AN APPROACH TO HEALTH SERVICES DEVELOPMENT RESEARCH IN IRAN

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ABSTRACT **The process of planning and initiating health services development has ben described as conceived and experienced by the working group of the Health Services Development Research Project in Iran.**

The techincal steps(conceiving and describing the health services system, development of plans, preparatory step and implementation) as well as political support needed are defined and described. The importance of clear definition of the system is stressed as the basis for situational analysis and plans. Data are presented to illustrate findings during field observations in the province of West Azerbaijan. As a mechanism to initiate the proposed changes, the choice of direction of development and objectives, as well as to focus on critical and productive elements of the existing system, specifically building of a new front-line of primary care health services, have been proposed.

The "functional unity" of agencies and organizations participating in health delivery system and management tools for perpetuating of development, complete the plans.

After discussion of alternative plans for development it is concluded that at present it is essential to look at service systems comprehensively, use the existing services as the point of departure, aim at adequate coverage and provide service as required by the population and not as conceived by professional pressure groups.

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The following stand out in the present situation of evaluation of health services in Iran :

1. There is rapid and dynaic social development in the country;
2. Health Services are delivered by a large number of agencies (and private agents);
3. There is a dissatisfaction with the present situation and these are many piece-meal attempts at remedial action;
4. There is a sound base for public health research grounded on epidemiological thinking. (1-5)

Will these elements produce new directions? What sort of solution will emerge? Have practical consequences met expectations so far?

Health services development project

With this background a project called "Health Services Development Research" was started in Iran in 1971. (6) It is a joint, action-oriented research project whose participants include the Ministry of Health and Plan Organization, University of Teheran and major voluntary (Red Lion and Sun Society, Imperial Organization for Social Services) and insurance organizations providing or supporting health services in the country. The School of Public Health/Institute of Public Health Research with the Iran-WHO International Epidemiological Research Centre were chosen to be the executing agency. The general goals of the project and expectation of participants were stated in 1971 : "To discover and test better ways to solve multiple health problems through an effective and efficient national health delivery system."

There are two characteristics in the interpretation of the project objectives which have to be considered as essential : the first is the concept of *development* of existing services (i.e. an increase in their capacities to organize for dealing with their objectives), and the second is *implementation* of plans as a sine qua non for success, with evaluation of practice as a measure for the degree of success (7).

For purposes of field activities an Ostan, province inhabited by 1.3 million people, was chosen. The idea was to understand, develop and test innovation in health services on a scale of sufficient complexity and dimensions, rather than on a small, fragmented scale or as an aggregate of disconnected measures.

The phasing of the project

It was decided to carry out the project in two phases, the

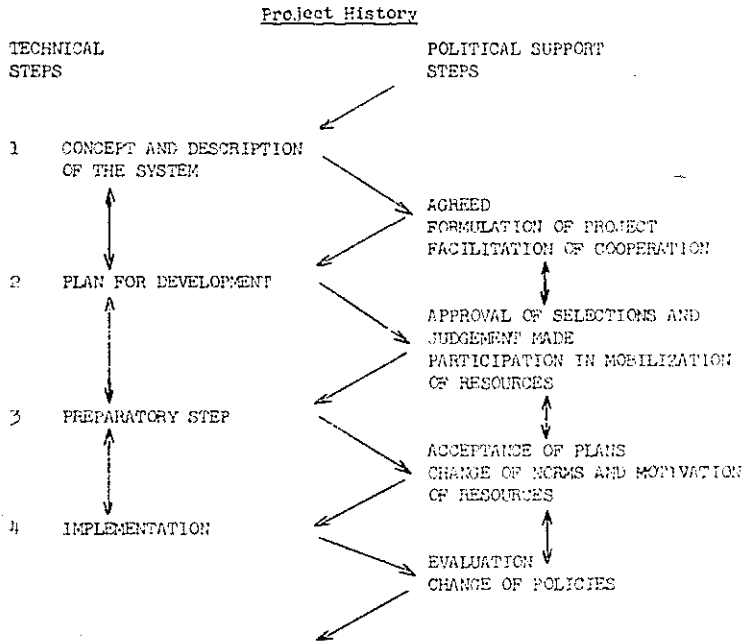
first to include a situational analysis, the proposal of alternative plans for further development of existing services (during the first year), and the second to include actual implementation and evaluation of proposed plans after the necessary preparatory work (during the two years after the start of implementation).

The time was such that experiences and expansions of programmes would serve as an input for the next National Development Plan.

However, this division into two phases had more meaning as a mechanical project yardstick than as a valid description of processes involved which can better be seen historically as two series of interdigitating steps.

