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Health Record Systems

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**Volunteers for International Technical Assistance**

College Campus  
Schenectady, N. Y. 12308  
USA

HEALTH RECORD SYSTEMS

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Prepared

by

Christopher Frost

and

Gordon R. Ellmers

For

Volunteers for International  
Technical Assistance, Inc.

(VITA)

College Campus  
Schenectady, N. Y. 12308  
U.S.A.

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## PREFACE

The development of this manual grew out of the need for an easy and concise health record system that required little or no experience with filing methods. We hope that the system described in this manual will help avoid excessive paper work and duplication and, at the same time, provide a system of constant flux and recall.

Because there are so many variables present in each medical application, this manual is not designed as a definitive answer to problems. Instead, it is hoped that the suggested methods can be adopted or modified to meet any situation.

Professional guidance and materials were generously offered by Dr. Francis Carroll and his staff at Union College, Dr. Hans M. Rozendaal, and Edmond F. Notebart of Schenectady, New York.

Valuable suggestions were given by Commander D. T. Rohds, USN (Ret.) and Mr. J.P. Conroy. The practical experiences of Peace Corps Volunteers Karen Kennedy and Marylou Murphy as expressed in a VITA inquiry also were helpful.

Special thanks is extended to Professor David B. Rhubottom for his assistance in establishing a coding method for polygamy and polyandry.

Our appreciation to VITA Volunteer Dr. David A. Stadtner for reviewing the final draft and offering sound suggestions for improvements.

## INTRODUCTION

Two important concepts must be stressed when initiating a filing system for medical records: simplicity and uniformity. Simplicity will help reduce the time factor for initiation of the system as well as facilitate the actual recording of information. Simplicity will reduce the space and material requirement and also enable trainees to participate in recording and assimilating operating methods.

Uniformity in a record system is essential. It must be kept in mind that you will not always be around to run the medical record program. Others who replace you must be able to understand your method. Uniformity and continuity make for simplicity. A universally acceptable method has not been agreed upon, but most doctors or trainees can understand and use the methods outlined in this pamphlet. Furthermore, these methods can be coordinated with the development of a census in a country.

## SECTION I

### SIMPLE RECORD AND FILING SYSTEMS: NO RECALL OR PERIODIC EVENTS

Most health clinics deal with the treatment of minor injuries and disease or the dispensing of drugs without the necessity for further treatment. Only a numbered, chronological health and treatment chart is needed. Illustrated on pages 13 and 14 are two basic types of medical charts that may be used in such cases. The chart on page 14 includes a section for immunizations received. Other boxes or columns may be added to the basic information at the top of the page (blood type, etc.). If recall or further treatment is necessitated, methods outlined in the next chapter are advisable.

A number for each patient should be entered on the chart. Two separate files in either index card or loose-leaf form should be kept with number-name and name-number references in numerical or alphabetical order, respectively.

The rest of the medical record chart is set up with sections for chronological entries. This form is continued on the back of the page or card or on subsequent charts for additions to the file. It is important to remember and to instruct all workers and trainees that ALL ENTRIES MUST BE DATED AND SIGNED OR INITIALED. This eliminates the question of whether the procedure was done, when it was done, and who did it. It is especially important if periodic treatment is being rendered.

Medical charts should be on sheets of paper or on index cards at least 5" x 8" in size. Lined index cards should be used. The blank side of the card becomes the front of the medical record which is then lined and labeled as such. The lined side becomes the back of the record which is used for chronological comments (as shown on page 15).

A good variation of the index card style is a piece of stiff cardboard that is twice as long as the standard index card (10" x 8"). It can be folded in half, creating twice the amount of recording room in the same space as a 5" x 8" card.

If pre- and post-natal records are kept, forms such as those found on page 16 and 17 can be used. Two forms must be used: one for the mother with her specific number,

and one for the child with the mother's number. The suffixes a, b, c, etc., denoting the first, second, third, etc., child. These cards should be kept together. Periodic visits of both mother and child are handled with tickler cards as explained in the next chapter.

