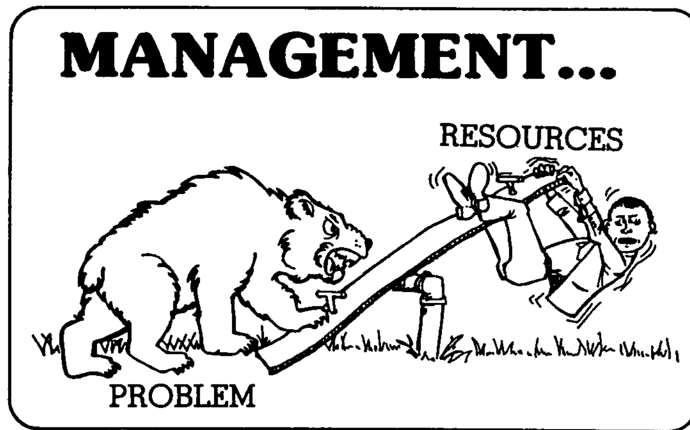

PROGRAM MANAGEMENT

A GUIDE FOR IMPROVING PROGRAM DECISIONS

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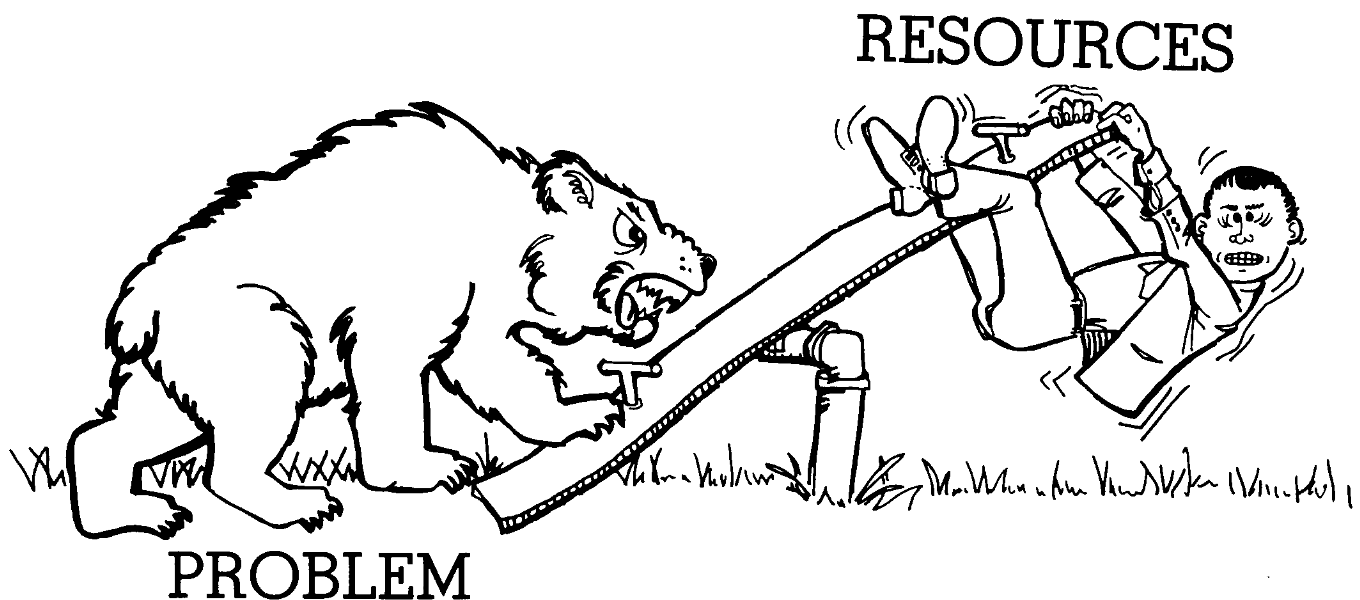
INTRODUCTION

Management of health programs is an art rather than a science. It involves adjusting program elements to respond to ever-changing situations. Change becomes the rule rather than the exception. Effective action requires specific knowledge and often sophisticated judgement.

The concepts, which are the tools of management, remain consistent but their practical application is a process of continual modification. This guide attempts to sort out the various steps required for making rational program decisions and to present them in a concise and logical sequence.

In any professional discussion of management, much energy is expended debating the appropriate use of terms such as mission, goal, objective. Recognizing the lack of agreement among professionals, this guide will not pursue philosophical definitions of terminology, but will attempt simply to illustrate the concepts involved.



Management—The process for constructing, implementing and evaluating organized responses to a health problem or a series of interrelated health problems.

Three prerequisites to developing an organized response:

1. A carefully designed problem statement.
2. The existence, acceptance and availability of effective technology.
3. Effective and efficient organization of technology and resources.

It is through the process of management that people, technology and resources are organized and directed toward the solution of a problem or problems.

When this process is improperly or only partially applied, technology and resources are under-utilized and problems are left unresolved.

The management cycle consists of three phases:

1. Planning—Deciding
2. Implementation—Acting
3. Evaluation—Comparing

Traditionally, planning and evaluation *have been* viewed as discrete independent functions carried out at different points in the life span of a program.

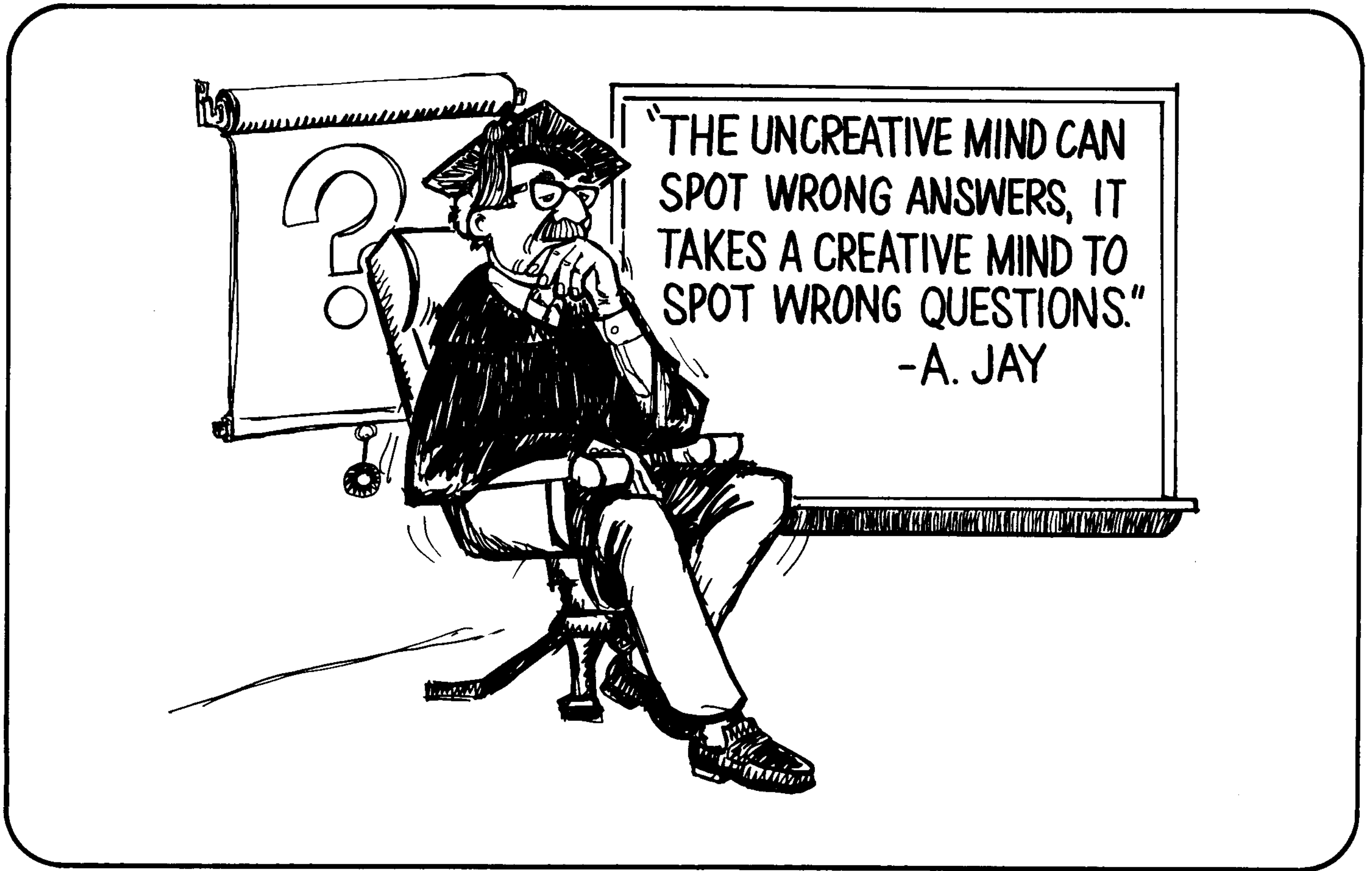
However, planning and evaluation *should be* thought of as interrelated and dependent processes working together at varying levels of emphasis throughout the life of a program.

Planning—The application of rational decision making to the commitment of future resources.

Planning does not eliminate risk. Its purpose is to make the most efficient use of resources.

The value of planning should not be judged by the accuracy of its predictions but by whether it helps optimize results in a changing environment.