The history of the project

To illustrate some aspects of the actual processes which are still taking place, we will follow a simplified description of project history which singles out some elements of a broader system in terms of technical steps (8-10). Yet the interplay and necessary reciprocation of technical steps, and steps in political support might be as follows :



Step 1

The first technical step is a realistic conception and

description in terms of critical parameters of a service system* which will serve as a basis for developmental action. There was an early tendency to attempt to describe this system very broadly, but later this was replaced by definition in terms of components open to measures producing short-term substantial change in performance or behaviour.

The concept and description had to take into account all active participants in the delivery of health services : governmental, voluntary, private, and indigenous.

The situational analysis was based on surveys which showed that there is a submerged iceberg of complaints and health problems which are not currently being taken care of by present services, but which could easily be made to emerge (12). To diminish subjectivity, the field survey was designed and carried out on a triangular scheme. The points in the triangle being a sociological survey, a medical survey of population samples, and studies of operating health services, (Exhibit 1). Intersectorial studies provided an environmental matrix for this triangle.

Exhibit 2 presents the iceberg of several categories of health need as seen through and according to different sources of information.

For the practical purpose of development of existing services it seems that of the three methods outlined, the critical appraisal of demand and utilization is the most suitable and gives the greatest proportion of needed information.

Step 2

The second technical step, that is, the preparation and submission of plans for further development and facilitation of their approval, includes three tasks :

— definition of the direction in which the system should develop
— focusing on critical and productive elements of the system for development
— energizing perpetuation and diffusion of the development process

The *direction* that the system should follow will be primarily determined by general social developments and health policies, and on estimates of types and quantities of services necessary. The plan should clearly indicate the time dimension of these directed

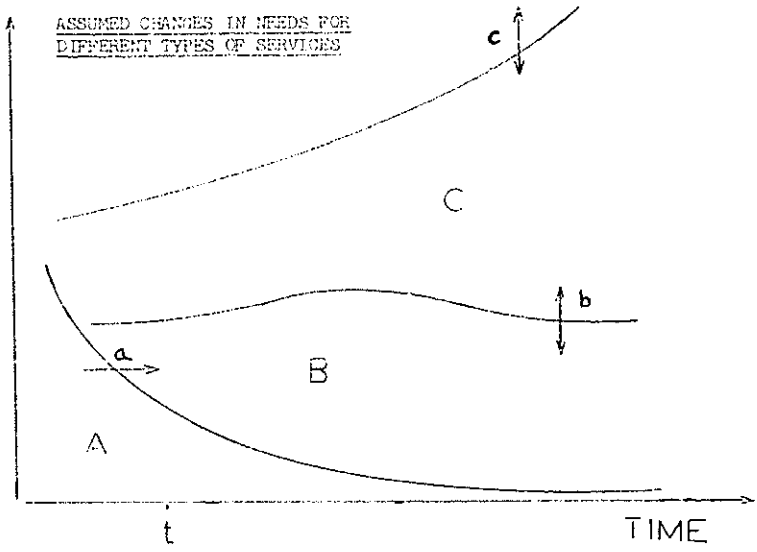
* The term system is used as a concept of dynamically interrelated elements and should not be confused with the colloquial use of the word for describing a set of rules for an activity (11).

developments. Problems may be grouped in accordance with broad categories of type of service considered appropriate:

Classicification of Health Problems Through Types of Services

Type	*Services*	*Examples*
A	MASS CAMPAIGNS AND COMMUNITY ACTIONS	Mass epidemics or endemics, malaria, initial steps in environmental sanitation of family planning
B	INTEGRATED, ACTIVE PERSONAL CARE AND COMMUNITY ACTION	Family health Occupational health problems
C	PERSONAL CARE ON DEMAND	Medical care and relief

Assumed time trends (13) for these three types of problems are schematically shown as follows; this supposes in particular a temporary rise in B-type problems during social and economic developments:



* a — Problems of type A either diminish or change character and and instead by mass campaign have to be treated by continuosiy operating services.

b — There will be variation in division between B and C types of problems depending largely on availability of comprehensive (social and medical) technology.

The estimates of present coverage of different types of problems in the table below show that the greatest weakness lies in the category requiring continuous and integrated services:

Estimated Coverage of Needs

Type of problems according to kind of needed services	*Estimated coverage of needs*	*Needs defined as*
Type A	60-100%	planned targets
Type B	1- 20%	coverage of population group at risk
Type C	20- 40%	expressed demand/perceived complaints

It is usually necessary to *concentrate efforts and resources* on a few selected elements of the service system critical to development and most likely to respond to new intervention (a level of care or a type of unit or a special programme).