The front of the mother's card (figure 5) provides basic data, plus spaces for forty pre-natal visits. In her next pregnancy, a new card can be used. The back of the card is blank and should be lined providing the maximum space for recording data. The front of the child's card also provides identification data and a treatment record including immunizations. The back of the child's card is similar to the back of the mother's card. As the child gets older, his birth and post-natal card may be withdrawn. He may then be assigned his own record card and a new number.

## SECTION II

### COMPLICATED RECORD SYSTEMS: SYSTEMS FOR RECALL OR PERIODIC VISITS OF PATIENTS

In many instances a more complicated method of record keeping is needed for periodic recall of patients. Two systems are presented here. The first system incorporates those discussed in the previous section with the addition of a "tickler" card. The second system combines the medical record and the retrieval system into a self-contained unit. The second system can prove to be less time-consuming and bulky than the tickler card method if it can be implemented.

#### Tickler Cards

Tickler cards (see page 18) are used for immunization followup, redispensing of drugs, indicating the last trimester for expectant mothers, or for any routine examination. The cards have a number box for recording the corresponding number of the medical record of the patient to be contacted. They can be color coded according to their descriptors. These cards are arranged in a dated file alphabetically or in a subject file arranged chronologically. They are then pulled on the date of the visit and matched up with the medical record card. Cards of infants returning for post-natal care should, of course, have their mother's number and appropriate letter suffix.

This system of tickler cards may become quite bulky and require a great deal of clerical work when the variables of recall become large in number. This would necessitate a large number of files. Therefore, this system should only be used as an auxiliary system or in situations where there are only one or two recall variables. In most cases, especially in dealing with post- and pre-natal care, the modified Royal-McBee retrieval system described below should be used. The tickler card system is included here only in the event that the self-contained Royal-McBee system cannot be implemented.

#### MODIFIED ROYAL-McBEE RETRIEVAL SYSTEM: SELF-CONTAINED

The modified Royal-McBee retrieval system requires cards at least 5" x 8" in size and of the stiffest card-

board possible. In order to make certain that cards are aligned properly they should be notched in the upper right hand corner like computer cards (see figure 8, page 19). In the marginal space (perimeter) on all four sides of the card, holes are punched corresponding to the various information to be recorded. Personal data (which can include such things as name of mother, name of father, name of patient or child, number of miscarriages, number of children, general health, baby weighing, etc.) is recorded inside of this punched area (see figure 9, page 19). Information such as urine sample and blood pressure that is noted on weekly visits, can be recorded chronologically on the lined back of the card, also within the punched area.

Each hole in the margin corresponds to a variable in the medical recording being done. Each hole on each card does not have to be labeled. Instead, a master card can be referred to when deciding which variable is to be notched. This saves much time in labeling each card (see figure 9, page 19). Items such as shots, housing locations, birth dates, etc., which are similar or given in series should be adjacent to each other and separated from non-related variables around the perimeter of the card. The patient is identified as to housing location or inoculations by punching out the corresponding holes to the edge of the card, forming a notch. For instance (see figure 9, page 19), Abdoulaye, son of Moussa and Hadiza, was born January 11, 1968. A notch was punched in the first quarter of the year. Notice that year indicators are grouped in bunches of three and that each year nomination is at least three years from the others in its group. In this example, field workers were dealing only with babies up to two years old, and it was sufficient to group by three-year spans. Another way to do this would be to group the year indicators chronologically and then group the quarter of the year indicators in another area. One indicator from each area would have to be notched. Because Abdoulaye lives in the district of Gabos, that particular hole is notched. In addition, he has received smallpox and BCG (tuberculosis) vaccinations and for diarrhea, conjunctivitis (eyes) and wounds.

Therefore, in order to visit a housing location, the cards are stacked with the cut corners lined up and a knitting needle, long pin, or wire is inserted through the given district hole. The cards are juggled and shaken on the needle and all the cards of that given

district (i.e., those notched) fall out. The needle is then inserted, for instance, in the hole for cereal training and those cards that do not drop out are children who need the training. Various factors can be separated out because they are notched or not notched. The given cards must be refilled after visits and treatments in the clinic are recorded. Counterpart trainees can be taught to find visits, notch holes and refile cards.

In the example given, the weight of each child was recorded monthly. Each mother was given a book with the appropriate weighing number on which monthly weights are recorded. These weights were then transferred to the graph and the weight in the book was blotted out with a stamp or pen in order that the weight would not be re-recorded by mistake. The graph is a good way of recording data in a small space and, of course, could be used for measuring other data.

