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PLANNING FOR COMMUNITY MENTAL HEALTH CENTERS: THE PERFORMANCE APPROACH

History of the Project

A major purpose of this project has been to find a way to allow local groups to set the standards by which the federal government will administer and fund mental health building programs in their area. In 1963, when Congress made large amounts of money available to build Community Mental Health Centers,[1] the administrators of the CMHC building program proposed that all new mental health centers be exempted from any federal building standards, especially those of hospitals. They felt, first of all, that the CMHC should not be institutional, "hospital-like" buildings; they might in some cases be just a set of services carried out by existing community elements. Second, that they could not anticipate what programs imaginative professionals in the community might want to run. In principle, then, they used few standards, and emphasizing the good judgments of their own review panels and consultant staffs in the hope that local applicants for funds would deinstitutionalize their operations and be innovative, though a few applicants did develop community oriented and innovative programs, many did not. In fact, many of the proposed programs and facilities made it clear that NIMH's goals were not understood at the local level even though a mechanism existed for advising and consulting local professionals. It became obvious that this mechanism, the Architectural Consultation Section, could not keep up with the demand for their services with a professional staff of one senior architect and several young designers. In the face of this and other problems such as the stringency of local codes and the difficulty of defining catchment area, the Architectural Consultation Section discussed with members of the National Bureau of Standards a way to set up "standards" and documentation for their advice which could amplify their capability to meet the local level demands.

In response, the National Bureau of Standards recommended a system for improving the planning process. Instead of proposing a "standard" for buildings, they developed a "standard" for the planning process. The conceptual basis and techniques for doing this stemmed from work being done at the National Bureau of Standards[2] on *performance specification techniques.*

Planning Method

In the past, people who felt a need for a more suitable environment stated their assumed needs and simply described a building that they thought might meet those needs. As the words "performance specification" imply, environments might be procured by asking for a certain kind of performance from the environment rather than a specific physical configuration or building.

There are five basic levels of specification: first, specifying building hardware and elements; second, specifying what kind of *human performance* it shall support; fourth specifying what kind of *human problems* the performance will solve (what kind of objectives it shall meet); and fifth, specifying how to *decide what problems* should be solved.

Diagrammatically, these five levels are:

(Specific set of hardware) *Hardware*	2	(Performance of hardware) *Setting*	3	(Performance of people) *Activities*	4	(Objectives to be met) *Problems*	5	(Choosing objectives) *Process*

Upper Arrows: Supply Potential of the System
Lower Arrows: Demand Placed on the System

Note that as you move to the right, requesting performance for an environment rather than specifying a building itself, you permit designers/builders to consider a greater number of alternatives and therefore, more freedom to innovate.

At present the National Bureau of Standards has begun to find ways to specify performance for hardwere (see block 2). They have done this for exterior walls of dwelling units for the Federal Housing Administration and for the operating office space for Federal Office Buildings. In addition, studies for the Department of Housing and Urban Development attempted to describe the activities housing should support. The aim of these studies was to encourage the building industry to develop innovative solutions which would be either less expensive and/or give better performance. An important difficulty was encountered in the HUD project. It was not always easy to specify sets of *activities* and even more difficult to specify the *problems* they were attempting to solve. Though many of each could be stated—activities could be identified (like sleeping, dining, entertaining) and problems (privacy vs. group options, identity with "place") could posed—it became clear that these lists were open ended. Whatever list would be compiled would depend on *who* was compiling it and *when* he was doing the compiling. Hence, specifying the performance the environment should accommodate and what problems it would solve is, in fact, a political decision making process.

What we have devised is a prescription *for the planning process* rather than either a specification for a building, a fixed list of activities, or set of objectives. With this, the Architectural Consultation Section will be able to help *improve the quality of local planning process* by requesting planners to take certain steps, by supplying information to them dureing the process, and by providing a formal explicit way for the participants in a mental health planning process in a local area to inform each other. This planning operation is conducted through a set of forms and directions called the Planning Aid Kit.