Some of the issues related to the multiplicity of service agencies are highlighted in Exhibit 3 showing the distribution of load qualitatively and quantitatively (Exhibit 3) and patient movement within and between agencies (Exhibit 4). It should be noted that for the most part units, belonging to different agencies provide largely similar services (Exhibit 5).

Together with expected growth (the Fifth National Development Plan (1)) it seems impossible that different agencies continue to exist in isolation.

Consequently for the two mentioned reasons, direction of development and leading role, the elements of primary care are seen to require priority attention in health services development.

According to proposed plans the different agencies should start with a joint undertaking resulting in a concerted effort to build a newly defined pattern of primary care supplemented in due course by other levels of service, thus achieving functional

coordination and a unity of services.

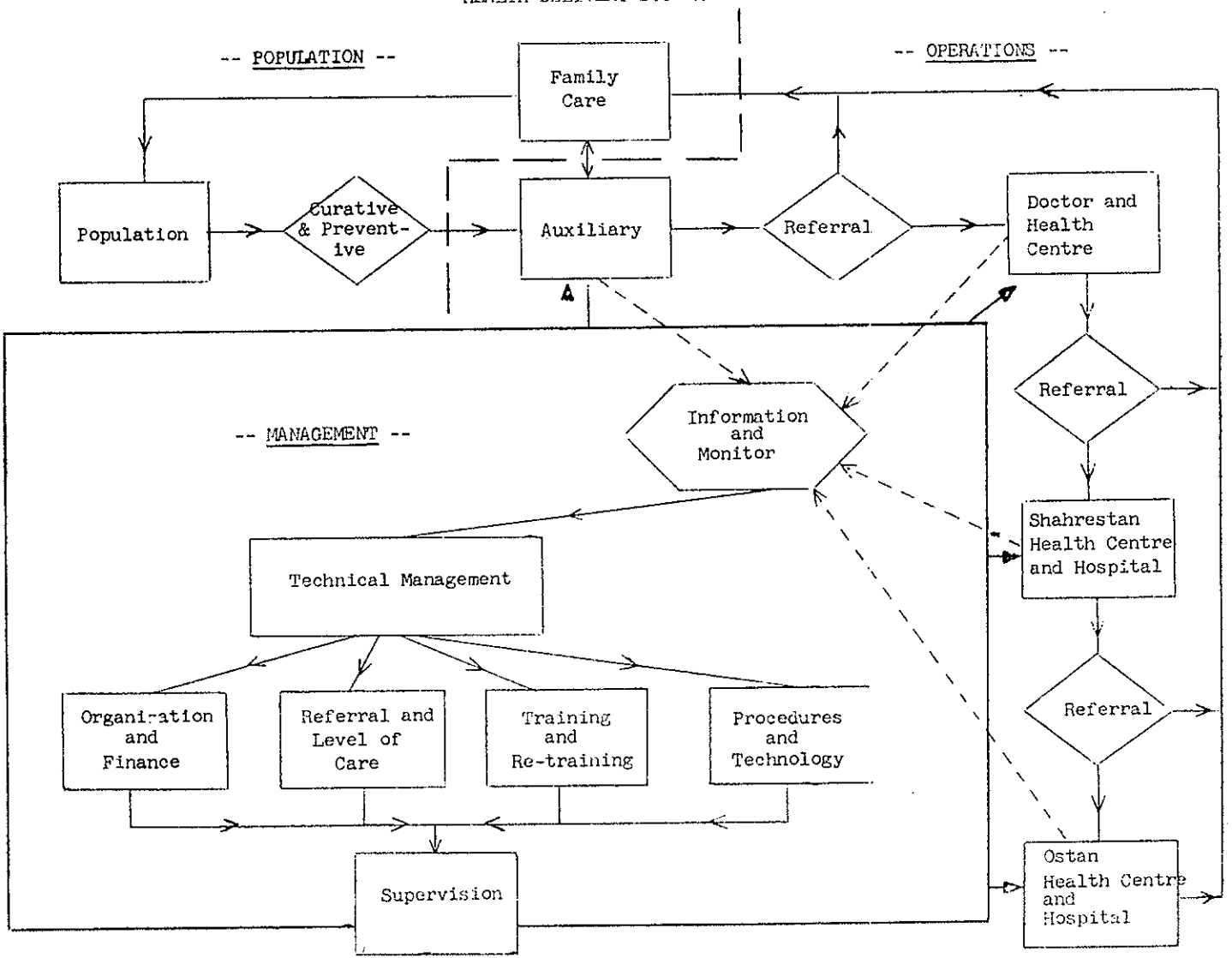
There remains the problem of *translating plans into action and of producing an ability to generate recurrent development measures.* This is seen as a key objective of the project initially through additional (including external) resources, and eventually supported through managerial control mechanisms assisted by appropriate sub-systems, training activities, etc., so that problem solving and adaptation to new circumstances become permanent. However, stimulus and energy for this should come from the interface of the system with population to be served. The service agencies need to match this with an appropriate blend of services effectual and rational technology and suitable patient flow within the service complex. The schematic picture is presented on the diagram on the following page.