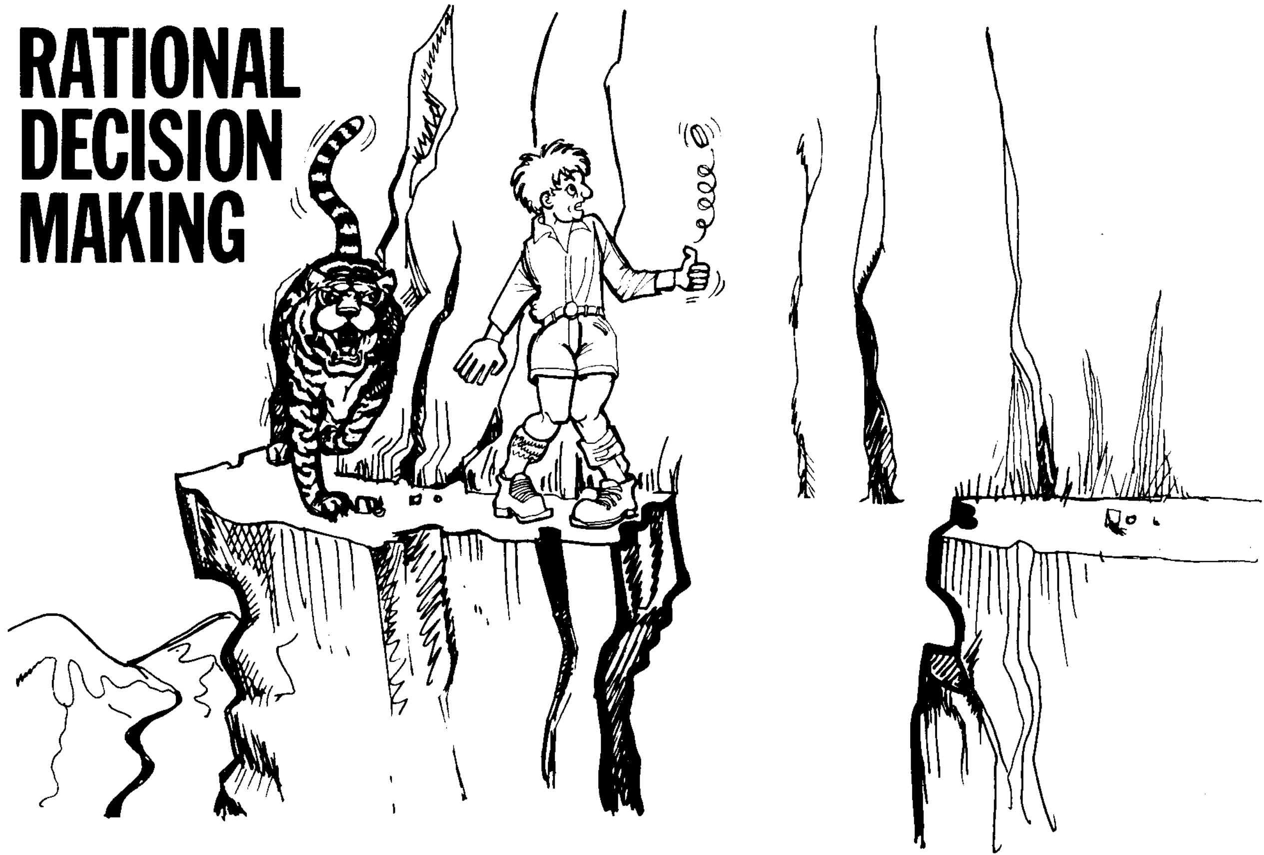
Few programs can be carried out exactly as planned. The manner in which a program evaluates itself determines how quickly and effectively it can respond to changing conditions.



In the process of evaluation, asking the right questions is a prerequisite to obtaining the right answers.

Programs often ask the question,
"What are we doing that we can measure?"
When they should be asking,
"What do we need to measure in order to know what we are doing?"

Carried out concurrently, planning and evaluation are a rational decision making system which assists the manager in asking the right questions and directing resources to the most valued intervention.

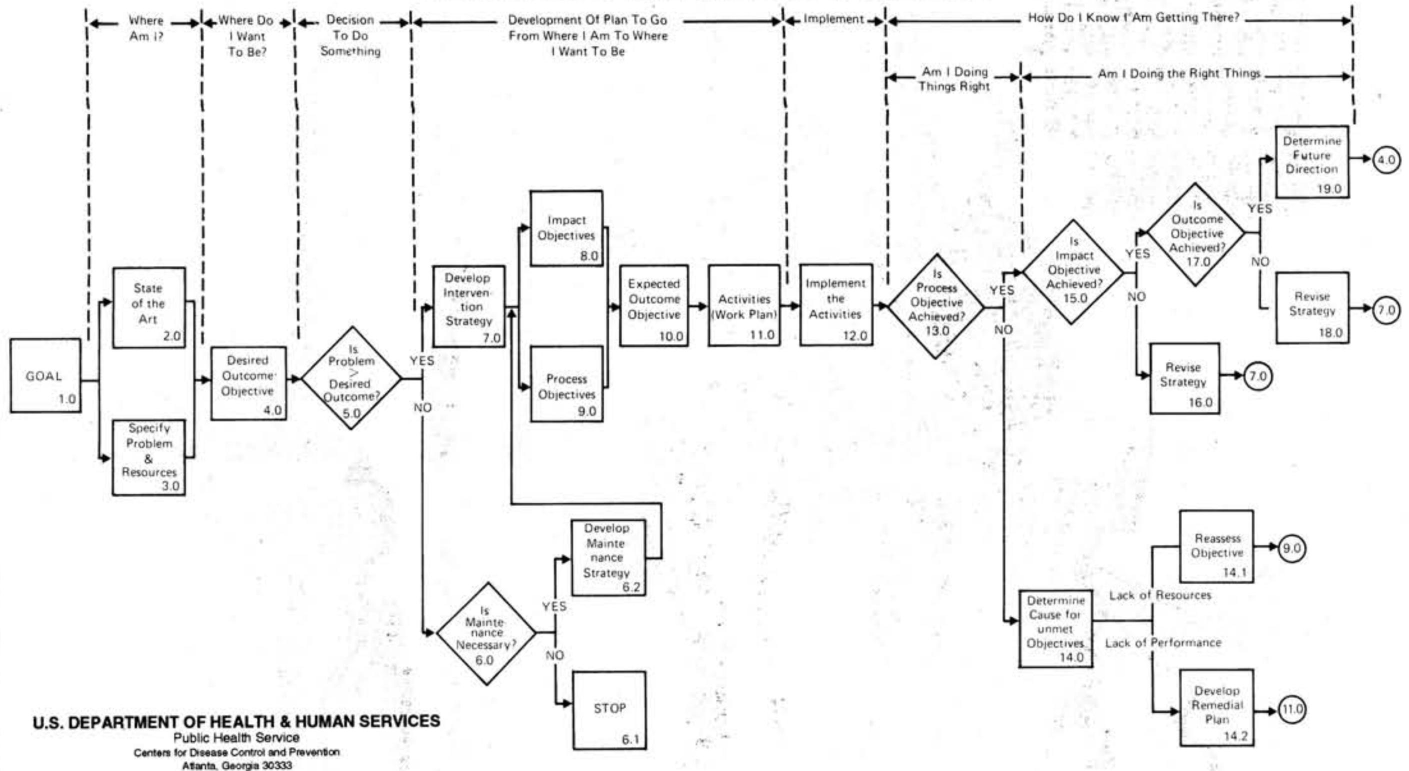


Rational decision making requires only that the manager ask three questions and that his/her actions be in agreement with the answers:

1. Where am I?
2. Where do I want to be?
3. How do I know I am getting there?

These three questions focus attention on the essential components of any decision process:

1. The starting point
2. The ending point
3. The intermediate measurements

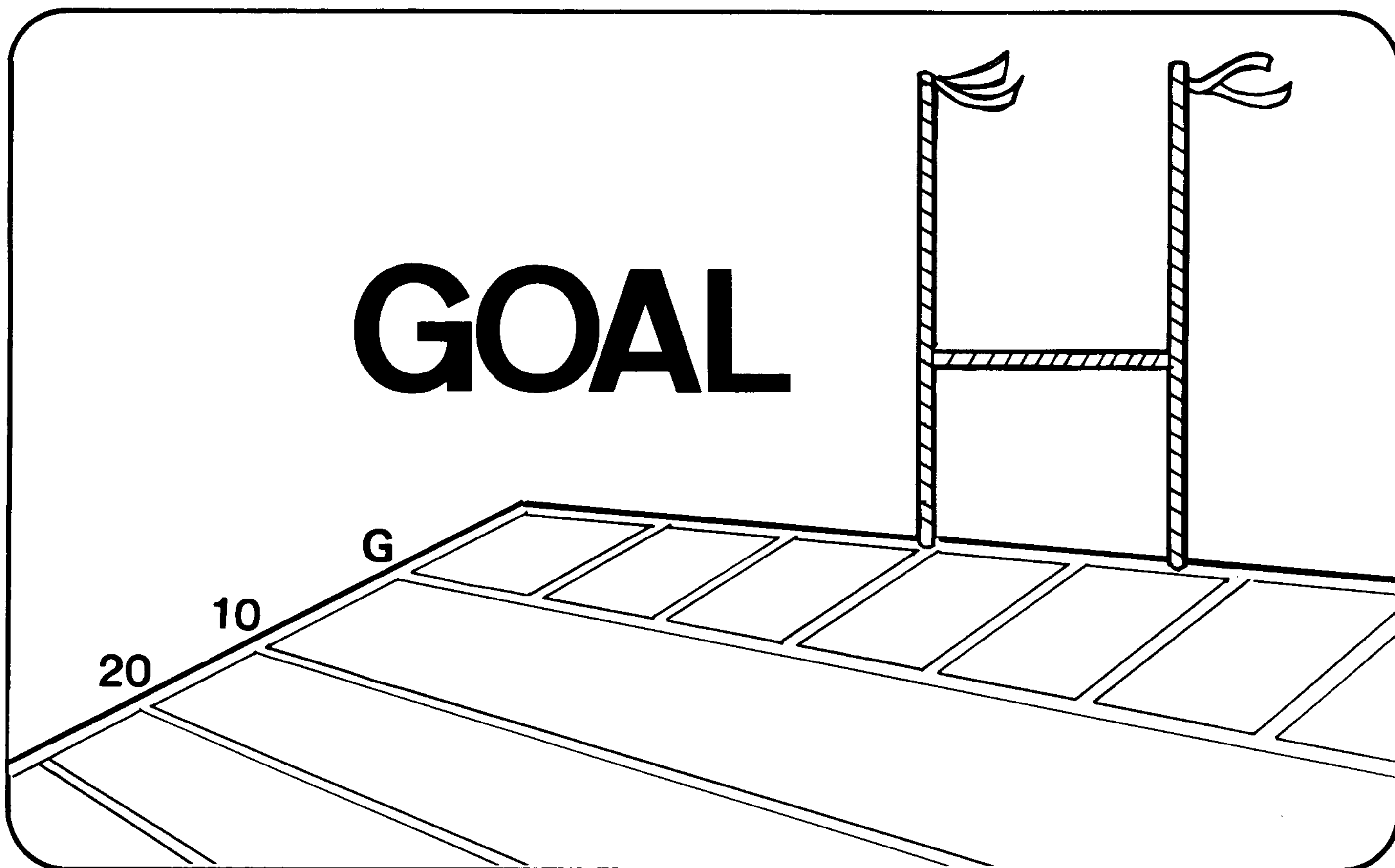


The flow chart (above and inside the back cover) represents an outline for the application of this decision system to the development and management of intervention programs in public health.