The Programming/Planning Process Using PAK

The basic intention of PAK is to help articulate the environmental implications of the Mental Health treatment programs in a specific community. The emphasis given by the NIMH to community psychiatry has had a fundamental effect on the character of these treatment programs. The central tenet of community psychiatry is that "the community is ultimately responsible for the mental health of its members." This concept implies that an individual's mental health partially depends on his interaction with his sociophysical environment, and that, in effect, describes his community.

Further implications of this concept are:

1. Environmental stress leads to clinically categorized types of mental illness.

2. Removing such stresses results in environment conducive to mental health

3. Treatment programs are no longer solely based on the needs of the identifiable mentally ill but rather on needs related to an individual's interaction with the social relationships and physical attributes of his environment.

4. A beneficial way to treat this individual/environment interaction is by treating the community so it becomes the delivery mechanism for a range of explicit & implicit mental health programs.

In order to improve the understanding of both the social and physical components of the environment and their relationships to community psychiatry, it is necessary to develop a language for communication among the Mental Health professionals and the others involved in the planning process. Since the application of treatment programs has environmental design implications which can only become explicit by means of such communication within the programming/planning process, we have articulated the steps of the process in a way that allows for interdisciplinary communication. These steps are general here, and specific descriptions of the kinds of information for each step occur in specified forms.

In the early stages, the type of communication most desirable between people using PAK are statements in terms of goals or objectives, rather than in terms of solutions, buildings, or existing programs. The desired Performance of the proposed mental health "system" in the community should be stated clearly and then solutions can be devised.

Although it is generally easier to think and communicate in terms of past solutions (we use our experience with success and failure as models for future planning). this planning model has three flaws:

1. Problems, people, and times change. What was successful before may not be successful this time.
2. Early decision as to solutions tends to preclude examination of alternatives and acts as an effective barrier to innovation.
3. Often these decisions are made by high echelon professionals, whose tasks place them at some distance from specific and actual patient needs. These professionals possess only "generalized" information about patient success or failure. There should be enough "slack" in upper level decisions to permit satisfying idiosyncratic need ; at the patient level.

In addition to overcoming these flaws, the flexibility of PAK also makes it possible to incorporate a greater variety of appropriate resources which at present seem therefore, it is beneficial to mental health programming that performance characteristics be specified rather than specific solutions. If, for example, a treatment needs certain environmental qualitites which are present in a hospital and also in the patient's own home and neighborhood pub, there is no therapeutic reason why the latter should not be considered as legitimate resources

Using the Performance Concept in PAK

Solving a problem through performance techniques entails putting the problem statement through a series of transformations which converts the statement of the Problem to a stated set of Activities (a therapeutically desired act involving the user of Mental Health services) to a description of an "ideal" Setting (an environment that will support the activities). The steps involved in carrying out these translations for community mental health problems are described in the following series of steps and flow chart:

Step 1: Select and Unite Participants

The information needed to carry out these planning operations is collected at a series of meetings on a special set of forms. (See the attached forms). The issues that are brought up and the ones that get acted upon will range in accord with who is participating in the planning process. Hence, there are also rules for who participates and how they may vote.

Step 2: Articulate the Problems

For a mental health problem to be considered a "legitimate" concern of the planning group, it must stem from one of the following sources:

1. Problems implied by the objectives of the services currently provided (e. g., Emergency Service implies the need for unscheduled services at all times)

2. Problems inferred from demographic data about the specific community population (e. g., amount of alcohol per capitol consummed in the community).

3. Problems perceived from recurrent aberrant behavior in the population, informally recorded by the profession or the community.

4. Problems of specific interest to the professional group.

5. NIMH's judgment that local condtions might lead to the local eruption of a recurrent national problem.

These problems are to be recorded at any level at which they are perceived and without implicit priorities. PAK permits the recording of problems, stimulates discussion of their causes and effects, and aids in establishing priorities for the allocation of resources to solve them through various courses of action. It is critical that the planning group be explicit as to whose mental health disfunction is responsible for the Problem's existence (e.g. while juvenile delinquency may be a threat to safety in the streets, the delinquents' mental health disfunction and not that of the public, is of interest.)

