

MODULE 8

HOW TO COLLECT, ANALYZE, AND USE HEALTH INFORMATION
(DATA)

ACCOMPANIES THE 'MANAGING HEALTH AT THE WORKPLACE' GUIDEBOOK

MODULE 8: How to Collect, Analyze, and Use Health Information (Data)

You have a gold mine of health information that you are probably not collecting well or using effectively. This Module helps you mine some of this information.

Why care about health information or data?

Health data – numbers, graphs, trends – can help you manage your health staff and provide *supportive supervision*. Good data helps you know what’s going well and not going well – such information is needed for promoting continuous improvement. And health data are critical if you want to know what kind of *a return on investment* you are getting from your factory health activities.

There are three types of health information – data – you should **collect, analyze and use**:

- **Health data** – patient information on infirmary and doctor’s visits; referrals; counseling; medicines and product usage etc.
- **Absenteeism data** – worker absenteeism linked to health and family issues.
- **Annual Plan/Nurse Activity data** – information on health outreach and education initiatives; peer education activities; trainings etc.

This Module helps you get the most out of the health information you have and gives suggestions for expanding the kind of information you keep. It is meant to be as simple and user-friendly as possible.

COLLECTING HEALTH INFORMATION

You may already collect some health information in your clinic. You already have a business process for inputting factory data on errors, absenteeism, productivity, injuries and other factory performance indicators.

These **seven steps** will help you improve your data collection:

Step 1: Decide what general information to collect.

The health data need to be meaningful to the workplace and to your health services and activities.

SCORECARD LINKS

3.8.1 Workplace is in compliance with any legal requirements to record and report on workplace accidents and related diseases.

3.8.2 Health providers record on paper or registers basic health information on the patient, including sex and services provided. Facility health data is incorporated into overall management data systems for quality, productivity, and occupational safety.

The following data are often collected:

- **Workplace injuries** (number and type)
- **Absent workers** (number and whether an absence is for health-related reasons)
- **Cases seen at the clinic** (by diagnosis and segregated by male/female, section, production line or halls)
- **Services provided to worker-patients** (medicines given, number and type of referrals made, tests administered)
- Health education and **outreach activities** (number, type, and topics)

If you produce a **health Annual Plan**, you should look at what other information to collect so that you can track the factory’s and nurses’ performance against plan indicators.

Step 2: Collect your data so that you can make comparisons between types of workers.

The most important comparison is between women and men workers. So your data should include *the sex (female/male)* of each worker.

Besides sex, other kinds of useful information might include:

- Age
- Factory Line
- Production Hall
- Shift

Don’t put all the clinic information together under the single category “workers.”

The health issues facing women and men workers as well as younger and older workers will often differ.

Look at the difference below between a sample clinic monthly report that just gives a total of all cases (**Table 1**) and one that disaggregates by sex – men and women (**Table 2**):

TABLE 1	
Clinic Cases - January	
Headache –	25
Infectious diseases –	3
Fever –	4
Anemia –	5
Intestinal Pain –	40
Menstrual pain –	50
Gynecological –	5
Urinary Infections –	5
Back/Neck Pain –	15
Eye Strain –	5

Step 3: Assign responsibility for data collection.

Once you decided on the type of information to be collected, you need to make people responsible for its completeness and accuracy. These are the likely the people to include:

- **Senior Nurse.** It is suggested that you give a Senior Nurse the overall responsibility of data collection and quality. Her job is to make sure it is collected consistently and correctly – and analyzed and used.
- **Health Staff.** All nurses will need to write information in registries, patient records and other forms. This needs to be a formal requirement in their job descriptions and part of their performance review.
- **Human Resources/Business Office Staff.** Someone must be responsible for the collection of absenteeism (and other productivity) data and working with the nurses staff on analysis and use of all health-related information.

Step 4: Ensure health information is recorded on time.

If people write down the information long after the event using their memories, it will be incomplete and likely inaccurate.