The chart is composed of 19 action statements and decision points which are categorized into five major areas of concern:

1. Where am I?
2. Where do I want to be?
3. Decision to do something
4. Development of a plan to go from where I am to where I want to be?
5. How do I know I am getting there?

These five categories, indicated at the top of the chart, serve as a broad outline of the manager's tasks and responsibilities.



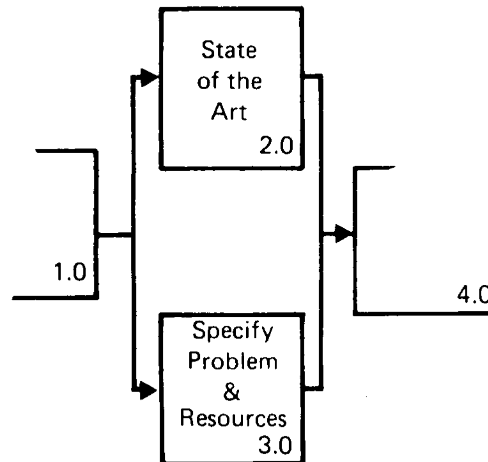
Goal — A generalized statement expressing a program's intended effect on one or more health problems.

It is a "timeless statement of aspiration" which serves as the philosophical justification for a program's existence, and establishes the program's operational parameters.

The program manager often has little or no involvement in the development of a goal. It is usually developed at a higher authority or derived from the legislation authorizing the program.

The goal should always be stated, if only as a continuous reminder of the program's aspirations.

1. WHERE AM I ?



Decision making at any level consists of determining to "do something" or determining to "do nothing".

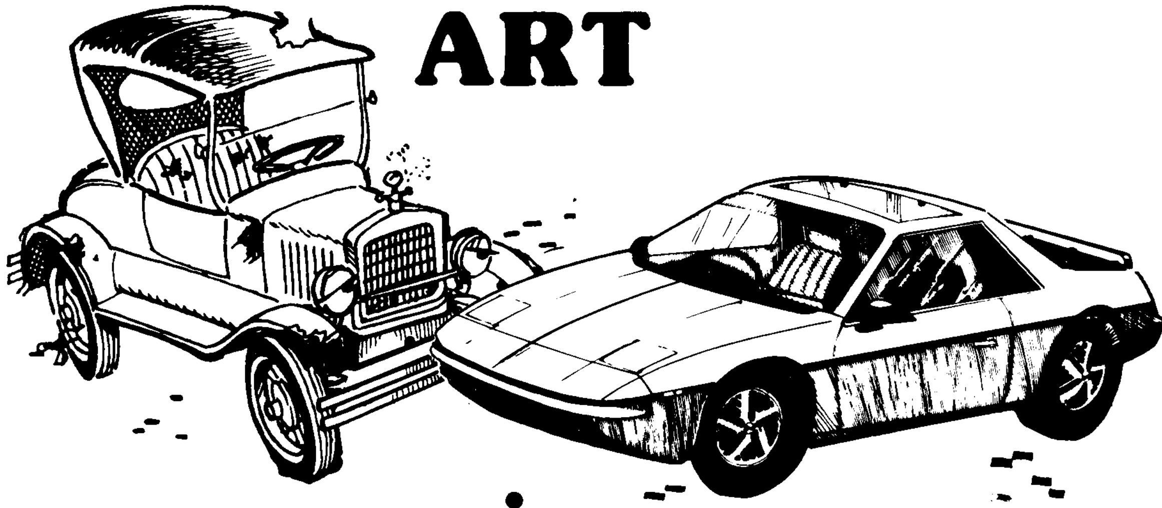
This decision must be based on a realistic assessment of the current situation.

Answering "Where am I?" with meaningful and measurable data not only determines the need to make a change, but locates populations at risk and establishes the base line for monitoring progress.

Three basic areas must be considered with the question, "Where am I?"

1. The state of the art
2. The problem
3. The resources

STATE OF THE ART



"State of the Art"—The current level of sophistication of a developing technology.

Technology is defined as organized knowledge and includes the techniques for coordinated application of equipment, material and personnel.

It is the knowledge required for developing and justifying a technical approach for accomplishing a goal.

The technical approach can range from organizing a school health education campaign to programs incorporating radiological and chemical therapy techniques.

The "state of the art" is that set of knowledge that leads us to believe that a particular health problem is amenable to intervention.

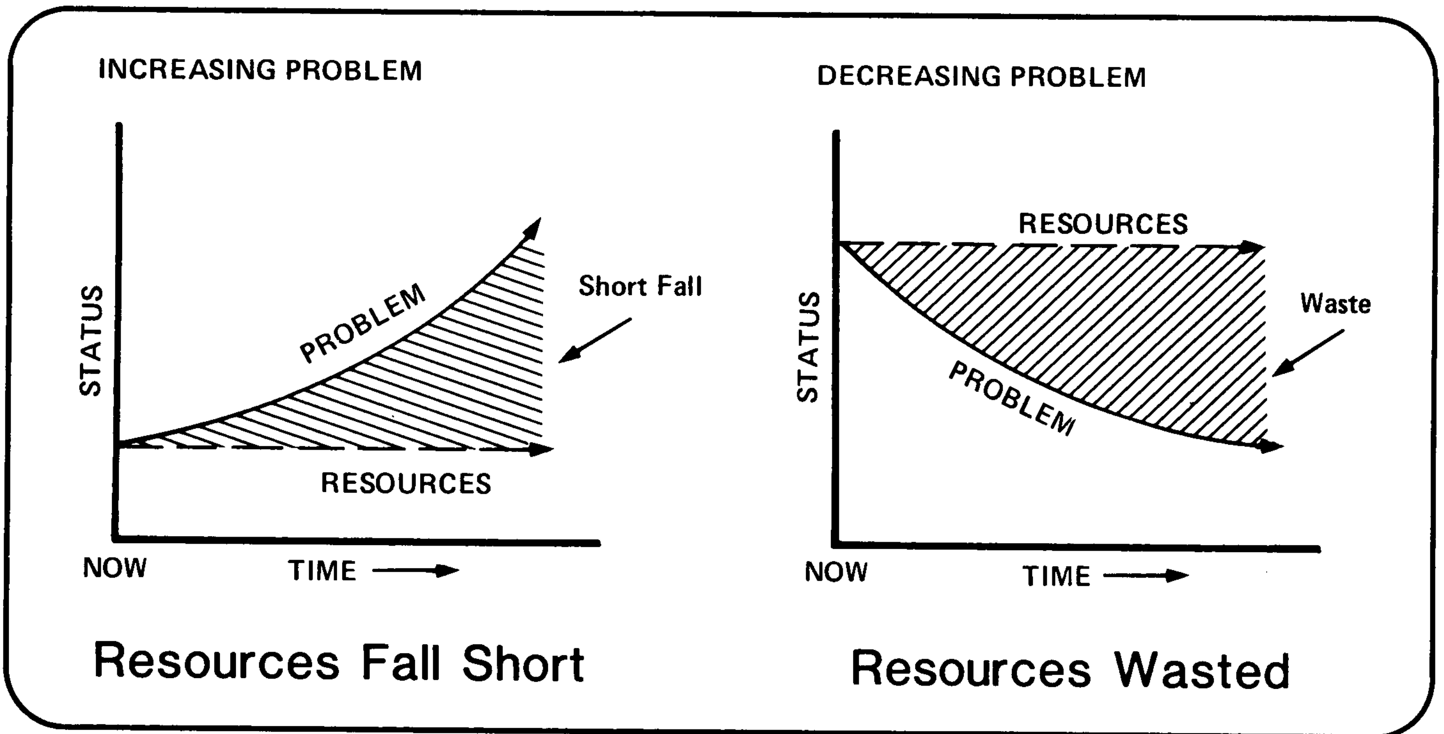
Health Problem — A situation or condition of people which is considered undesirable and is likely to exist in the future:

1. Death
2. Disease
3. Disability

The development of objectives and intervention strategies is contingent upon a careful and precise statement of the problem.

Problem statements may vary significantly in length and complexity but they must present a clear, concise and accurate description of the condition to be controlled or prevented.

Only when stated carefully can the problem be accurately measured.



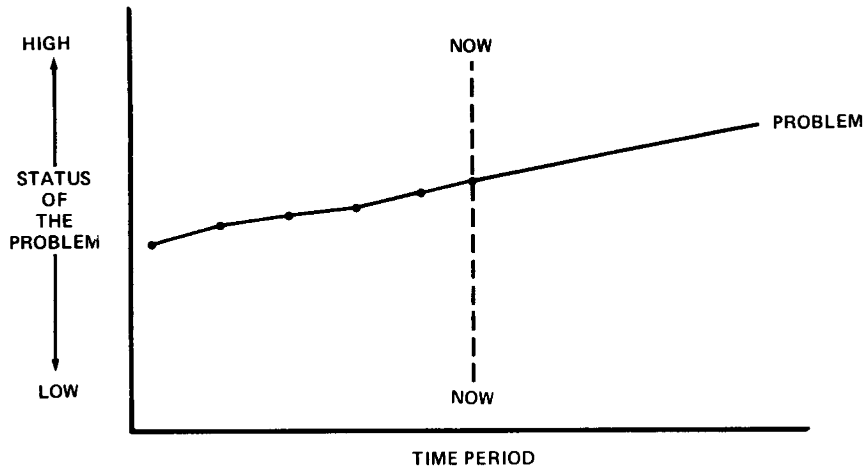
Futurism is a vital part of the planning for preventive health programs.