Step 3: Select COURSES OF ACTION

A COURSE OF ACTION is essentially the mobilization of resources by a particular people who solve a problem. There may be many alternative Courses of Action to solve a particular Problem. The process of selecting Courses of Action has been set up in accord with the following NIMH activity priorities: (1) prevention, (2) intervention, (3) treatment--rehabilation , and (4) custodial care. These will be listed for each problem, and priorities will be established in order that resources may best be utilized in planning.

Step 4: List ACTIVITIES

Activities are observable acts between people which have a purposive quality within a specific cause of act and which involve the recipients of Mental Health Services. We are primarily concerned with those Activities de therapeutic. Obviously, this will vary with the nature of the recipient, the staff, the community, the Problem, e There may be alternative sets of Activities which constitute the same Course of Action. However stated, the cho sen Activity must be specific enough so that it makes demands that affect the environment in specific ways. He an activity can be described at any scale so long as its environmental implications are clear.

These Activity alternatives are ideally described and selected by the local professional staff, the people mos aware of the possibilities a given community and mental health staff can realize.

Step 5: Prescribe PERFORMANCE CHARACTERISTICS

An Activity will place many diverse demands on the environment in order that the Setting permit it to take place (e. g., the Activity of counseling will require a quiet, physically comfortable and stable place. We are only concerned here with those requirements that have some direct environmental effect on mental health problems; hence, we are only peripherally concerned with such things as circulation effeciency, structural stability, appropriate mechanical services, etc. The statement of a Performance Characteristic (PC) is an attempt to link therapeutic and architectural concerns in one set of statements to be used as the communication mechanism between Mental Health professionals and architects. The PC's are not standards to be simply "applied" in all contexts. They are a range or continuum of measurable qualities which can be set at different levels as the situation deman

However, for each Activity deemed therapeutic by the PAK participants, there is a set of "best" or "most therapeutically desirable" PC's which describe, in PC terms, the "ideal" Setting to support the user in that Activi These PC statements, and the "weight" or value given to them by the PAK participants, define the characteristic of the Setting. A fuller description of the PC's is given later in PAK. These form the environmental "brief" or program given to design professionals to aid the development of a fit environment for the task. PAK essentially ends here.

Step 6: Selecting or Designing SETTINGS

The product of this step is the physical description of the actual Setting which fits the description of the "ideal" Setting. This step may be a design or selection process, or be composed of both. Where the participants are intent on new facilities, the Setting may be designed by the Architects using PC's. Where the participants wish to make use of existing community resources as Settings, it is a selection process. Where existing Settings are to be modified through design, it involves both selection and design. The use of PC's permit examination of a wide range of alternative solutions.

Step 7: FEEDBACK

The final step is that of checking the results of the decisions. In this case, the criteria for success is whether or not the originally perceived problems have been solved. This process, called "feedback" because you are feeding information back to evaluate success, leads logically to "feedforward," the feeding of information forward to the next cycle of development. This closes the loop, providing an evaluation of this project and information for other communities engaged in the same tasks. Diagramatically, this operation appears as follows:

COMMUNITY PLANNING PROCESS

Select and Invite
PARTICIPANTS
List All
PROBLEMS
List and Give Priorities to
COURSES OF ACTION

Select "Therapeutically" Important
ACTIVITIES
Select "Ideal"
PERFORMANCE CHARACTERISTICS
Find, Modify, or Build New
SETTINGS
Operate
Evaluate

The Performance Characteristics

Each PC is a continuum with no values ascribed to either end. (For example, two different physical setting may require extreme privacy or open communality and either will be considered a positive value for that setting

PC 1	Communality	Privacy
PC 2	Sociopetality	Sociofugality
PC 3	Informality	Formality
PC 4	Familiarity	Remoteness
PC 5	Accessibility	Inaccessibility
PC 6	Ambiguity	Legibility
PC 7	Diversity	Homogeneity
PC 8	Adaptability	Fixity
PC 9	Comfort	Discomfort

Measures of Performance Characteristics

If we are to compare and evaluate settings, there must be some way to measure each performance characteristic. For each PC, we will define the continuum, then make a concise statement about one end of the scale and assume the other end is its opposite. Then we will state some measure for the PC. Normally we measure and achieve performance within the context of $Y = f(x)$ and get results such as 3.57. This is not always possible and in some cases ratios (y:x) and size comparisons ($Y > x$ or $x > y$). are employed. Ultimately we accept (yes-no as a measure. It is in this context that we attempt to develop measures.