Cards are filed numerically in order of the visit to the clinic by the patient. In the case of post-natal care, the baby takes on the mother's number with a letter suffix but his card is stored separately from the mother's if she was under care previously. If not, the baby is filed numerically by his number from weighing or alphabetically if the baby is not brought to weighing. This requires two separate filing areas.

In addition to these cards, there is an alphabetical listing according to the mother's name, with the father and child's names and the child's weighing number. This facilitates finding the weighing book number if the book is lost or not brought to weigh-in at the clinic.

Listed below are some of the advantages and disadvantages of this system. In a later chapter, hints are given on how to avoid problems outlined in the disadvantages.

#### ADVANTAGES:

1. One is able to keep fairly complete records without expending too much time;
2. One is able to perform home visits more efficiently by district, by age group, etc.
3. Counterparts (trainees) are able to take part in recording.

## DISADVANTAGES :

1. A card is more easily lost than a bound piece of paper;
2. It is time-consuming to initially set up this system. Attempt to find several people who are willing to punch holes in cards;
3. If many holes are notched there is a problem with one card catching on another card and sticking.

Some modifications on this plan can be seen on page 20. Inoculations and other variables are either punched out or blocked out with ink (see figure 10) similar to the system discussed above, but instead of the cards being sorted out by each variable, boxes corresponding to periodic check-ups are marked along the bottom of the card and the various variables are handled according to the date of periodic visit. As each treatment period is performed, that section of the card is removed and the card reinserted into the file. Small metal or wooden strips are attached to the bottom of the file in the areas corresponding to the removed section of the card. Cards of patients who have not had the proper treatment at the time indicated will stand out above the others because they will not fit all the way into the file. In this case cards should be filed in similar chronological groups ( see figure 11).

If the cardboard cards are not sufficiently strong enough to handle punching, use colored pencils or ink as an alternate method. Instead of notching, one can clip corners of the card for recording information. The limitation of colors can be handled by stripes, etc. All these options are shown on page 20, figure 12.

## SECTION III

### BASIC CODING AND IDENTIFICATION METHODS INCLUDING THOSE FOR POLYGAMY & POLYANDRY

All records will need name, birth date, sex, and filing number. Records for mothers and babies should contain the following:

#### BABY

- 1) Name of mother
- 2) Name of father and occupation -- names may be similar and the listing of the father's occupation is a precautionary measure which might also be relevant to (inherited) health conditions, etc.
- 3) Name of child concerned, sex, birth date, file number
- 4) Location of home
- 5) Visits and treatment including immunizations, weighing, spaces for special instructions given; i.e., home visits.

#### MOTHER (pre-natal)

All of the above except #3 and the following:

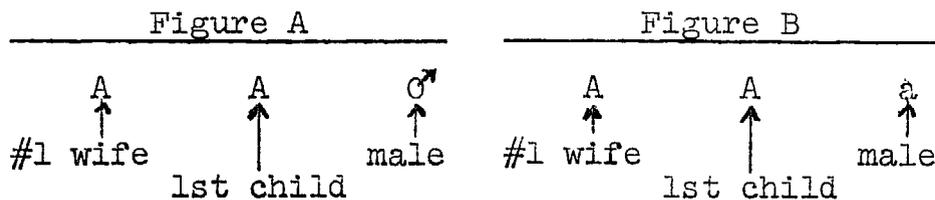
- 1) Number of miscarriages
- 2) Number of children; if dead, give reasons
- 3) Weekly maternity check-ups of general health, urine, blood pressure, pulse, weight, etc.

As indicated, in most cases all babies will receive their mother's number with a letter suffix indicating cardinal order of the baby ("a" for the first child, "b" for the second, etc.).