TABLE 2	Women	Men	TOTAL
Clinic Cases - January			
Headache	12	13	25
Infectious diseases	2	3	3
Fever	2	2	4
Anemia	5	0	5
Intestinal Pain	15	25	40
Menstrual pain	50	0	50
Gynecological	5	0	5
Urinary Infections	5	0	5
Back/Neck Pain	3	12	15
Eye Strain	0	5	5

Nurses must record patient information during and immediately after a patient visit. Data on absent workers must be recorded the days the worker is not at work.

Likewise, information on health education or Annual Plan activities should be recorded immediately after each activity takes place.

Step 5: Give Nurses ownership of their health data.

Factory nurses need to view the health information as THEIR data for their use. They will do a much better job of collecting health information if they see it as useful to their work.

If your nurses think the health data are just information to pass along to their bosses and it is never shared or discussed – or, worse, used against them – they will not care about collecting it accurately.

Step 6: Count and aggregate your health data each week.

The nurses and/or Human Resources staff should add up the numbers for each category of data to be collected weekly.

Otherwise, the nurses responsible for the information becomes overwhelmed. Health information can pile up to the point that nurses makes errors or cuts corners and even stops doing accurate record-keeping.

You should have weekly forms that allows you to aggregate – add up and compile – all the information by category.

Each week your nurses and others responsible for health-related information should input count into the right forms.

The information counted might include:

- **Health clinic operations (in addition to injuries):** number of visits (total, by women, by men, by line), types of health issues (total for each, by men, by women); number of medications dispensed by type;

number of doctor visits; number of counseling sessions.

- **Absenteeism:** number (total and by sex, due to personal health, family health); number of days absent; number that reported absenteeism before workday.
- **Health Activities/Annual Plan:** number of health education sessions; number of attendees (by sex); topics discussed.

Step 7: Enter weekly aggregated data into a database (eg. Excel spreadsheet), if possible.

An Excel sheet or other database is recommended for much easier review, analysis and presentation of the numbers collected.

A simple paper log compiling monthly figures can also work effectively when a computer database is not available.

For computer-based analysis, you need to put in place a process for the nurses to have access (and training, if needed) to computers. Or they need to work closely with an assigned, responsible person in your business or human relations office.

ANALYZING HEALTH DATA

Analyzing health data is about trying to understand what the numbers mean, if anything. It can help you answer important business and management questions, such as:

- What health issues are affecting workers the most – and which workers?
- Are some workers or lines getting sicker more often than others – and why?
- How are we performing against our annual health plan – and where do we need to improve?
- Why are workers absent – and what can we do to reduce absenteeism?
- What can our nurses do to improve worker health on specific health topics?

The Senior Manager for health must lead and support the analysis health information.

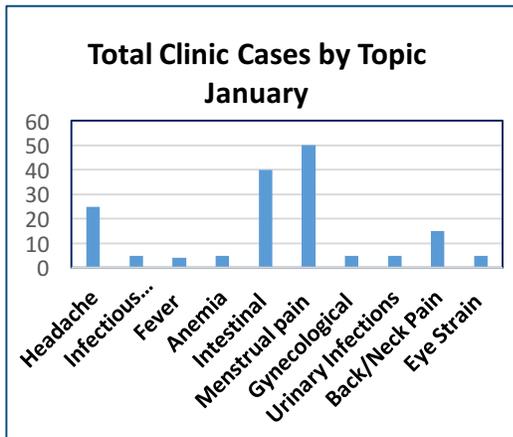
There are **Four Steps** for analyzing health-related data:

Step 1: Put data in a visual form that makes it easier to understand.

You will need to put it in *charts or graphs* (which can be done on paper by hand) using a spreadsheet database.

Numbers mean nothing on their own – they need to be understood. Putting numbers in a visual form allows you to see trends and make comparisons much more easily.

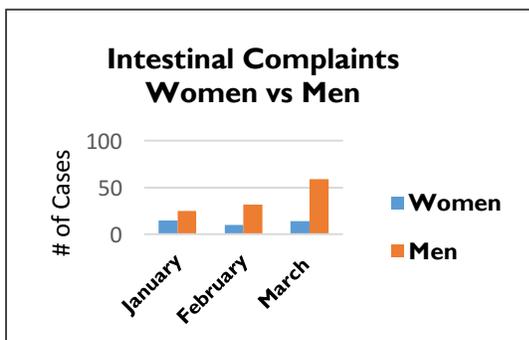
When you put the data from Table 1 and Table 2 into charts, you can now “see” the information:



Step 2: Review the data for each month, over several months and annually.