A complex relationship which is only implicitly illustrated by this diagram concerns the dynamic action between population and the health delivery system. The concern for this relationship is accentuated by project proposal. At the most critical point of this relation in the community the link has to be characterized by the following attributes :

— simple but continuous functions which are accessible to and acceptable by the population
— adaptability to various unique circumstances of a population and changes over time (i.e. a service that grows with population development)
— support in the system by higher levels, not replacing them.

These characteristics will develop a viable link between population and health delivery system for the purpose of being able to respond effectively to population with a mechanism which involves them to express their social needs.

Exhibit 6 (simplified scheme of one of the "decision points" submitted for consideration at the political level) illustrates five possible patterns of front-line services against certain criteria for satisfactory outcomes. This led to a positive choice based on a maximum number of satisfactory interfaces :thus the project working group gave preference to the pattern consisting of junior auxiliaries, one male community worker drawn from present malaria eradication workers, sanitary aides or health corps medical assistants assigned to work on, and solve, community health problems, one female drawn from suitable village women, midwives or nurse aides, or female health corps workers assigned to work with fami-


-- POPULATION --
-- OPERATIONS --
Family Care
Population
Curative & Preventive
Auxiliary
Referral
Doctor and Health Centre
-- MANAGEMENT --
Information and Monitor
Referral
Technical Management
Shahrestan Health Centre and Hospital
Organization and Finance
Referral and Level of Care
Training and Re-training
Procedures and Technology
Referral
Supervision
Ostan Health Centre and Hospital

lies and their health problems

Primary care to be given by this group was worked out and completed as a system in accordance with survey findings and is shown in the diagram on page 10.

Exhibit 7 indicates the estimated relative frequencies of certain complaints as well as the proportions beginning different types of direct and referred care.

Step 3

After political support is reached for general solutions proposed in the plan, certain preparatory measures are necessary to mobilize resources needed to set execution in motion as well as for detailed planning and development of supporting activities. Preparatory work is also needed to arrive at the most suitable procedures or methods within general solutions.

This calls for participation of all expected ultimately to be involved in the execution. Working groups were formed to get busy with these preliminaries once they were approved "under research conditions". Every working group is made up of both project and health service staff.

The "elementary brick (exhibit 8) of the primary care service system is based on service functions and technology rather than only on number of staff and population or on organization and structure.

Given an item of effective technology, operational characteristics are determined : this makes a base for management; similarly an effective technology is used as the starting point for adequate training of working staff. These items or "bricks" are gradually built up in systematic relation to the planned targets. (14, 15).