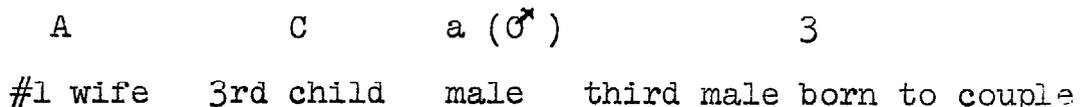
In cases of polygamy the mother's name should be listed first at the top of the record because names can often be singular and similar. In the case of polyandry

it may be helpful to list the father's name first since he is the discerning factor in the case of a common wife. In coding a baby born in a polygamous situation, one should use the following code after the baby's name:

The code would consist of two letters (example: AA) where the first letter was the indication of wife (i.e., #1 wife is A, #2 wife is B) and the second letter is the numerical indication of the offspring (i.e., A is first offspring, B is second, etc.). Thus the first offspring of the father and #1 wife would be AA, and the second offspring would be AB. Children of the same father and #2 wife would be BA, BB, BC, etc., and CA, CB and DA, DB for third and fourth wives. For polyandry, the first letter would stand for the particular father and the same procedure would follow. The offspring may be further coded by adding the appropriate sex symbol after the coding (O, O<sup>♂</sup>). Thus the code would appear as in figure A.



This last coding can be replaced with the letter "a" for male and "b" for female (figure B). If you wish to denote whether a particular offspring was the first girl born to the particular couple, you could add a final number.



Some of these refinements may be too complicated or of no use to your program and should, in that case, be omitted.

## SECTION IV

### MATERIALS AND STORAGE

Materials required depend on the system that is used. In most cases, file card systems are far superior to sheet systems.

All medical records done on paper should be bound, preferably in loose leaf notebooks. Margins on your records should be adjusted for top or side binding. If you have filing space, records of patients can be stored in manila folders, but this is only feasible if you have a large filing cabinet.

All tickler cards and regular record cards should be stored in box files approximately the same size as the card. Box files can be manufactured easily with tape and cardboard (old shoe boxes can be used for larger cards). One can purchase file card holders in many countries, but they are not always available. It is very important to remember to have a lid for each file box.

Cards should be made of the stiffest cardboard possible because they tend to fray at the edges with use. In the case of the Royal-McBee system, the cards should be stiff in order that notches will not catch on the notches of adjacent cards. This sticking can be further reduced by combining variables so that fewer holes are necessary or by placing the holes closer to the edge of the card.

Ticket punches are needed for the Royal-McBee system; they are not available in many countries. Also, you will need stiff wire or knitting needles for separating the cards. A rubber stamp is used to cross off weights recorded in a weight book after they have been transferred to a graph or for any such similar application. Inks and pencils of different colors as well as a scissors will be necessary. In the case of post-natal care you will also need small notebooks to be used by clerical personnel or mothers in which to record baby weights.

SECTION V

SOURCES OF FURTHER INFORMATION

League of Red Cross Societies  
Geneva, Switzerland

(Most countries have  
their own Red Cross  
Societies and other  
medical groups that  
you can contact first.)

Regional Office  
World Health Organization  
Abraham Horowitz, M. D.  
Director, Pan American Health Organization  
525 23rd Street N. W.  
Washington, D. C. 20037

International Union Against Tuberculosis  
20 rue Greuze  
Paris 16<sup>e</sup>  
France

United States Department of  
Health, Education and Welfare  
Washington, D. C. 20201  
U. S. A.

If you need more information on the material in this manual or on other technical matters, VITA (Volunteers for International Technical Assistance) can send it to you. If you have specific questions, VITA can put you in contact with an expert who can answer them. VITA is an international technical assistance organization of scientists, engineers, technicians and businessmen who volunteer their spare time to answer questions from persons in developing areas. There is no charge for this service.

Simply send your request to:

VITA  
College Campus  
Schenectady, N. Y. 12308  
U.S.A.

To help the VITA Volunteer who answers your request you should:

1. Be quantitative -- give measurements, costs, materials available, photos or sketches when possible.
2. Describe the best solution, if any, found nearby and any limiting cultural factors.
3. Indicate a deadline for action. You will hear directly from VITA; maintain contact; inform VITA if correspondence stops.