You need to look at health data for each specific month, but also compare information from one month to the months before it – to see trends and changes.

Below you will find three month comparisons – both totals and disaggregated by sex:

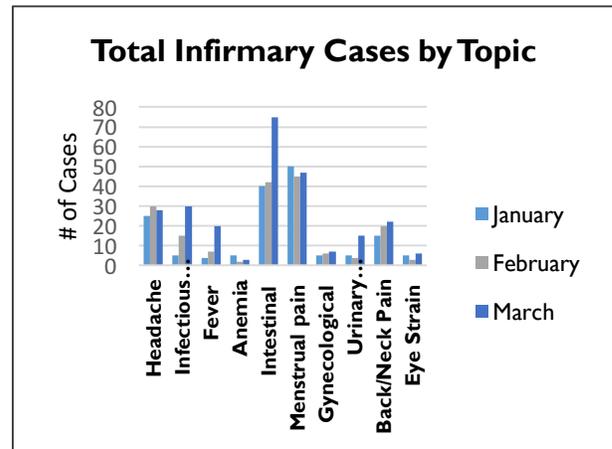


Over time, you can also compare data from one month to same month a year ago or two years ago. This allows you to identify seasonal issues that should be addressed.

Step 3: Ask compare and contrast questions of the information.

These are basic questions about what appears to be happening, such as:

- Which are the most common issues for the month?
- Where are cases increasing or decreasing from the previous months?
- Who is most affected by the health problem?



Once you put health information into a visual form – and show the differences between men and women – you can see a much wider range of issues to address.

The sample clinic information presented above shows that:

1. Women’s menstrual pain is a leading reason for factory clinic visits each month.
2. Intestinal problems are increasing dramatically. But also, they are affecting men much more than women. (If you only looked at total cases, you might not realize the impact on men.)
3. Infectious disease are also increasing and should be a concern.

See **Tool 27** (*Two Types of Questions for Data Analysis*) for more examples and explanation.

Step 4: Ask explanatory questions of the information.

You now need to ask **why** these events or changes are happening. You want to find the cause or causes for the numbers and trends you are seeing. For instance you should start to ask:

- Is the problem related to internal factory causes or external ones?
- Has anything changed recently that might have caused or made the problem worse?
- Is the problem seasonal (like the flu) or recurring (like menstrual pain)? If so, are there behaviors that are making the problem worse?

See Tool 9 (in Module 2) on the Five Whys technique for finding root causes.

REMINDER WARNING

All health data about individual workers must be kept confidential. That means only the health staff and external medical facilities have access to this information.

However, *aggregated data* – that is, information that pulls together information collectively that does not identify individual workers – can be used and shared.

The examples used above have focused on worker health complaints in the factory clinic. You can collect the same kind of data for many health-related areas:

- **Use of clinic medicine and products:** Number/types of medicines/health products prescribed or dispensed.
- **Absenteeism related to personal or family health.** Number/types of illness given as reason for absenteeism. (Finding out the types of illness can help your nurses target their health promotion to workers.)

SCORECARD LINKS

3.8.7 Health needs and trends are reported to management

6.3.7 Health data, disaggregated by sex and age, is reviewed at least twice a year by the management team and the appropriate worker committees

7.2.4 Chief Executive Officer uses health data and metrics as part of its annual assessment of enterprise performance and productivity

- **Counseling workers on sensitive topics:** Number of individual counseling sessions held by nurses and topics discussed.
- **Health outreach and education activities:** Number of health education activities undertaken and topics discussed at each one; number health education materials distributed.
- **Annual health plan:** Numbers related to activity goals and indicators.

USING THE HEALTH DATA FOR ACTION

Once you have answered the questions and analyzed the information, you must decide what to do, if anything, and take action.

There are **Four Steps** for taking action:

Step 1: Ask a set of action questions about what needs to be done based on your analysis of the health:

- What should we do about the situation/trends/changes we are seeing?
 - What should we do *immediately* because the issue requires quick action as we have a better understanding of the reasons or causes for the issue?
 - How can we *prepare in advance* (monthly, quarterly, or annually) to take action to address the issue now that a pattern or trend is clear?