- Resource allocation based on the current situation would fall short if the problem were naturally increasing.
- Resource allocation based on the current situation would be at least partially wasted if the problem were naturally decreasing.

The allocation of resources for a naturally decreasing health problem does not constitute rational decision making unless an accelerated decrease is desired and possible.

Intervention plans should not be formulated because a problem exists today, but because it will exist in the future unless we do something about it.

PAST AND PRESENT MEASURES OF THE PROBLEM
CAN BE PROJECTED TO OBTAIN A TREND

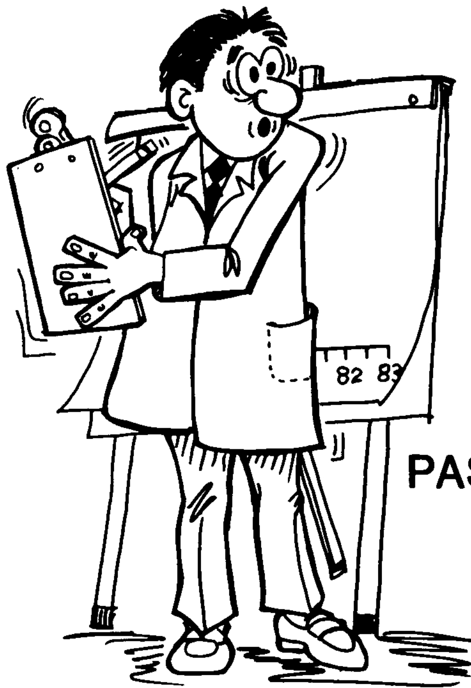


Any description of the problem should include historical as well as current data.

Trend analysis may be utilized to project future levels of the problem.

Similiar analysis of the major determinants should be undertaken.
For example:
Infant Mortality—Low Birth Weight
Lung Cancer—Smoking
Measles—Susceptibility (Immunity Levels)

Although estimating the future levels of a health problem and its direct determinants is difficult and imprecise, it is the only rational basis for committing future resources.



PROBLEM SPECIFICATION

1.) WHAT
2.) HOW MUCH
3.) WHO
4.) WHEN
5.) WHERE

PAST ◁ PRESENT ▷ FUTURE

Problem specification requires accurate accounts of the incidence, prevalence and distribution of the condition.

1. *What*—A careful definition including the nature and etiology of the condition.

2. *How Much*—Magnitude and extent measured in terms of incidence and prevalence.

3. *Who*—Populations at risk in terms of characteristics such as age, sex, race, occupation, socioeconomic status and culture.

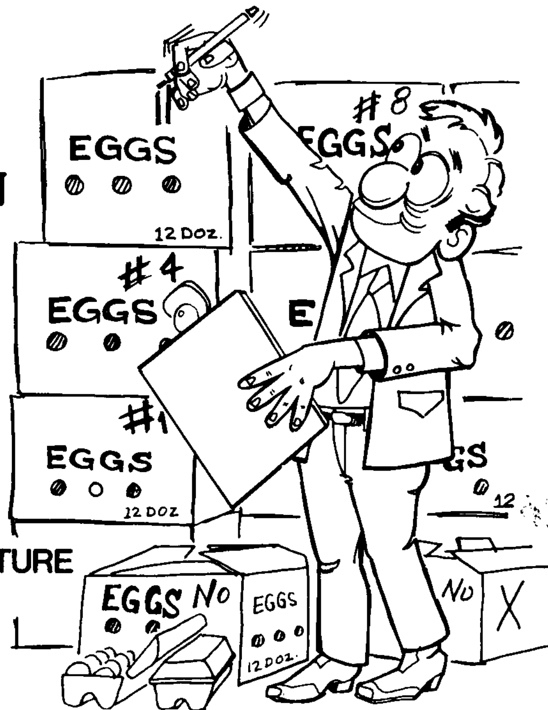
4. *When*—Time of occurrence and temporal variations.

5. *Where*—Characterized by geographic location such as political subdivision, hospital, place of residence or other location.

RESOURCE SPECIFICATION

1.) FUNDS
2.) PERSONNEL
3.) TIME
4.) MATERIALS
5.) FACILITIES

PAST ◁ PRESENT ▷ FUTURE

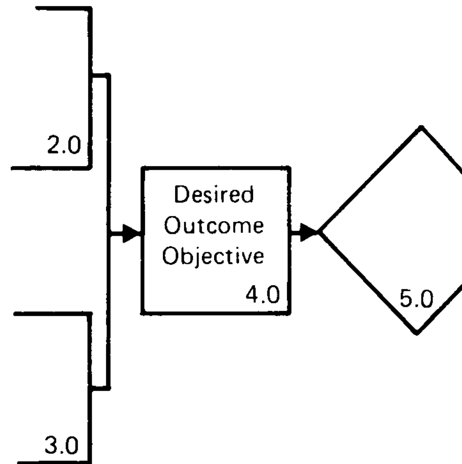


Past and current resources available for addressing the problem should be determined.

1. Funds—How much, sources, limitations
2. Personnel—How many, training
3. Time—Funding period
4. Material—Equipment, drugs
5. Facilities—Clinics, hospitals, support services

Determining the relationship between problem magnitude and availability of resources assists in the development of realistic outcome objectives.

2. WHERE DO I WANT TO BE ?



Answering "Where do I want to be?" establishes meaningful and measurable outcome objectives which indicate a desirable future level of the health problem.

The importance of having carefully defined the problem is once again emphasized.

With a clear description of the problem, including populations at risk, it is possible to set priorities for a program and to establish realistic and measurable objectives.

DESIRED OUTCOME OBJECTIVE

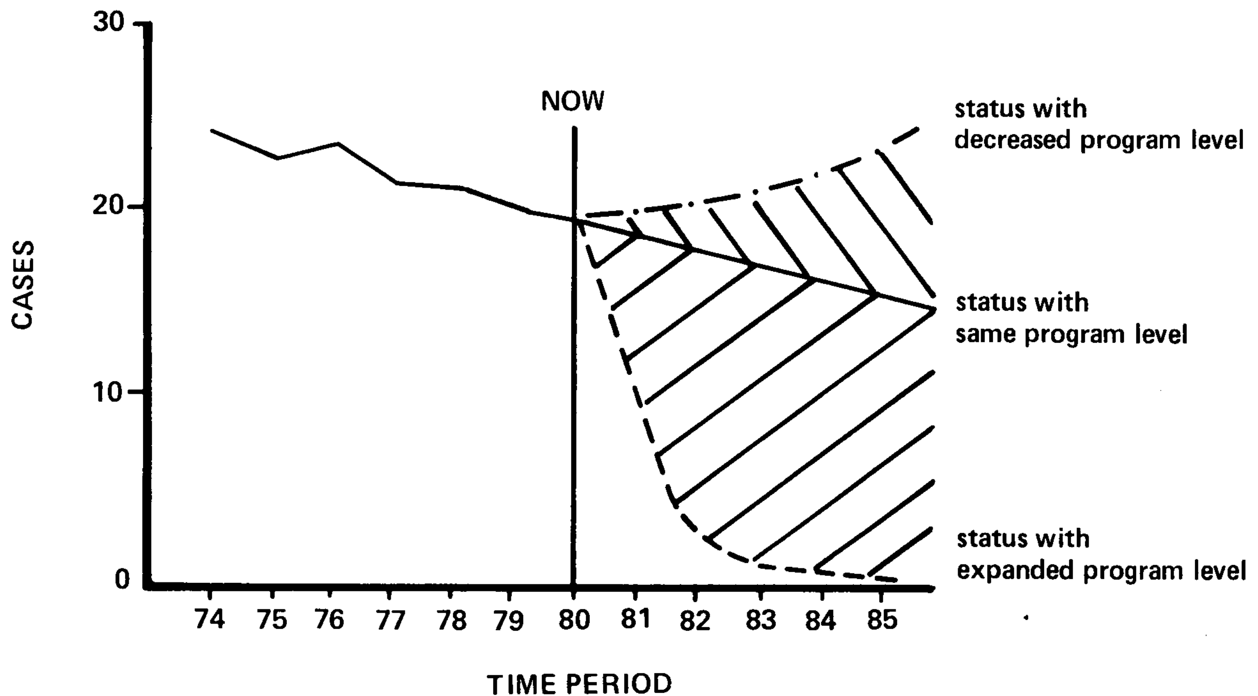
Desired Outcome Objective—The level to which a health problem *should* be reduced and/or maintained within a specified time period.

1. Long Term
2. Realistic
3. Measurable

Any outcome objective must relate directly to the previously defined problem. It is a statement of *how much* and *when* the health problem should be affected by the program.

The desired outcome objective is the quantitative measurement of the health problem at some future date and is something that the manager feels the program can and should accomplish.

> *Example:* By 1990, reported rubella incidence in the United States will be less than 1,000 cases per year.

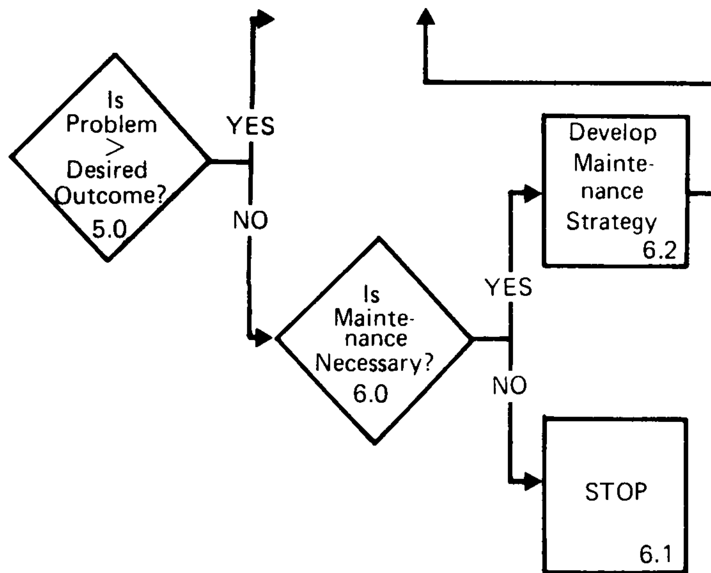


The necessary ingredients for establishing an outcome objective include the initial assessment of:

1. The current state of the art
2. The future estimates of the problem
3. The availability of future resources

By using the past relationship between the magnitude of a health problem and the availability of resources, realistic and measurable outcome objectives can be projected for various levels of program activity.