PATIENT MEDICAL RECORD

NUMBER

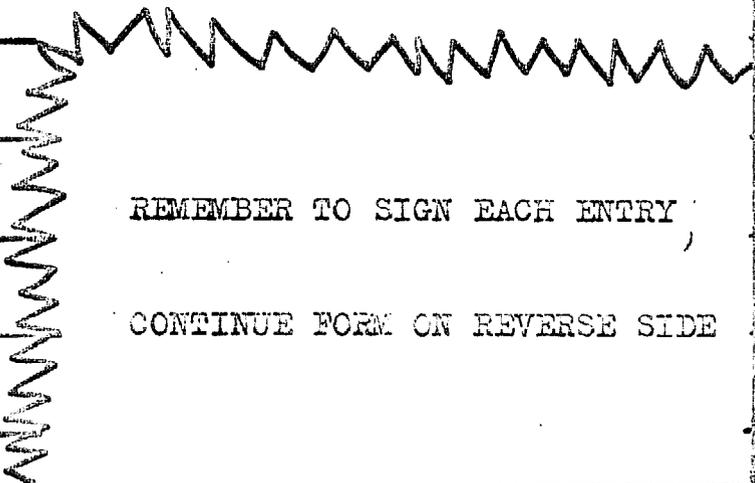
NAME

YEAR OF BIRTH

SEX

DATE

SYMPTOMS, DIAGNOSIS, TREATMENT, ETC.



REMEMBER TO SIGN EACH ENTRY

CONTINUE FORM ON REVERSE SIDE

PATIENT MEDICAL RECORD

NUMBER

NAME

YEAR OF BIRTH

SEX

IMMUNIZATIONS

DATE

SYMPTOMS, DIAGNOSIS, TREATMENT, ETC.

TYPE

DATE

REMEMBER TO SIGN EACH ENTRY

CONTINUE FORM ON REVERSE SIDE



NUMBER  
301

MOTHER		FATHER			FATHER'S OCCUPATION				
LOCATION OF HOME		CHILDREN LIVING			CHILDREN DEAD		CAUSES OF DEATHS		
MISCARRIAGES		CHILDREN LIVING			CHILDREN DEAD		CAUSES OF DEATHS		
DATE									
GENERAL HEALTH									
URINALYSIS									
BLOOD PRESSURE									
PULSE									
WEIGHT									
DATE									
GENERAL HEALTH									
URINALYSIS									
BLOOD PRESSURE									
PULSE									
WEIGHT									
DATE									
GENERAL HEALTH									
URINALYSIS									
BLOOD PRESSURE									
PULSE									
WEIGHT									
DATE									
GENERAL HEALTH									
URINALYSIS									
BLOOD PRESSURE									
PULSE									
WEIGHT									

USE REVERSE SIDE FOR REMARKS

MASTER RECORD-MOTHER

Fig. 5 Maternity Medical Record

NUMBER  
301-A

CHILD

MOTHER

SEX                  BIRTH                  FATHER'S                  FATHER'S  
DATE                  NAME                  OCCUPATION

VISITS

IMMUNIZATION RECORD

DATE                  REASON                  TREATMENT                  TYPE                  DATE

REMEMBER TO SIGN EACH ENTRY  
CONTINUE FORM ON REVERSE SIDE

MASTER RECORD-CHILD

	NUMBER
<b>VACCINATION DUE:</b>	

IMMUNIZATION FOLLOW-UP

This card will have the No. of the Patient, but will be filed by the date on which the next vaccination is due. When the date arrives, pull the card; check the chart No. Index for the patient's name; pull the patient's master record; and record the immunization. Cross out the date on the card; enter the date for the next immunization, and re-file in the Tickler File.

	NUMBER
<b>NEXT CONTACT DUE:</b>	

CONTACT FOLLOW-UP

This card will have the chart No. of the patient, but will be filed by the date on which the next contact is due. When the date arrives, pull the card; check the No. Index for the patient's name; pull the patient's master record; and record the visit. Cross out the date on the card, enter the date of the next contact and re-file in the Tickler File.

	NUMBER
<b>DATE OF LAST TRIMESTER START:</b>	

START OF LAST TRIMESTER

This card will have the No. of the Mother, but will be filed by the date on which her last trimester of pregnancy starts. When the date arrives, pull the card, check the No. Index for the mother's name; pull the mother's master record, and record the action, if any. (This card has now served its purpose, and can be discarded.)

Fig. 7 Tickler Cards.