- How can we do a *better* job of addressing the issues identified?
This question pushes the health staff to avoid easy responses to the data such as (1) “we are already doing something” or (2) “we cannot do anything about that.”
- What resources, training, help do we need in order to take action?
- What did we find that is important (even serious or life-threatening) for others to know, such as Management, Line Supervisors, Doctor, other nurses, Peer Health Educators, Health & Safety committee members, or the entire workforce?

SCORECARD LINKS

3.8.5 Health records and data are regularly reviewed by providers to ensure follow-up with individual patients

6.3.6 Facility health data is incorporated into overall management data systems for quality, productivity, and occupational safety

Step 2: Prioritize fast action on health issues that are urgent:

Some issues require immediate action and you should not wait because they are urgent— such as a large increase in a specific illness. You may not yet know the exact cause, but there are always things you can do.

In the data shared above, for example, after two months you may have noticed men workers were increasingly reporting intestinal problem. By the third month, you see a dramatic increase in intestinal problems (diarrhea).

This is a bad trend. You may not know why this is happening to men but you know enough about prevention – relating to hand washing, food preparation, and hygiene. Your health staff

can promote good behaviors while your health team gathers more information about the root causes.

If you do not act immediately, you may have a 200% increase in the following month and lots of absent workers. You need to plan how the management and the health staff will address the problem.

See *Tool XX Questions & Actions Form* with example for diarrhea.

Step 3: Implement longer-term action plans for recurring or chronic health issues, patterns or trends.

You should use your health information and analysis to help you **prevent health problems** or reduce the impact of them over time. This is part of your health staff’s *continuous improvement*.

Using Data Analysis for Longer-Term Planning & Action

The health staff is reviewing its health data over the year or several years. The nurses make this report to Senior Management:

“We saw a lot of headaches during the hot season, which may mean workers are not drinking enough water. In our long term plan, we need to put in place activities to educate workers and supervisors on the importance of adequate hydration – especially during the hottest months.

“Our health education activities have focused mainly on hand hygiene. We have not done much on more sensitive topics that are important for our workers, such as reproductive health.

“We need to plan educational activities on this topic and become more comfortable and capable of addressing it. So before we do these activities, we will need: (a) some educational materials for workers, (b) refreshers for our PHEs and (c) additional training for nurses.”

For instance, in the bar charts above showed many complaints about menstrual pain. These are not urgent like an infectious disease. But reducing menstrual pain greatly improves the well-being of women workers.

Your nurses cannot stop all menstrual pain. But they can do a lot to help women workers with menstrual hygiene and pain control.

Another example are seasonal illness like the flu. Again, your health staff cannot end the risk of flu. But they can help prevent the spread by promoting hand washing and covering of the mouth for coughs and other good practices.

Your long-term data analysis should also be used to develop your annual health plan.

Step 4: Share health information and action plans with managers and workers.

You should share your monthly, quarterly and annual charts, analysis and action plans with managers and workers. There are many reasons to share this information with workers:

- Seek information about the causes of health problems
- Get feedback and ideas for your action steps
- Give them information they need to share with workers
- Gain their support and involvement in your activities

It is recommended that your nurses share health information and plans at your regular Health and Safety Committee meetings. But such information should also be shared with line supervisors and senior management.

TOOL 27: TWO TYPES OF QUESTIONS FOR DATA ANALYSIS

This tool provides suggestions for asking good questions of your health information:

COMPARE AND CONTRAST QUESTIONS

- **What category has the highest number of cases or highest incidence? What has gone up or down in the charts? Have there been any noticeable increases or decreases in any category?**

Sample Types of Answers:

- This month headaches are the most common complaint and headaches are the least. Last month headaches were low – only .02% of the total cases.
- Peer Educators held 10 meetings on hand washing and one on Family Planning.

- **What are the trends over several months or over the year? Is there a pattern to the changes that have been identified?**

Sample Types of Trends/Patterns:

- Every June, July, and August, we see a big increase in the number workers seeking care for headaches.
- For six months, all our education outreach has focused on hygiene and nothing on nutrition or family planning and reproductive health.