A Scale for the Performance Characteristics

We wish to have a common scale to compare one proposed or actual setting with another. Assuming a scale of 5 increments for all Measures of Performance Characteristics, for each measure we have a scale of, from left to right:

+2.....+1.....0.....-1.....-2

The profile of all 9 PC's for an activity setting might look like this:

Continuum PC 1: *Privacy-Communality.* This is a characteristic of a setting that conveys a message to the user as to the degree to which he will be asked to share it with others.

Privacy then, is the absence of unwanted human stimuli and surveillance within a setting.

Measure PRIVACY—is inversely proportional to Exposure and Sensory Impingements:

or $\text{PRIVACY} = \frac{1}{\text{EXPOSURE, SENSORY IMPINGEMENT}}$

where:

Exposure is measured by the Number of people (other than Mental Health personnel) who are in a position to actually or potentially survey the user.

Sensory Impingement is a measure of "signal" (not "Noise") the user senses. Includes sight, sound, smell, and vibration signals from other people.

NOTE: Two common mechanisms by which privacy is achieved are:

a. Sense of Enclosure or Insulation from other people

b. Sense of Distance from other people.

Continuum PC 2: *Sociopetality-Sociofugality.* A setting is sociopetal or sociofugal in that it promotes or discourages social interaction within it.

Sociopetality then, is achieved by the presence of elements in a setting which suggest and support the presence and interaction of people.

Measure *SOCIOPETALITY*

if a setting is (or is open to) the intersection of paths that connect many activity settings or ones highly and often utilized,

and

if a setting has a large measure of Diversity, [See PC 7],

and

if a setting is one in which the "normal" distances between people is greater than 2' o.c., but less than 9' o.c., and they face each other with no barriers to interaction between them,

and

if many elements in the setting are conducive to lingering,

and

if there are fewer formal activities than persons,

then

the setting is a highly Sociopetal one.

Continuum: PC 3: *Informality-Formality.* This is a characteristic of a setting that conveys a message to the user as to whether or not the use of that setting is governed by prescribed behavioral rules.

Formality is where activities or behaviors are highly pre-determined by setting.

Measure: *Formality*

if Furniture arrangement is specific, coercive and relatively immobile,

and/or

if Space allocation and shape is a precise "fit" for the activity, the actors, and the furniture,

and/or

if the Sensory Environment is exclusively responsive to the particular activity,

then

the activity setting is a highly Formal one.

Continuum: PC 4: *Familiarity-Remoteness.* This is a characteristic of a setting exhibit which indicates to the user whether or not it is one of a class within which he has operated before.

Familiarity then, is achieved through the presence of familiar objects in setting familiar to the user.

Measure: *Familiarity*

The application of this measure presupposes a knowledge of the past and present physical environments of the relevant user groups.

If the proposed setting duplicates or approximates the users' past and present settings in many of the following categories, that proposed setting will be a familiar one:

a. relationship of building to site and community services

b. historic style of building

c. materials

d. shapes

e. sequence of spaces

f. type of, and placement of furniture, equipment, and information devices.

Continuum: PC 5: *Accessibility-Inaccessibility.* This is an indication of the relative ease with which a setting is approached or entered.