3. DECISION TO DO SOMETHING.



The answering of the first two questions, "Where am I?" and "Where do I want to be?" elicits a decision from even the most indecisive. If "Where you are" and "Where you would like to be" are not the same then a change is indicated.

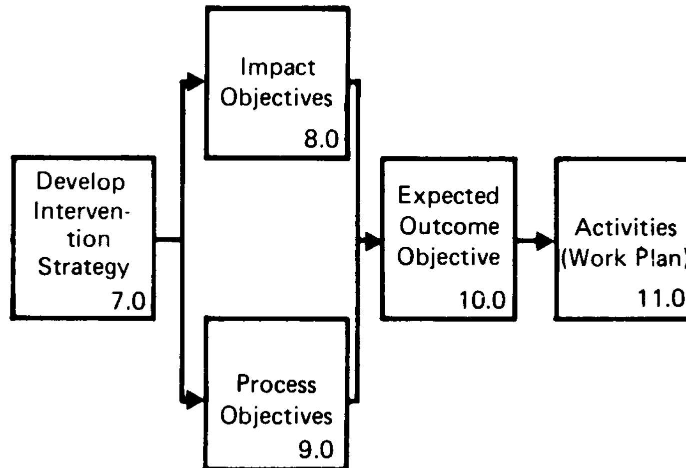
There are three possible alternatives:

1. *Stop*— A program may reach a point where there is no need to continue any activities. If so, eliminate the program and channel the resources where they are needed.

2. *Maintenance*—If the problem level is acceptable and the resources are available then a maintenance program is indicated.

3. *Intervention*—If the projected problem is greater than the desired outcome objective and the technology and resources exist to achieve the desired level—then an appropriate intervention strategy must be selected.

4. DEVELOPMENT OF A PLAN.



The development of a plan to go from "Where I am" to "Where I want to be" involves making rational decisions concerning the use of program resources to achieve the desired outcome objective.

Most programs have a number of alternative methods of affecting the level or extent of a health problem.

Decisions must be made on which alternatives are most effective and what portion of the program's resources should be expended on those alternatives.

Deciding how a program's resources can best be utilized to achieve the desired outcome objective is referred to as the development and/or selection of an intervention strategy.

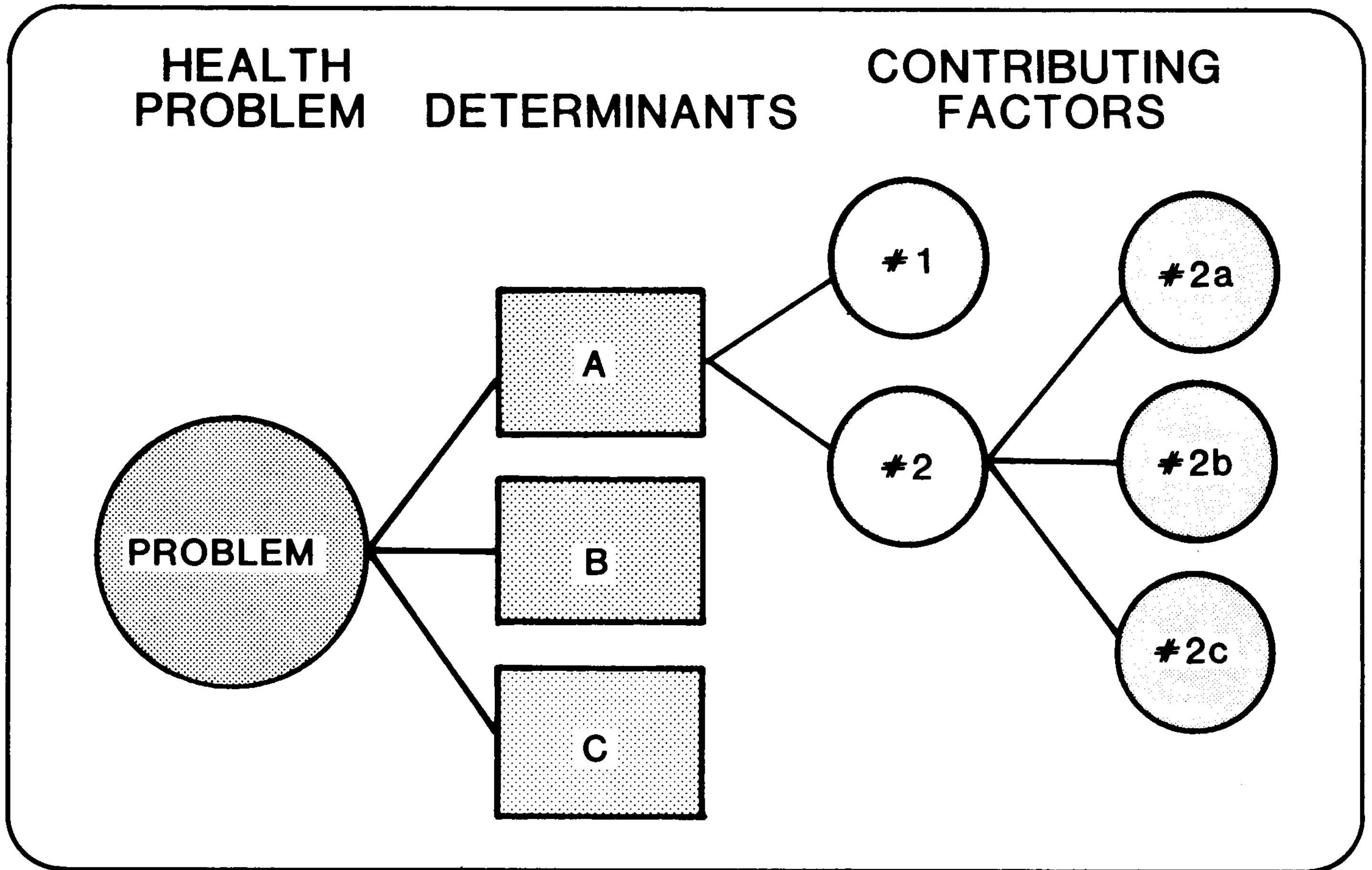
Intervention Strategy—Technical basis for predicting that the expenditure of resources on specified activities and objectives will have a positive effect on a health problem.

It is, in its simplest form, an "if-then" logic model or technical theory still to be tested.

If the program performs certain activities and achieves specified objectives, *then* the problem will be alleviated.

The selection of an intervention strategy depends upon:

1. A clear and concise statement of the problem
2. The current state of the art
3. The available resources



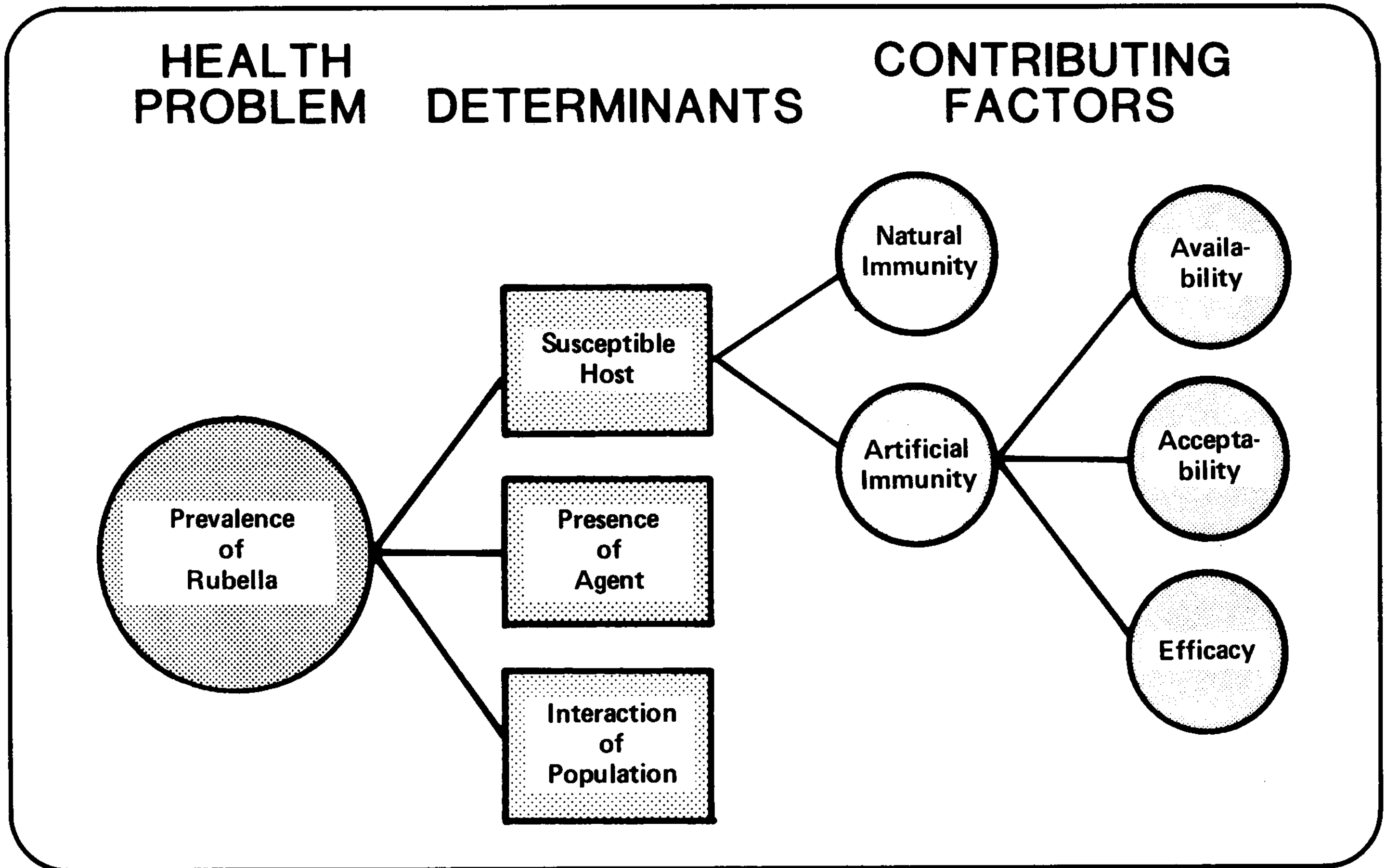
In order to select the best available intervention strategy, analyze the health problem in terms of its most direct determinants and the factors that contribute either directly or indirectly to those determinants.