FIGURE 8 coded Royal-McBee card sample

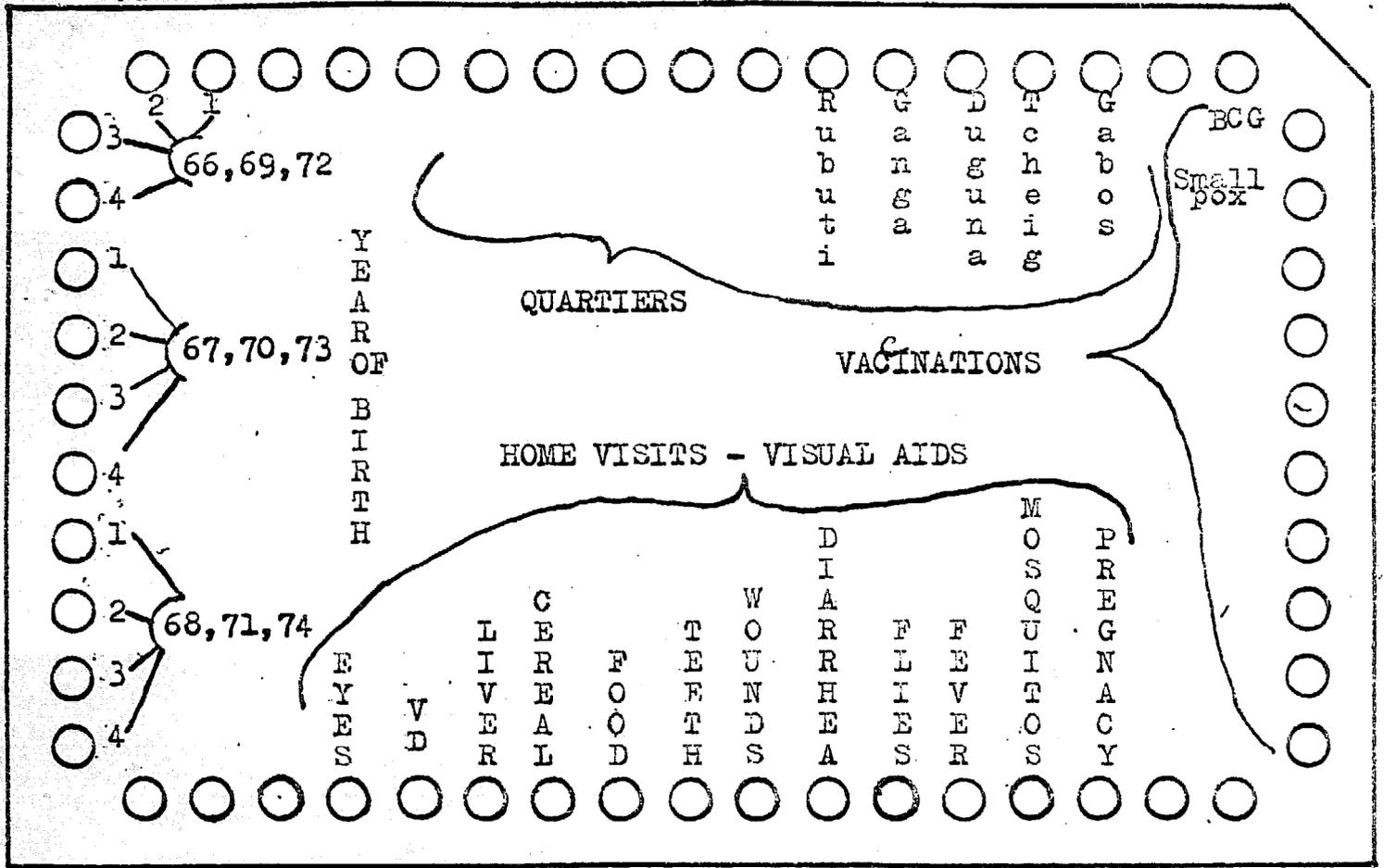