Accessibility is achieved through minimizing the expenditure of users' energy in reaching a destination and maximizing his motivation, or:

$$\text{ACCESSIBILITY} = \frac{\text{MOTIVATION TO MAKE CONTACT}}{\text{ENEGRY EXPENDED TO ACHIEVE CONTACT}}$$

Measure Users' Energy will vary with the distance they msut travel, the time it takes and the physical obstacles in their way. Therefore:

$$\text{ACCESSIBILITY} = \frac{\text{MOTIVATION}}{\text{DISTANCE, TIME, OBSTACLES}}$$

where:

a. *Motivation* is given weight by *importance to program* to Mental Health professionals. Motivation known only to the user and not related to program cannot be considered.

b. *Distance* is distance traveled by User from point to point within a single facility, or from his normal habitat to an M. H. facility.

c. *Time* is the lapse involved in distance above. (Mode of transportation becomes important.)

d. *Obstacles* are physical ones only, scaled by the evaluator—such as stairs, ramps, no through streets, etc.

Continuum PC 6: *Ambiguity-Legibility.* This is the characteristic of a setting that makes vague or clear the intended use(s) for which the setting has been provided.

Legibility then, is achieved through a high degree of spatial "cues" or "signals" clarifying the use, direction of movement, and location of the setting in relationship to other settings, geophysical elements, or climate.

Elements to be assessed for Information Content are:

1. Shape of setting
2. Furniture and equipment
3. Graphics
4. Finishes
5. Perception beyond setting
6. Place of setting in a sequence of settings.

Continuum PC 7: *Diversity-Homogeneity.* This is a characteristic of a setting which suggests the number of activities which may coexist in the setting.

Diversity is considered a characteristic of a setting whch both suggests and supports a large number of mutually compatible specific activities.

Measure *Diversity*

When a specific activity is both suggested and supported by the setting, we have spoken of these as Formal settings, insofar as suggestion and support "predetermine" the activity by excluding all others. Therefore, the Diverse setting contains a number of Formal settings and any setting composed of a considerable number of Formal activities is a Diverse one.

$$D = f_1 + f_2 + f_3 \ldots\ldots\ldots + f_n$$

where D = Diversity
and f = Formal activity setting,
and n = number of f's,

then whichever (n) is higher, represents the setting with the greater diversity.

Continuum PC 8: *Adaptability-Fixity.* This is a characteristic of a setting which predicts the capacity of the setting to successfully adapt to unforseen change.

Adaptability then, is a measure of the resources which must be expended to adapt a setting to support new activities.

Measure $$\text{ADAPTABILITY} = \frac{1}{\text{MAN HOURS} \times \text{SKILL}}$$

where *Man Hours* is the amount of time required to make the PHYSICAL changes necessary, and *Skill Level* is a rating applied by the measures. . .for example, a nurse moving chairs has a skill level of 5 (the maximum).

Continuum PC 9: *Comfort-Discomfort.* The sum of those physical characteristics of the environment, furniture, and equipment which noticeably intrude upon the users' Physical Performance of an activity due to malfunction.

Comfort then, is defined as the ability of a setting to pass human engineering standards tests which define a "comfort zone" in the following 2 categories,

then

the setting is considered comfortable.

Categories:

A. Sensory/adequate supply and control of

1. thermal qualities
2. illumination
3. acoustic qualities
4. air quality

B. Physical/

1. Equilibrium
2. Anthropometric "fit" (shape, size, surfaces, position)

Conclusion

In essence PAK is a technique for describing goals and objectives in terms of desired performance while permitting the generation of many alternative solutions which yield this performance. It is a way of encouraging innovation and of increasing and widening participation in the design and selection of solutions. It is the stating of goals unbiased by the means used to achieve them. This concept, in PAK is applied in defining treatment programs in environmental performance language to describe ACTIVITY SETTINGS, i.e., that part of an individual's sociophysical environment within which the individual acts. All human activities take place within some identifiable spatial boundaries which describe such an ACTIVITY SETTING. Each SETTING exhibits social and physical characteristics which tend to support or constrain one or more activities that may take place within it. PAK is the mechanism by which the treatment programs for Mental Health problems are translated into particular lists of ACTIVITIES for which appropriately supportive ACTIVITY SETTINGS must be provided. In order to plan and design a physical setting which must support a certain ACTIVITY, the specification given for that environment must not predetermine or limit the number of alternative solutions. It is evident, therefore, that such specifications must not be phrased in terms of physical dimensions, or materials, but in terms of the performance qualities desired.