Definitions:

- *Health Problem*—Previously defined and specified in terms of incidence, prevalence and distribution.
- *Determinants*—Direct causes and risk factors which, based on scientific evidence or theory, are thought to influence directly the level of a specific health problem.
- *Contributing Factors*—Those factors that directly or indirectly influence the level of a determinant.

The analysis should continue until all pertinent direct determinants and their associated contributing factors have been identified.

Direct determinants which may be addressed through available technology are selected as points of intervention.



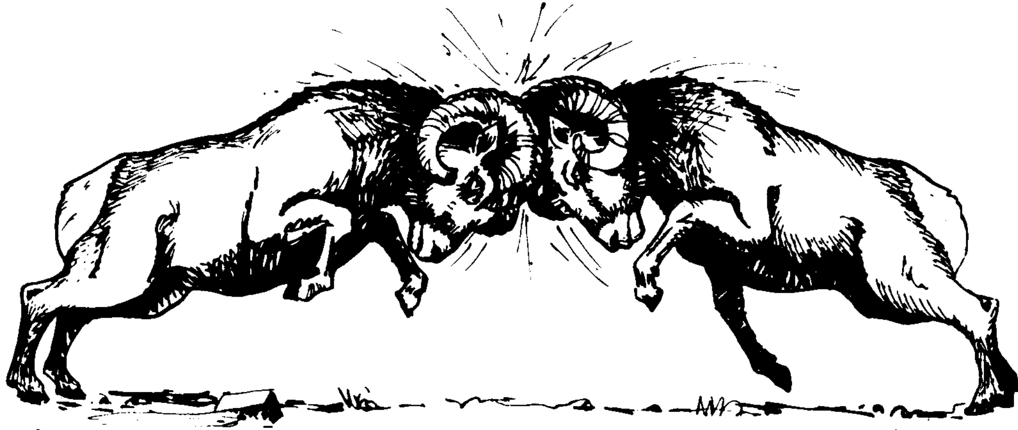
A partial analysis of rubella in terms of its determinants and contributing factors illustrates how an intervention strategy is developed.

The most likely point of intervention based on current technology would be the susceptibility of the host.

The existence of a safe and effective vaccine plus a variety of delivery systems suggests that the logical intervention would be to increase the level of artificially acquired immunity.

The actual intervention strategy is constructed by developing intermediate measurements or objectives for each of the selected points of intervention.

IMPACT OBJECTIVES



Impact Objectives—The level to which a direct determinant is expected to be reduced within a specified time period.

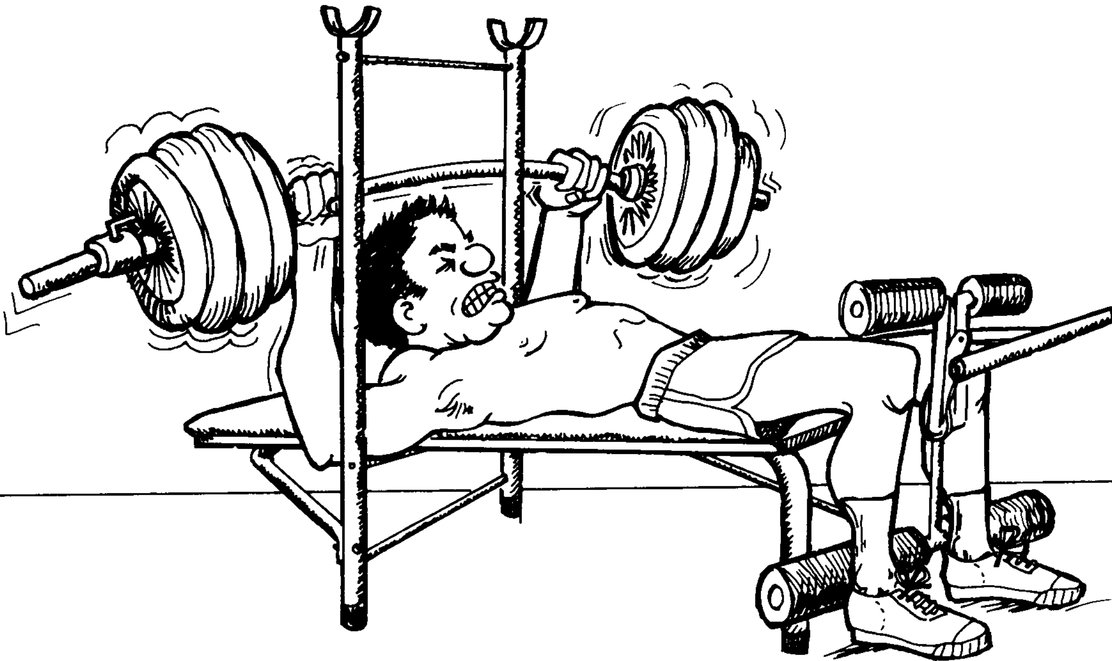
1. Intermediate (1 - 5 years)
2. Realistic
3. Measurable

An impact objective must relate directly to the determinants. It is a statement of *how much* and *when* the determinant should be affected by the program.

Example: 90% of the school age children in the United States will have been immunized against rubella by December 31, 1985.

The impact objective is the quantitative measurement of the determinant at some future date.

PROCESS OBJECTIVES



Process Objective—Action statements aimed at affecting one or more of the contributing factors that influence the level of the determinants.

1. Short term (usually one year)
2. Realistic
3. Measurable

Example: Increase the proportion of school districts that are effectively enforcing the school entry immunization law from 75% to 90% by October 31, 1984.

Once process and impact objectives have been established based on the program's available resources, the desired outcome objective should be reassessed.

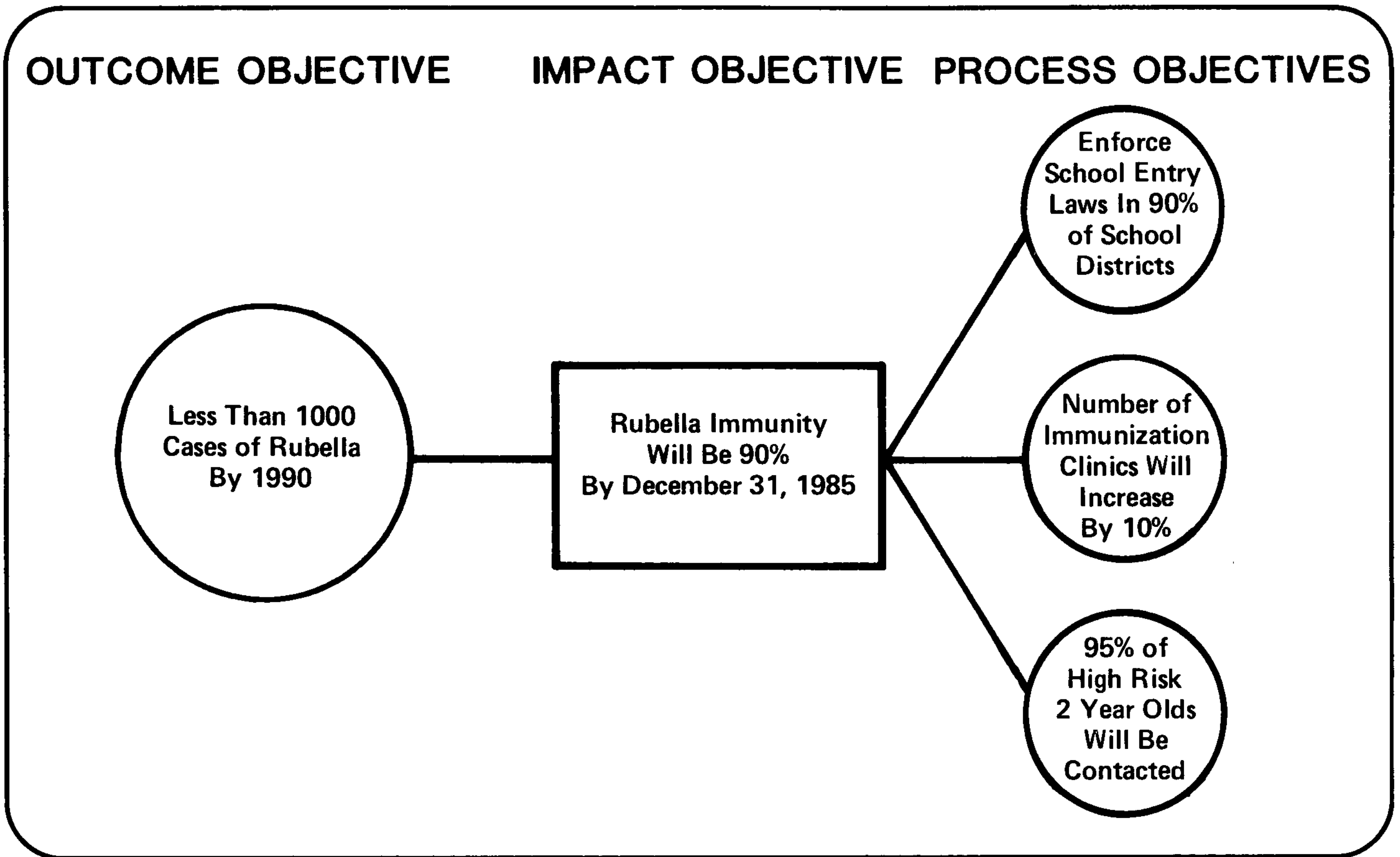
EXPECTED OUTCOME OBJECTIVE

Expected Outcome Objective—The level to which a health problem is *expected* to be reduced within a specified time.