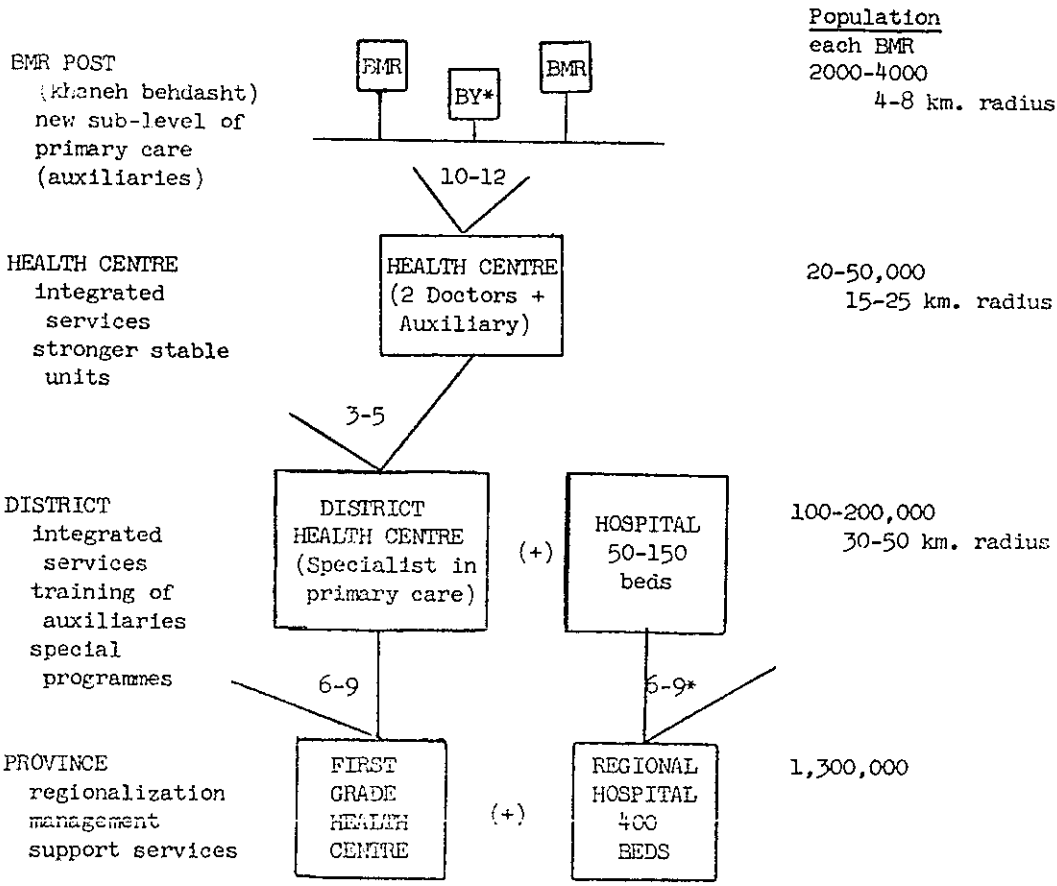
There follows an application by "a pilot and ad hoc trial" through existing services and by the project working group.

At the moment there remains ample flexibility before the final details of the service design are fixed for execution.

Discussion : A Plan for Health Services Development

To speak about development of health services without commenting on maldistribution of medical doctors, levels of education of auxiliaries and boxes and arrows of a new structure may seem unorthodox, yet it has been done deliberately to show that this is a nowtactical game with new rules growing out of experience; we feel this has a better chance to achieve development of existing services. The new tactics stressss functions more than

PROPOSED INITIAL FUNCTIONAL AND ORGANIZATIONAL CHANGES
IN HEALTH SERVICES, WEST AZERBAIJAN

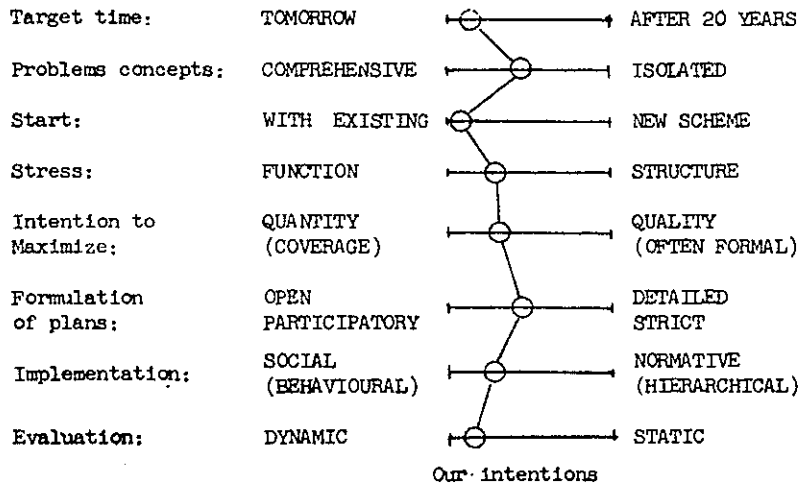


BMR - BEHYAR MAMA RUSTAI
BY - BEHDASHT YAR
* 5000-10,000 population
** Proposed regionalization of hospital services

structures, roles of personnel more than position, put job procedures before general duties, training contents before formal curricula and stress existing resources more than organizational schemes. This surely amounts to a new look on systematic planning but by itself cannot provide a solution.

Let us summarize the described approach schematically taking different characteristics of a plan into consideration (16) and present the intentions on a series of scales describing these characteristics :

Selected Characteristics of Plans for Development



There are two parting thoughts arising from this diagram :

a) At a theoretical level, though the two extreme choices in each scale appear at different poles of a spectrum, they *are* represented in every solution and thus there is a dialecticalunity between them. E.g. the short term plans are parts of and influence necessarily the long term ones as would be true also for opposite. The "quantitative" choice will finally determine the "quality" of future solutions and is an important issue. (17).

b) On a practical level, the message is that different approaches exist and lead to different solutions but have to be adequate as to time and conditions. (18).