Because the PC's describe the characteristics of settings for human activity in Performance terms, many settings could possibly exhibit these characteristics, including some not traditionally thought of as Mental Health settings. This permits the examination of a wide range of community resources as possible settings for the delivers of Mental Health services. It is also obvious that the PC's, although developed in a Mental Health project, are not specific to such concerns, and are applicable in any design project.

Meeting **1**

Initials _____ Date _____ Profession _____

Duties in planning or operation of center _____

Problem Statement _____

Description of Ultimate User _____ Physical description _____

Location of residence _____ Sociocultural data _____

Economic resources _____ Attitude toward mental health care _____

P-Prevention R-Rehabilitation
T-Treatment C. C.-Custodial Care

Program alternatives to solve problems	Therapy alternatives to carry out the program	Details or Notes e.g. activities, possible settings, etc.
☐R ☐C. C. ☐P ☐T Program 1 purpose:	Therapy 1	
	2	
	3	
☐R ☐C. C. ☐P ☐T Program 2 purpose:	Therapy 1	
	2	
	3	
☐R ☐C. C. ☐P ☐T Program 3 purpose:	Therapy 1	
	2	
	3	
☐R ☐C. C. ☐P ☐T Program 4 purpose:	Therapy 1	
	2	
	3	
☐R ☐C. C. ☐P ☐T Program 5 purpose:	Therapy 1	
	2	
	3	
☐R ☐C. C. ☐P ☐T Program 6 purpose:	Therapy 1	
	2	
	3	
☐R ☐C. C. ☐P ☐T Program 7	Therapy 1	
	2	

Meeting **2**

Initials _____ Date _____ Profession _____

Duties in planning or operation of center _____

Problem Statement _____

User Data _____

Therapy Alternative _____

Therapy 1 Discribe in terms of necessary activities	Notes on participants and possible activity
contact	
bring in	
diagnose	
treat	
disengage	
follow-up	

Therapy 2 Describe in terms of necessary activities	Notes on participants and possible activity
contact	
bring in	
diagnose	
treat	
disengage	
follow-up	

Meeting **3** Initials Date Profession
Duties in planning or operation of center

Activity Statement (subjects, action, place time, manner)

Participants Involved: Directly
Indirectly:

Supports for activity settings (list separately for each setting if more than one)
Relationship to other settings
Access to other settings
Special conditions or equipment

PERFORMANCE CHARACTERISTICS of setting to support the above activity

Remarks	Continuum:						Rank interpretation
	Communality						Privacy
	Sociopetality						Sociofugality
	Informality						Formality
	Identification						Remoteness
	Accessibility						Inaccessibility
	Ambiguity						Legibility
	Diversity						Homogeneity
	Adaptability						Fixity
	Comfort						Discomfort
Suggested by participant:							

DEFINITION OF PERFORMANCE CHARACTERISTICS SUGGESTED BY PARTICIPANT:

Continuum: _____ Measure: _____

In the space below, please name settings presently existing in the service area or potential, which most nearly match the characteristics as scored above.

PAK

problems NIMH/PLANNING AID KIT

P

SERVICE AREA | DATE | PROFESSION | PAGE | INITIALS

ISSUE

CONVERT ISSUE TO PROBLEM

PROBLEM

AGE SEX ETHNIC
LOCATION
OCCUPATION
PROBLEM:

CAUSES

EFFECTS

AGE SEX ETHNIC
LOCATION
OCCUPATION
CAUSE

AGE SEX ETHNIC
LOCATION
OCCUPATION
EFFECT:

ACTIVITIES

COMMUNITY MENTAL HEALTH CENTER
PLANNING AID KIT / NIMH

Date
Profession
Initials
SHEET

Problem

User Profile
Age Sex Race
Location
Occupation

Course of Action

Therapeutic Goals

1 2 3 4
5 6 7 8
9 10 11 12
13 14 15 16
17 18 19 20

Alternative Activities

TIME TIME