It is derived by reassessing the probability of achieving the *desired* outcome objective with appropriate changes (if indicated) in the projected level of the health problem and/or the estimated time frame.

It is a temporary estimate of an important future event that you believe:

1. You *can* and should accomplish,
2. Through your program's efforts, and
3. That you are willing and *able* to pay for.



This diagram of a partial intervention strategy indicates the theoretical linkages or assumptions upon which the strategy is based.

1. The program resources are expended to modify contributing factors resulting in the achievement of process objectives.

2. Process objectives influence the determinants resulting in the achievement of impact objectives.

3. Impact objectives reduce the level of a health problem, resulting in the achievement of the expected outcome objective.

The development and/or selection of an appropriate intervention strategy leads to activities or a work plan that describes how program objectives will be achieved.

ACTIVITIES

(WORK PLAN)

Activities (Work Plan)—A series of work statements that describe how program resources will be utilized to modify the effects of factors which contribute to a health problem's direct determinants.

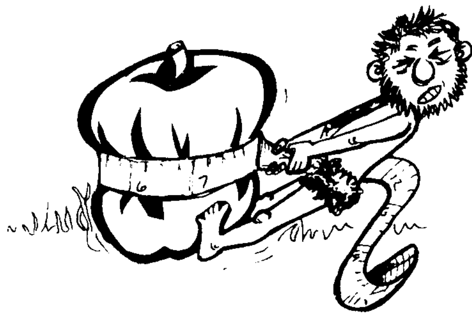
1. Short term (less than one year)
2. Realistic
3. Measurable

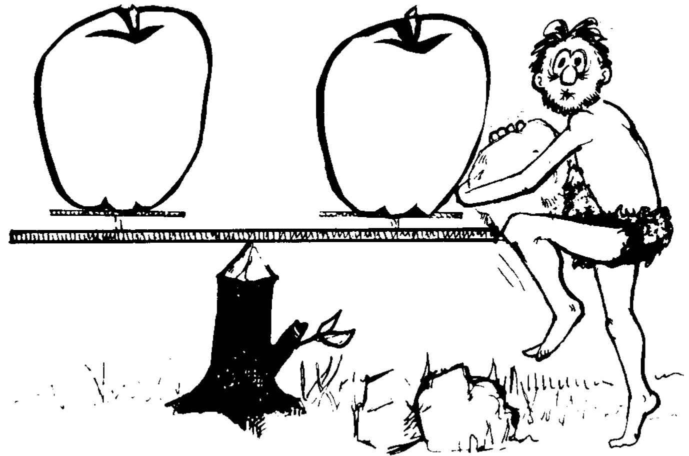
These work statements should describe what is to be done, by whom, when, and where it is to be done.

Example: Distribute a letter by June 1, 1983, from the State Health Officer to all school superintendents emphasizing the public health importance of school entry immunization laws.

evaluation

MEASUREMENT & COMPARISON



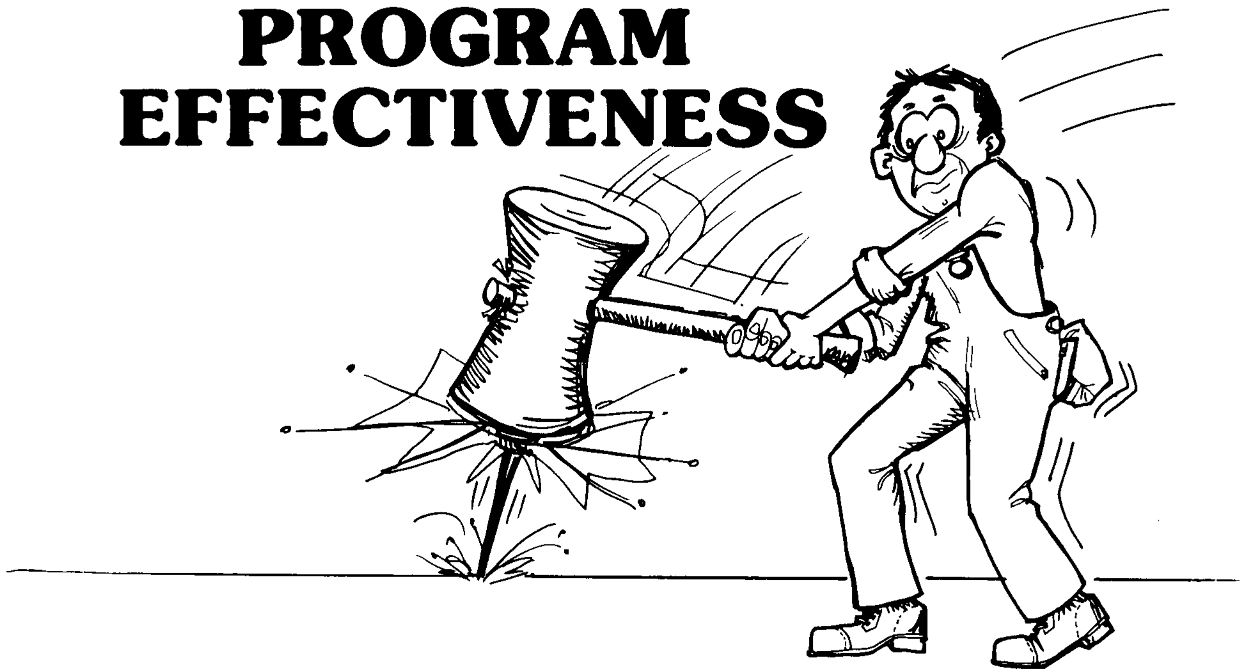


Evaluation—A process of measurement of the actual for comparison to the intended.

1. A program's information system collects data necessary for measuring the actual.
2. Goals, objectives, activities and other standards establish the level of the intended for comparison.

Evaluation is a necessary part of any program. The assumptions and linkages used in developing the intervention strategy must be tested and validated.

Programs should not escalate their activities without first evaluating their effectiveness.



Effectiveness — The ability to produce an intended result.

A program may turn out to be less effective than planned for the following reasons:

1. Lack of resources to accomplish activities and achieve subsequent process objectives.

2. Lack of personnel performance to accomplish activities and achieve subsequent process objectives.

3. Invalid assumptions or incomplete strategy linking process objectives to impact objectives.

4. Invalid assumptions or incomplete strategy linking impact objectives to an expected outcome objective.

To locate program difficulties and to insure effectiveness of the intervention strategy, a program must continually test the validity, reliability and completeness of the intervention strategy.

Answering the last question, "How do I know I am getting there?" insures the effectiveness of the decision making process.

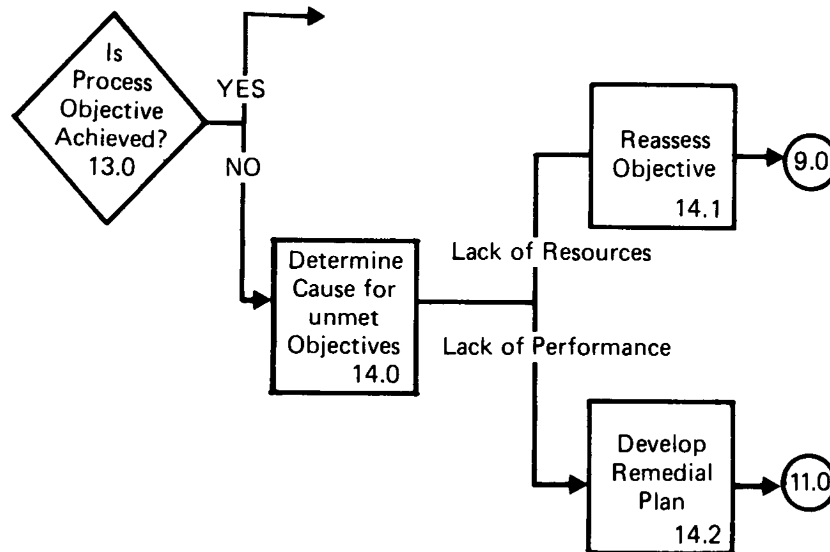
An integral part of any work plan is the development of measurable checkpoints or milestones in both time and direction.

These directional indicators assist the manager to assess periodically whether or not the program is moving in the right direction, and if it is expected to arrive on time.

The importance of continually testing the effectiveness of a program is best summed up in the following quotation from Peter Drucker:

> *"It is more important to be doing the right things than it is to be doing things right."*

AM I DOING THINGS RIGHT ?



"Am I doing things right?" refers to the performance of activities and the achievement of process objectives.

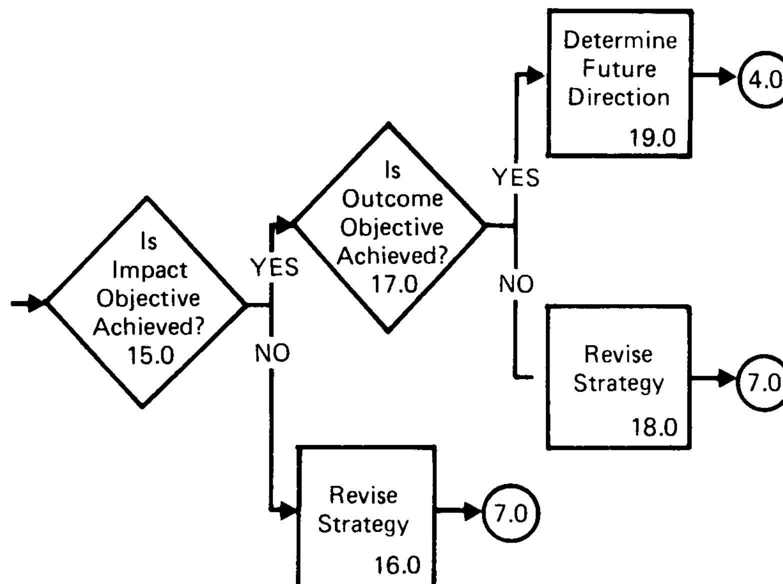
It is often referred to as *process evaluation.*

Process objectives can be unmet for two reasons:

1. *Lack of Resources*—Reassess the impact and process objectives in order to realign them with the available resources. (Lower expectations or locate additional resources).
2. *Lack of Performance*—Reassess the program personnel in terms of motivation, skill and knowledge. (Hire, fire, train or motivate.)