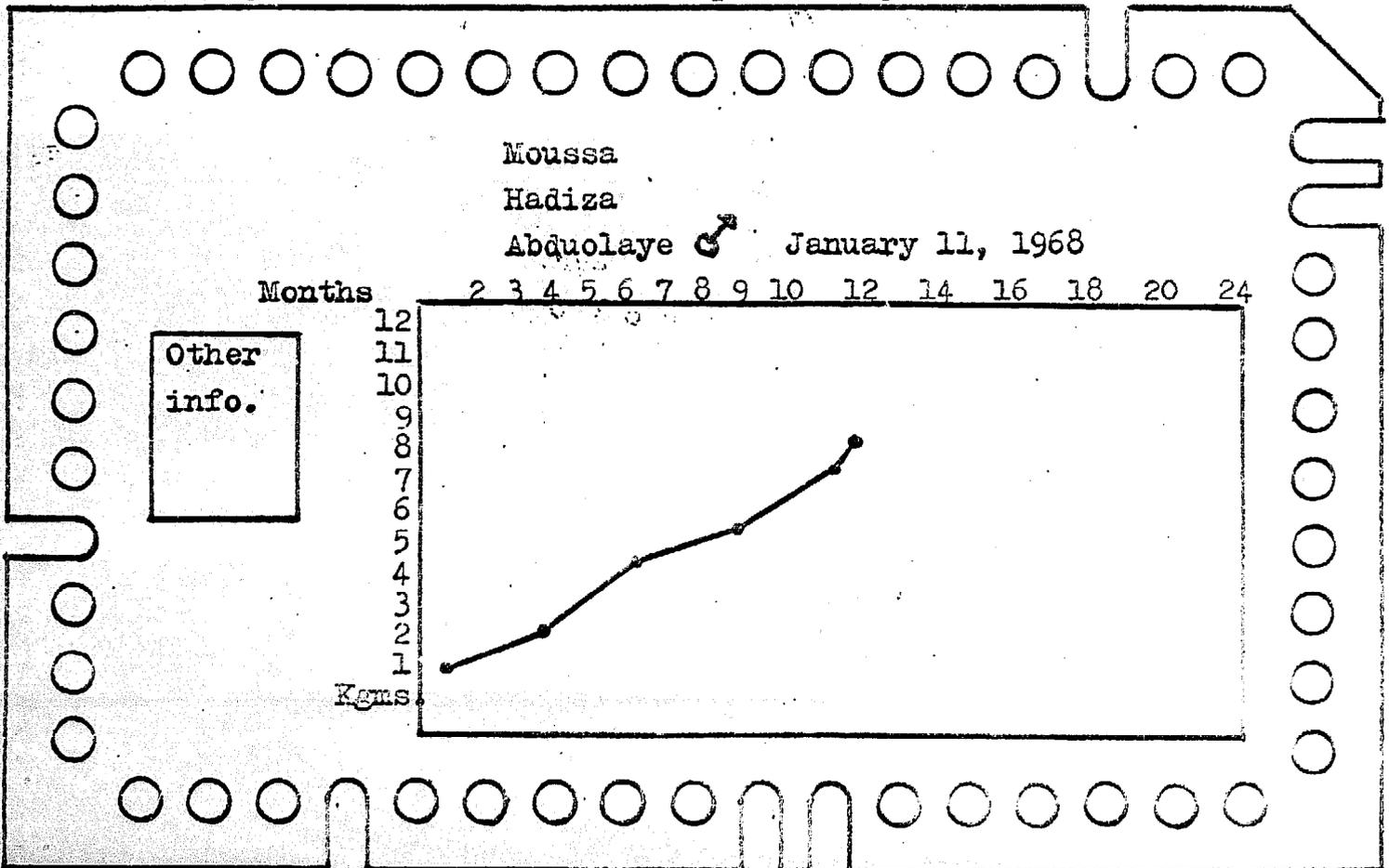