- **How are we doing compared to the goals we set for ourselves this month, quarter or year?**

Sample Types of Answers:

- We set a goal of five educational sessions each on reproductive health/family planning and nutrition. We have not met either goal.

EXPLANATORY QUESTIONS

- **Why are we seeing these changes or trends? Is anything happening external to the health team that may be causing the changes we are seeing?**

Examples of Possible Explanations:

- We are seeing more headaches probably because we are in the hotter months and workers need to be drinking more water.
- Headaches are due to lots of overtime and workers are under more pressure.

- **Is there anything we have been doing (or not been doing) internal to the health staff that explains the increases or decreases or trends? And if so, why have we been doing or not been doing the things that explain the changes?**

Examples Possible Explanations:

- We have been focusing more on hygiene and may not have to reminded workers often enough to drink water during their breaks and at lunch.

The Five (5) Whys Technique

There is usually more than one possible explanation for why something is happening. The health team should not stop at the first explanation but explore all possibilities before deciding on the most likely one and taking action.

The Five Whys is simple: Keep asking “WHY?” Or “Why is that?” Do this at least five times. **See Module 2 and its Tool 9** on “Problem-Solving and the 5 Whys Technique” for identifying root causes.

- Hygiene is what workers say they are interested in and so we have responded. But we have not talked about reproductive health as it is harder to talk to workers about this topic. We find this uncomfortable to discuss.

TOOL 28: QUESTIONS & ACTIONS FORM WITH EXAMPLE

QUESTIONS TO ASK	ISSUE: DIARRHEA (EXAMPLE)
<p>What is the problem OR need? (Use Tool 27 Compare and Contrast Questions)</p>	<p>Increase in cases of diarrhea, 55% in one month; many workers absent or leaving work early.</p>
<p>What are the (root) causes of the problem? (Use Tool 27 Explanatory Questions and the 5 Whys technique Module 2)</p>	<p>Possible causes or contributing factors:</p> <ul style="list-style-type: none"> • There has been reports of e-coli in the town, possibly getting in worker food at home or at work (by food vendor); • Workers may not be using good hand hygiene practices; • The restrooms are frequently out of soap.
<p>What actions do we propose to address the problem? (Use all the Action Questions in this Module.)</p> <p>Answers should go into an Action Plan (See Module 1 templates)</p>	<ul style="list-style-type: none"> • Education messages about e-coli and hygiene; • Health talks on prevention, including a hand hygiene demonstration targeting men workers; • Health talk on treatment; including rehydration and when to seek medical help; • Disinfectants in factory to stop spread of contagion including consistent supply of soap; • Assessment of workplace food vendor practices. • Meeting with recovered male workers to learn more about hygiene and eating habits.
<p>What resources or support do we need?</p> <p>Answers should go into an Action Plan (See Module 1 templates)</p>	<ul style="list-style-type: none"> • Posters and handouts on hand hygiene; • Soap and bleach solution • Rehydration salts • Management engagement to permit work-time meetings with workers and line supervisors
<p>Who is responsible?</p> <p>Answers should go into an Action Plan (See Module 1 templates)</p>	<ul style="list-style-type: none"> • Senior Manager to talk to senior management team about action steps and oversee development and implementation of response • Senior Nurse will oversee finding more information for workers from doctors; health officials and internet sources; she will take stock of workplace needs for soaps and disinfectant; she will meet with recovered workers to learn more.

	<ul style="list-style-type: none"> • Assistant Nurse will find or developed education materials (posters/ handouts) and plan and determine number, dates, times, venues for health talks by nurses/PHE; • HR Manager will ensure copies of educational materials are made, and will inform line supervisors; she will meet with food vendors near factory to assess situation.
<p>When will the activities be started/completed?</p> <p>Answers should go into an Action Plan (See Module 1 templates)</p>	<ul style="list-style-type: none"> • Line Supervisor Communication – completed next Wednesday • Education activities – started on Wednesday; • Taking stock/further information – completed Friday • Posters/Materials – completed by Tuesday, dissemination started Wednesday • Follow-up meeting and next actions – Friday 3 pm.

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