If process objectives are being met, then the program is "doing things right".

AM I DOING THE RIGHT THINGS ?



"Am I doing the right things?" refers to the achievement of impact and outcome objectives and measures the program's effectiveness.

If the impact objectives are *not* being achieved but the process objectives are, then the manager must reexamine the assumed relationship between contributing factors and the determinant(s), revise the intervention strategy and develop a new work plan.

If the expected outcome objective is *not* being achieved but the impact objective(s) is, then the manager must reexamine the assumed linkage between the determinant(s) and the health problem, revise the intervention strategy and develop a new work plan.

If we are "doing things right" (activities and process objectives) but are not achieving the projected impact or outcome, then the only conclusion is that we are not "doing the right things".

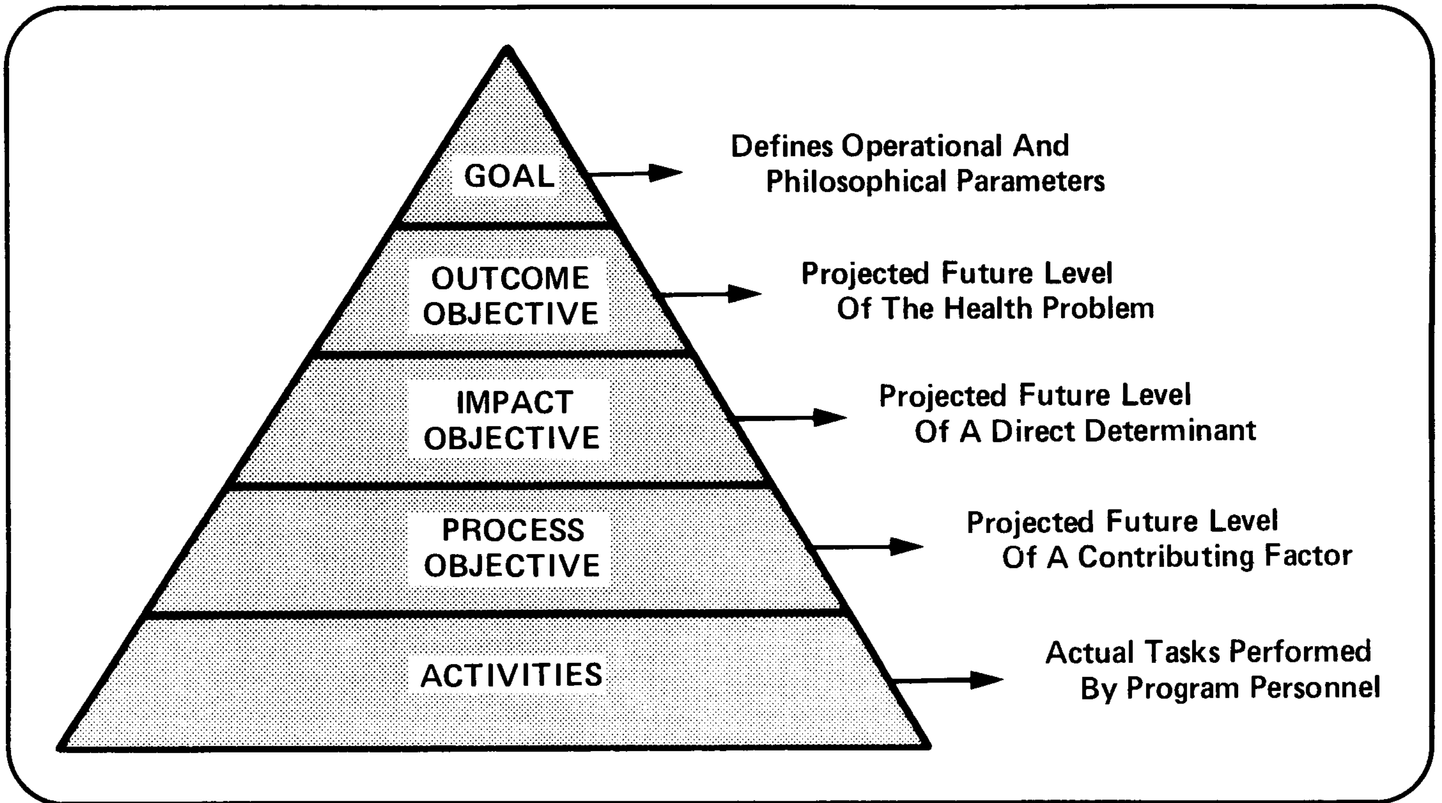
If the expected outcome objective is being achieved, then the manager must reassess the need for the program and begin the management cycle again.

TERM	TIME PERIOD	DESCRIPTION	MEASUREMENT
Outcome Objective	Usually Long Term	Related To The Health Problems	Degree Of Accomplishment Did We Do The Right Things?
Impact Objective	Intermediate	Related To Direct Determinants And Risk Factors	Degree Of Accomplishment Did We Do The Right Things?
Process Objective	Short Term	Related To Contributing Factors	Degree Of Accomplishment Did We Do Things Right?
Activities	Usually Short Term	Describes The Use Of Program Resources	Accomplishment Yes/No

The tri-level objective and evaluation procedure (process, impact and outcome) assists the manager in locating the source of trouble if a program does not achieve its expected outcome.

Most importantly, process-impact-outcome eliminate the principle of outcome displacement by focusing attention on the health problem.

> *The Principle of Outcome Displacement*—Every program needs an opportunity to succeed; if it can not succeed in terms of outcome it will shift its objectives to those it can achieve. The process then becomes the purpose and input becomes a surrogate for output. "Health" becomes equivalent to "equal access to medicine".



Advantages of the management system:

1. Adaptable to most programs.
2. Allows for easily understood comparisons between programs.
3. Prevents "outcome displacement".
4. Facilitates communications.
5. *Rational* but not *rigid.*

This system provides a set of guidelines to assist program managers in maintaining a course of action that is consistent with the program's stated outcome objectives.

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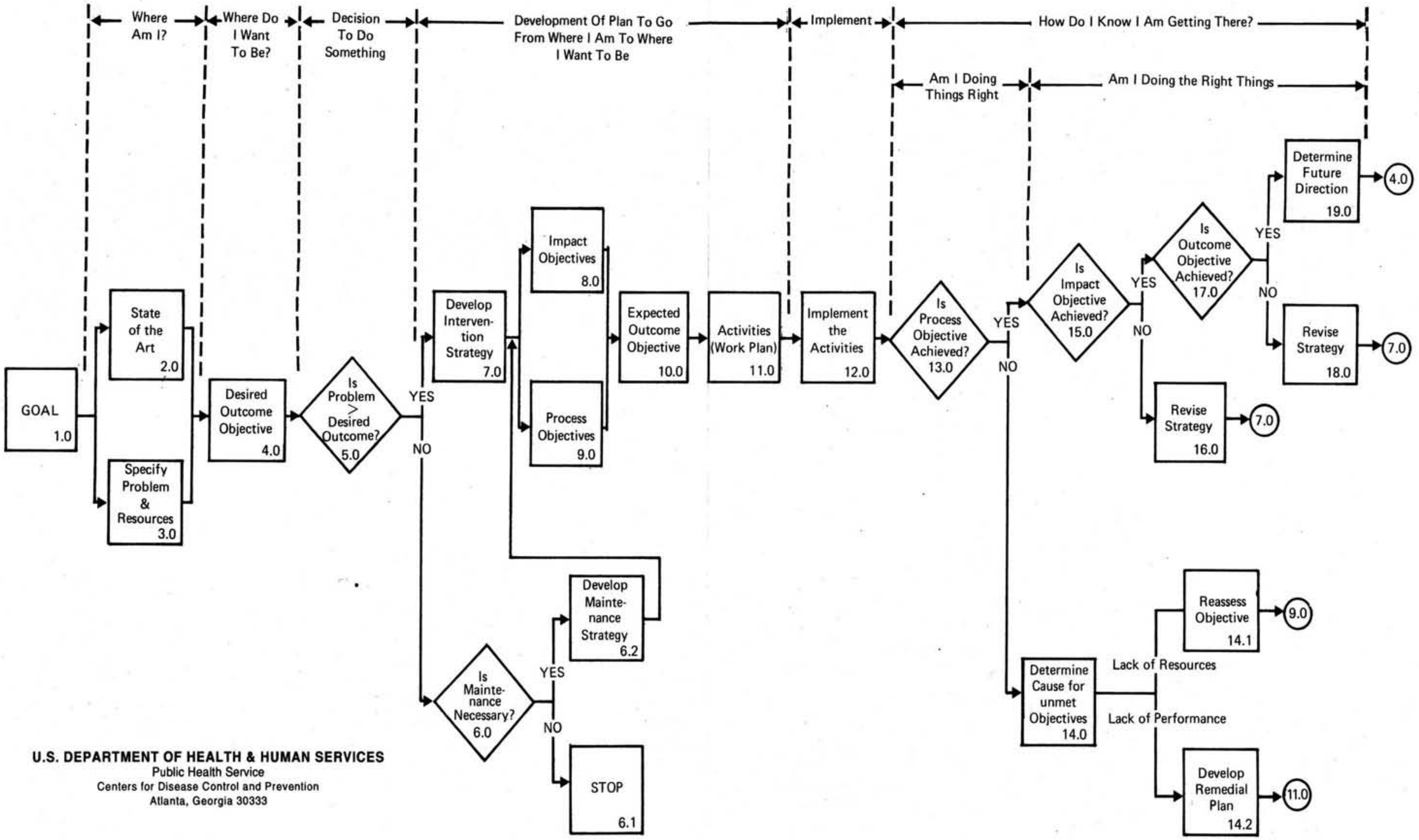
MANAGEMENT SYSTEM



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