In *conclusion* we think that a health services development project should for the time being and in Iran :

— look at service systems comprehensively;

— use the existing services as the point of departure;
— aim at adequate coverage and provide service as required by the population and not as conceived by professional pressure groups.

Though, health services development projects should have a finite duration they should generate social relations, services and educational and research elements which will persist and make not only continuous service adaptation, development and improvement a reality, but also bring into focus and into practice all social endeavours which can benefit community health.

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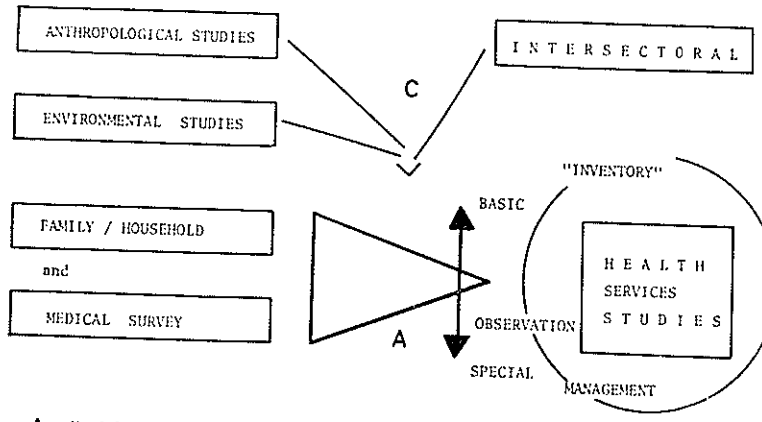
All participants of the project, not mentioned here, as well as participating organizations and agencies, contributed to the development of the presented work and it is the duty and privilege of the writers of this article to stress their role and praise their contribution.

REFERENCES

1. The Fifth National Development Plan. Plan Organization, Teheran, 1973. Chapter 23: Health, Medical Treatment, Nutrition and Birth Control, p. 134.
2. Ronaghi H.A., Sloter S.L. (1973). The Auxiliary Health Worker in Iran. Lancet, ii, 427.
3. School of Public Health and Institute of Public Health Research, (1970: Geographical Pathology of Iran. Scientific Publication No. 1802, Teheran, 1970.
4. Mofidi, Ch M H. (1972): Medical Manpower Problems in Iran. In: Aspects of Medical Education in Developing Countries. WHO Public Health Papers No. 47, p. 98.
5. Soopikian, G. (1973): Health Planning In Iran. CENTO Conference on the Methodology of National Health Planning, Istanbul, p. 45.

6. Project for Health Services Development (HSD) in Iran. (1971) : Draft Document on Objectives, Expectations, Approaches and Organization of the Project. Teheran. Mimeo
7. Project for Health Services Development Research in Iranfl Research Protocol and Manual of Procedures. Part I : Development of the Alternative Proposals for Development of Health Services. Rezaiyeh, July 1972. Mimeo.
8. Kaitaranta H., Purola T. (1973) : A System-Oriented Approach to the Consumption of Medical Commodities. Soc. Sci. & Med., 7 :531.
9. Rezsohazy R. (1972) : The Concept of Social Time : Its Role in Development. Int. Soc. Sci. Jour. UNESCO, 25 :26.
10. Dimitriou B. (1973. The Interpenetration of Politics and Planning. Socio-Econ. Plan. Sci. 7 :55.
11. World Health Organization. (1973): Organizational Study on "Methods of Promoting the Development of Basic Health Services." EB51/WP/1. Mimeo.
12. Project for Health Services Development Research in Iran. (1973): Proposal: Health Services in the Ostan of West Azerbaijan : Plan for Further Development of the Health Services System. Volume L and II. Teheran, 1973. Mimeo.
13. Omran A. R. (1971) : The Epidemiologic Transition. A Theory of the Epidemiology of Population Changes. Milbank Mem. Fund Quart., 49 (4, Part 1) : 509.
14. King M. H., Newell K. W. (1973) : Standard Technology — The Health Care Package. Bulletin of the World Health Organization. In Press.
15. Harper A. C. (1973) : Towards a Job Description for Comprehensive Health Care — A Framework for Education and Management. Soc. Sci. & Med., 7 :291.
16. Friedmann J. (1967) : A Conceptional Model for the Analysis of Planning Behaviour. Admin. Sci. Quart, 12 :225.
17. Mitroff I. I., Betz F. (1972) : Dialectical Decision Theory: A Meta Theory of Decision Making. Management Science, 19 :11.
18. United Nations. (1972) : Preliminary Report on Unified Approach to Development Analysis and Planning. UNIRSD/72/C 66.CE 72-8414. Mimeo.