FIGURE 9 Non-coded Patient Sample of Royal-McBee Card

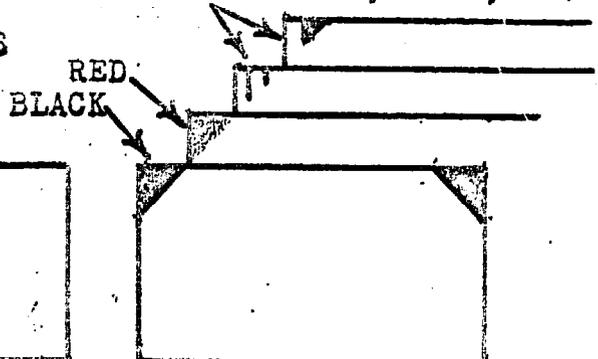
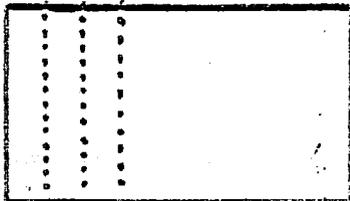
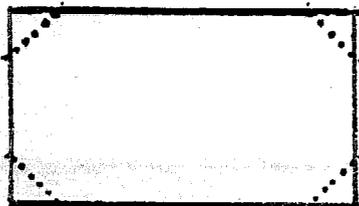
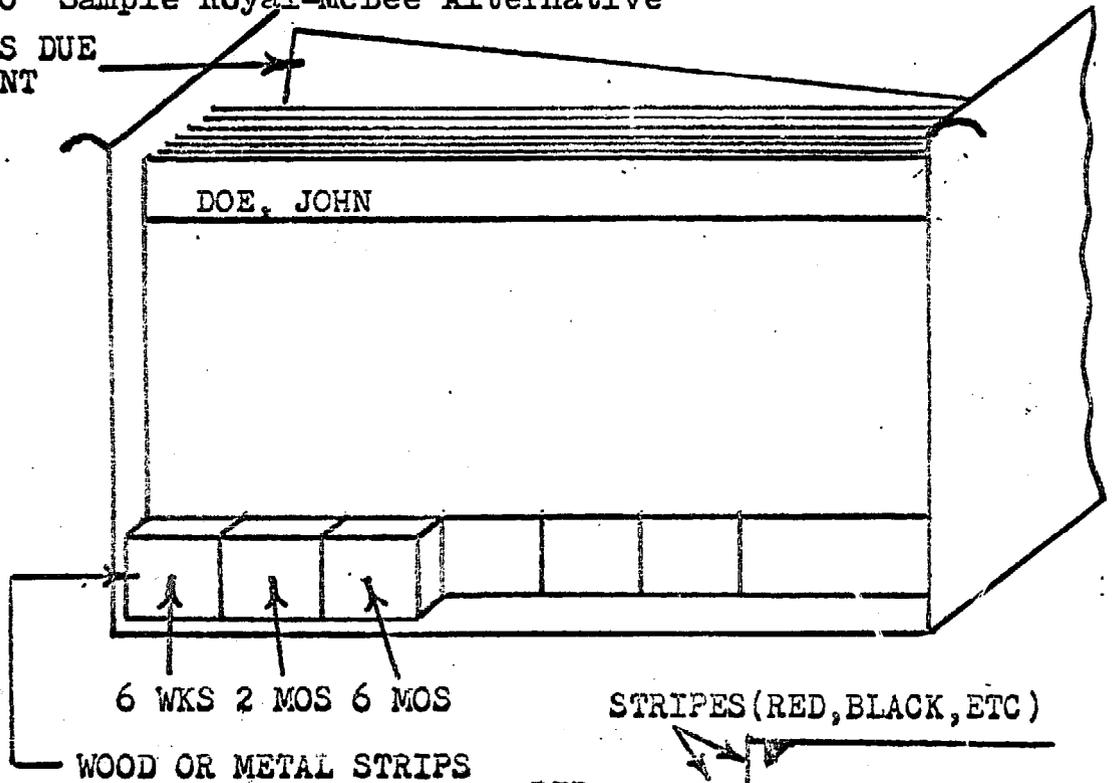


INNOCULATIONS 1 MEASLES 2 MUMPS 3 POLIO 4 DIPHTHERIA 5 TETANUS 6 ----- 7 ----- 8 ETC.	I	INNOCULATIONS ADDRESS PARENTS CHECK-UPS	O T H E R
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
	11		
	12		
	13		
6 WKS   2 MOS   6 MOS   1 YR   2 YR   OTHER			

Fig. 10 Sample Royal-McBee Alternative

THIS PATIENT IS DUE FOR TREATMENT

Fig. 11 Filing and Treatment Indication Diagram



REMOVE A CORNER AS EACH INNOCULATION IS GIVEN 6 WEEKS CHECKING

Fig. 12 Alternate Methods of Coding and Treatment Indication