for the needs of your students. If your students and/or school cannot access the supplies required for a unit (for example, a bednet), consider skipping that unit until you can establish relationships that make supplies possible.

The core of each unit is an array of stories, games, and activities such as experiments and art projects. Games include board games, card games, classroom games, and outdoor games (such as versions of “germ tag” showing how diseases spread and what prevents them). Some activities repeat in each unit, such as making (some of) posters, songs or skits on the theme of the unit. Other activities add new layers in each unit, such as the class agreement on safe behaviors and several games that can add new layers of gameplay as students learn about new health threats, preventions and cures. Each unit closes with an optional quiz and student assessment.

Most units are designed to take 5-10 hours of program time, perhaps spread over a few weeks. It is easy to adjust the units to be longer or shorter.

<table>
<thead>
<tr>
<th>What UNICEF, UNESCO and the World Health Organization (WHO) have to say about the link between health and learning:</th>
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<td>1. School-based nutrition and health interventions can improve academic performance.</td>
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<td>2. Students' health and nutrition status affects their enrollment, retention, and absenteeism.</td>
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<td>3. Health promotion for teachers benefits their health, morale, and quality of instruction.</td>
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<td>4. Health education is most effective when it uses interactive methods in a skills-based approach.</td>
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<td>5. Trained teachers delivering health education produce more significant outcomes in student health knowledge and skills than untrained teachers.3</td>
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**How to use this manual**

This manual uses a few conventions.

- Text the teacher or group leader reads is in looks like this.
- For many questions the answer we are hoping students will give in is written like this.
  - If students do not give the expected response, ask follow-up questions or (if needed) explain further.
- We refer to “students” or “players” and “teachers.” We realize sometimes the “students” will be adults and the “teacher” may be a group leader, facilitator, or one of the students acting as group leader.

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Review the activities in each unit

- Your school or organization should review the activities in a unit and decide which fit the needs, interests and skills of the students.
  - It is fine to skip any activities that do not fit well with this setting, require supplies that are hard to get, etc.
  - It is often helpful to check with local health experts to determine which activities are appropriate and to fine-tune the lessons.
- Have teachers discuss the possible activities. Have everyone mention any concerns and also suggest variations or improvements.
- Modify rules, the stories and other activities to fit your setting.
- Gather the required supplies.

Design each session

- Divide the activities into sessions that fit your program
  - For example, one hour of teaching during a regular class.
- Start each session with: (5 minutes)
  - Ask: What do you remember learning in the previous session?
- End each session with: (5 minutes)
  - Ask: Do you have any questions about the lessons we covered today?
  - Ask: What were the main lessons from today?
    - Prompt the students with follow-up questions until they review the main points.
  - Optionally, each session can end with a brief quiz or with a quiz game. I include possible questions. Ask any questions that will help students understand.

For each activity

- Read instructions carefully.
  - As noted above, modify instructions as needed.
- Translate class materials as necessary.
- Do as much preparation as possible prior to class.
- Keep the discussion guide handy, as it suggests questions to ask.
- When reading stories:
  - Read the story ahead of time, and select voices for each main character.
  - Plan how you will hold the book so students see it clearly.
    - Carefully note any two-page spreads.
  - Break up any story with questions that help all students follow the story and make sure all students understand the health messages.
  - Students who are good at reading can read books to younger students.
  - If you have access to a computer screen or tablet, students often like to see images on the screen.
    - Only read a few minutes at a time. Read longer stories over several days.
- When playing games
  - Students often enjoy being on teams, even if the game can be played individually.
Two keys to using these materials

Key point #1: Let students explain

- We want students to learn by experiencing the activity, and then figuring out what lessons it holds for good health.
- Thus, do not explain why you are doing each activity beforehand. Instead, ask questions to guide students.
- *Students will remember much more if they are the ones who figure out the point and explain it to classmates.*

Key point #2: Your enthusiasm drives the class

- These activities are meant to be fun and engaging. If you approach each lesson with enthusiasm and good humor, the students will also.
  - Embrace laughter and silliness.
  - Make up new material as you go along.
- *Have fun!* That way the students will know it is also ok for them to have fun.

Pilot tests require your leadership

You are the experts at teaching in your community. Thus, I greatly appreciate you sharing your expertise and experience.

- Any information you can give me on how you implemented the games, stories and activities. For example,
  - Which activities did you skip, and why?
  - What rules or stories did you modify?
  - If you translated materials, can you share them so I can post them on the Web for other teachers to use?
- Any feedback you can give me on how the students reacted to each activity would be great. Ideally, you can take a few notes after you run each activity.
  - How did each activity work?
    - Did you have to modify parts as you went along?
    - How engaged were students?
    - Any evidence they learned anything or changed their attitudes?
    - Any ways to improve the activity?
  - Any evidence on changes in handwashing or other health behaviors?
- Please tell us about any new activities you introduced.
- *Any* suggestions on improving these materials are greatly appreciated.
- Send any questions or suggestions to David Levine, Levine@haas.berkeley.edu

I hope we can work together to create a set of engaging activities that can help teachers and students throughout the nation and throughout the world.
**Needs assessment: Overall resources**

There is a Needs Assessment for each chapter. This Needs Assessment covers topics that affect all chapters. Use this needs assessment to eliminate unnecessary or inappropriate exercises.

**Students**
- At what age or grade can students read picture books? Chapter books?
- What share of this curriculum can be presented to students of different grades in English (if any)?
- At what ages can boys and girls play together?
- Will girls play running games with boys?
  - Will girls play running games with other girls?
- When it comes to the behaviors we want, whose opinions really matter to students?
- Who has strong opinions about the behaviors we want?
- Through which media or channels do students get information?

**Student perceptions and beliefs**
- What are students’ main beliefs about what cause disease?
- What do students believe “Germs” are? (Or have students never heard of germs?)
- What goals do students seek in life overall?
- What information sources do students find credible?

**Prevention in the Community**

When thinking about the activities in this curriculum, consider the following resources:
- Parents
  - How willing are parents to come to a school meeting? To see students put on plays? To view posters?
  - How many parents support the school’s mission?
  - How many parents afford bednets, soap, etc.?
    - Do government clinics give nets to pregnant women?
  - What share of parents are literate?
  - What do most parents know about germs and health?
  - Can we lend stories or games for students to take home and play with siblings or read to younger siblings (and perhaps more of the family)?
- What types of performances do students do already?
  - Put on street plays,
  - Engage in singing contests
  - Etc.

**Health care**
- Where do people go for care for different ailments?
● Are there usually drugs at public clinics?
● What is the actual fee for a typical public clinic visit (including formal fees, informal “thank you payments,” and drugs)?

**Data on health in this region**

Go to the district health office and ask for any data on the disease incidence, especially for diarrheal diseases, malaria, and pneumonia. What are immunization rates? What is the rate of infant mortality? Child mortality?

● For 100 people or households in a year:
  ○ How many doctor visits?
  ○ How many hospitalizations?
● How much does one hospitalization cost?
If they do not have data for this district, regional or national data are useful as well.