Exhibit 1



A Health needs and demands, health complaints and utilization, adequacy of services and effectiveness of procedures.

B Structural and functional analysis of health services.

C Background and explanatory data.

Exhibit 2

THE "ICEBERG" OF HEALTH NEEDS AND DEMANDS

Category of health needs	Source of Information	Percentage of population	
		Rural	Urban
Persons with complaints on a day (maximal level)	Medical Survey	59	78
Family perception of complaints during last 14 days	Household Survey	30	37
Persons classified as ill on a day	Medical Survey	28	37
Long-term disability on a day	Medical Survey	10	9
Stated utilization of health services during last 14 days	Household Survey		8
Demand on all out-patient services during last 14 days	Health Services Survey	5	
Treatment received for complaints during last 14 days	Medical Survey	21	46

Exhibit 3

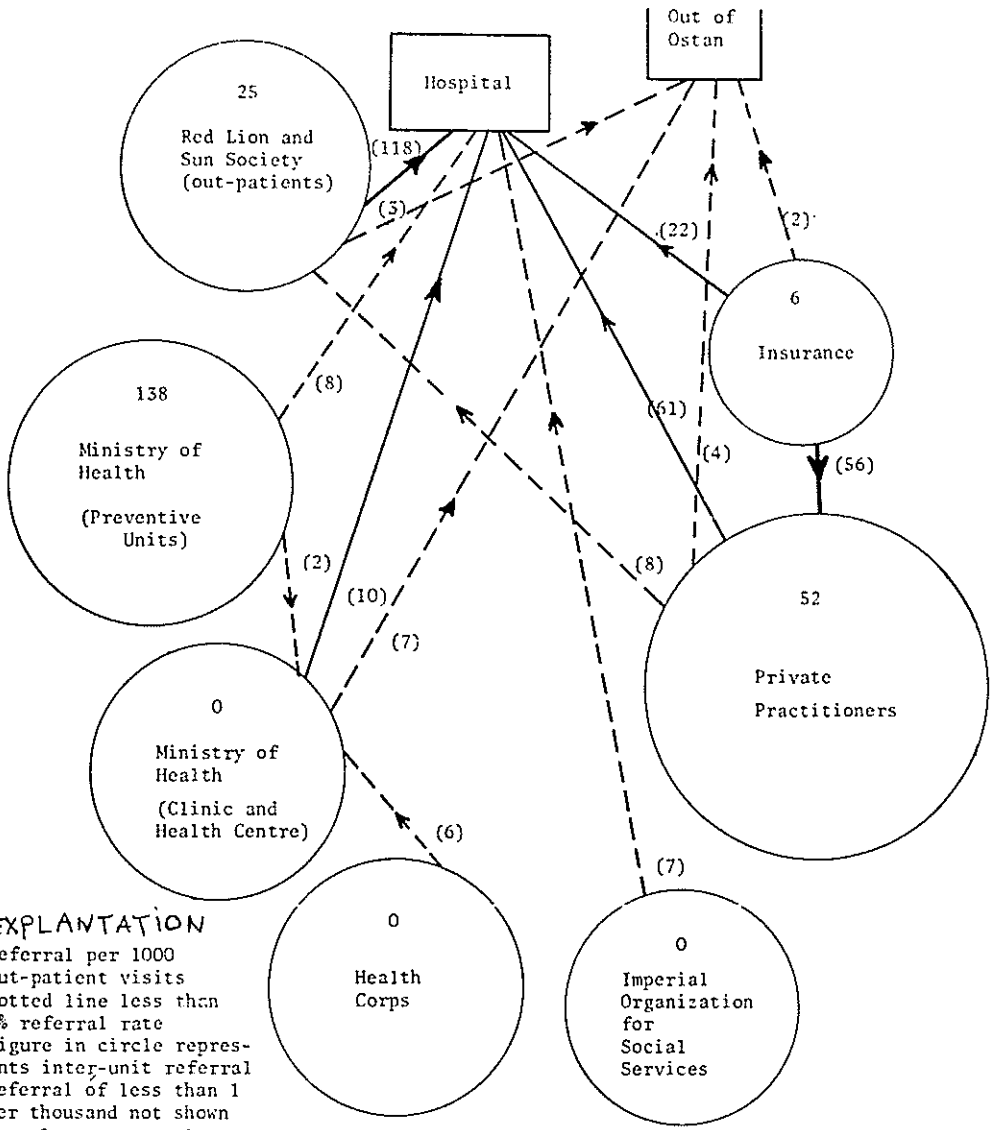
DISTRIBUTION OF LOAD* ON HEALTH SERVICES BY TYPES OF PROBLEMS AND BY PROVIDERS OF VARIOUS TYPES OF SERVICES, 1350 WEST AZERBAIJAN

Providing Agency	Problem Type			
	A	B	C	
			Outpatient	Inpatient
Ministry of Health with Health Corps	800,000**	180,000	757,000	1,700
Imperial Organization for Social Services	.	11,500	131,300	
Social Insurance	.	10,300	62,000	
Rural Corporation	.	300	2,500	
Red Lion and Sun Society	.	13,000	187,000	22,900
Private Practitioners	.	24,000	360,000	2,200
All	800,000	239,100	1,499,800	26,800

* Contacts with population independent of type of contact
** Excludes Malaria Programme which has 100% coverage by the Ministry of Health

Exhibit 4

OUT-PATIENT VISITS AND ESTIMATED REFERRAL*



*EXPLANTATION

- Referral per 1000 out-patient visits
- Dotted line less than 1% referral rate
- Figure in circle represents inter-unit referral
- Referral of less than 1 per thousand not shown

Surface of circles show the comparative quantities (No of contacts)

Exhibit 5

REASONS FOR COMING TO DIFFERENT TYPES OF HEALTH UNITS

Reason	"Preventive" Health Centres	Hospital Outpatient	Insurance Clinics	Rural Units	Urban Units	Units without doctor
DIARRHEA	3.6	13.8	15.6	18.4	15.4	15.7
COUGH	1.1	3.1	7.7	4.8	4.5	2.7
FEVER	1.5	4.2	3.7	5.3	3.2	4.5
INJURY	1.2	3.8	4.0	3.6	3.4	3.4
SKIN	3.1	5.9	4.0	5.1	7.1	12.4
EYE AND EAR	12.4	8.3	5.0	5.9	7.1	5.6
ABDOMINAL PAIN	3.2	16.2	9.3	13.7	12.0	6.7
OSTEOMUSCULAR PAIN	1.2	9.0	9.3	11.1	6.7	15.7
HEADACHE	1.3	2.4	2.7	4.3	7.1	4.5
ANGINA, COMMON COLD	1.7	7.0	8.3	4.8	5.8	9.0
HEART PALPITATION	0.4	2.4	3.1	4.0	0.4	2.2
GENERAL WEAKNESS	0.9	2.0	3.1	3.7	2.4	2.2
OTHER COMPLAINTS	5.2	15.6	18.9	11.8	18.5	9.0
OTHER HEALTH NEEDS	65.1	6.4	5.3	5.4	8.3	6.7

Exhibit 6

DECISION POINT III: TYPE OF INTERFACE WITH POPULATION

Criteria	Extension of present situation	More mobile services	Senior auxiliaries replacing MD	Team of junior auxiliaries *	New social structure **
In accordance with goals and policies: population oriented	No	No	No	Yes	Yes
Satisfying global needs: increasing selected coverage with adequate services	No	No	+ -	+ -	Yes
Satisfying functional requirements: levels, coordination, continuity, etc	No	No	+ -	+ -	+ -
Positive influence on the total system (other elements)	No	No	No	Yes	+ -
Feasibility	Yes	Yes	+ -	Yes	No

* Team of junior auxiliaries: short-term and mostly in-service training, whenever possible local recruitment and training centres, systematic supervision and team work within health services.

** New social structure: health worker as part of local community, responsible and supervised primarily to the community and functioning outside structured health services.

Exhibit 7

ESTIMATED STRUCTURE OF DEMAND ON THE AUXILIARY FRONT LINE SERVICES

Demand based on group of complaints	Standardized			Referral		Total %
	First Aid	Treatment	Sympto-matic Help	With-out Delay	Delayed	
Diarrhea, abdominal pain	6	13	2	3	6	30
Cough, common cold	(+)	4	6	2	4	16
"Visible complaint" injury, skin, eye, ear	7	2	6	(+)	4	19
Osteomuscular pain	(+)	-	6	1	3	10
Vague complaints, weakness, headache	-	-	7	-	4	11
Others	1	1	5	2	5	14
Total	14	20	32	8	26	100

Based on observations of health services and medical survey findings

Exhibit 8

ELEMENTARY BRICK