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DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
Centers for Disease Control

Memorandum

Date November 16, 1981

From Jay S. Friedman, M.A., Public Health Analyst, Program Evaluation Branch, Family Planning Evaluation Division (FPED), Center for Health Promotion and Education (CHPE)

Subject Foreign Trip Report (AID/RSSA) Senegal: Service Statistics and Logistics System, October 12-November 6, 1981

To

William H. Foege, M.D.
Director, Centers for Disease Control
Through: Horace G. Ogden
Director, CHPE

SUMMARY

I. PLACES, DATES, AND PURPOSE OF TRAVEL
II. PRINCIPAL CONTACTS
III. BACKGROUND
IV. RECORDKEEPING AND LOGISTICS
V. OTHER ACTIVITIES

SUMMARY

Services were provided as a consultant to a USAID-sponsored Family Health Project to: (1) design a service statistics system to provide valid data on the number of new and active users of family planning services, including a simple means to follow up those clients who discontinue contraceptive use, and (2) design a logistics system for the distribution of contraceptives used in the project.

The initial stages of both tasks were accomplished in Senegal. After professional review at CDC in Atlanta, both systems were finalized as they appear in this report. A French language training manual, which will be used to train clinic personnel in their use, was then written and sent to Senegal. Neither system changes existing clinical or administrative procedures, and for the most part, makes use of existing printed forms.

The service statistics system is based on a tickler file of client cards which record the results of a physical exam and then serve as a continuing record of subsequent client visits. The cards are then filed by method according to the month of the next clinic appointment. This provides a means for counting the number of active clients at any given point in time as well as the number of monthly visits made to clinics by these clients.

The logistics system is a "push" system i.e., decisions as to the timing and amount of supply deliveries is made at the national and/or regional levels. This type of logistics system is based on monthly information being supplied from the lower level facilities as to the amounts of supplies on hand. This information will be provided on a monthly report combining service statistics and this type of logistics data.

Other activities in Senegal during this trip included follow up discussions of a previously proposed study on pregnancy wastage, collaboration on a French language version of the African edition of Contraceptive Technology, and discussions of the possibility of providing assistance in conducting surveys.

I. PLACES, DATES, AND PURPOSE OF TRAVEL

Dakar, Senegal, October 12-November 6, 1981, at the request of USAID/Senegal, S&T/POP/FPSD and the Senegalese Family Health Project, a special bi-ministerial agency set up to administer this USAID-funded project, to design a recordkeeping, service statistics, and logistics system to be used in facilities delivering family planning services. This travel was in accordance with the Resources Support Services Agreement between the Office of Population, AID, and CDC/CHPE/FPED.

II. PRINCIPAL CONTACTS

A. USAID
1. Mr. Michael White, Health, Nutrition, Population Officer
2. Ms. C. Gibbons, Family Health Project

B. Family Health Project
1. Mr. Oumar Marrone, Director
2. Mr. Mamadou Lo

C. Ministry of Public Health
1. Mrs. Kati Faye, Director, Family Planning Services, Cap Vert Region.
2. Dr. Zachariah Toure, Chief Medical Officer, Cap Vert Region.
3. Dr. Kane, Chief Medical Officer, Sine-Saloum Region.
4. Ms. Emiline N'Dao, Midwife Responsible for Family Planning Services, Sine-Saloum Region.
5. Professor Paul Correa, Director, OB/GYN Division, Dantec Hospital, Dakar.
6. Dr. I. Bah, OB/GYN Division, Dantec Hospital, Dakar

D. Senegalese Family Welfare Association
1. Mr. K. Thiam, Executive Director.
2. Ms. Dene, Midwife.

E. Survey and Demography Division, Statistics Directorate
1. Mr. Ibrahim Comine Diop, Director.
2. Mr. Lamine Gueye.
3. Mr. Mouhamadou Gueye.

III. BACKGROUND

At the request of USAID/Senegal, I provided consultation to the USAID-sponsored Family Health Project, a special bi-ministerial government agency, which seeks to improve maternal-child health in Senegal by promoting the concept of birthspacing in the Cap Vert Region (which includes the city of Dakar and surrounding areas) and in the Sine-Saloum Region over an 18-month project period. Services will be initially provided in approximately 12 Ministry of

Health facilities, as well as in the clinics of the Senegalese Family Welfare Association (ASBEF), an International Planned Parenthood Federation (IPPF) affiliate. After 18 months, services will be extended to the Thies and Casamance regions over an additional 6-month period.

The scope of work included: 1) design a recordkeeping system for providing service statistics which would allow clinic personnel to easily keep track of their family planning clients, as well as improve reporting in order to generate valid service statistics; and 2) design a logistics system for the distribution of contraceptive and other supplies to be used in the Family Health Project.

The initial stages of both tasks were accomplished in collaboration with ASBEF and Ministry of Public Health personnel, in particular Mme. Kati Faye, a midwife who is Coordinator in the Cap Vert Region and Deputy Director at the national level for Ministry of Health Family Planning Services. After review by FPED/CDC colleagues in Atlanta, both systems were put into final form, and an appropriate training manual was written in French and forwarded to USAID/Senegal.

IV. RECORDKEEPING AND SERVICE STATISTICS SYSTEM

The newly-designed system is manual (not computerized nor dependent on machines) and will not change any existing clinical or recordkeeping procedures. It will be based on three new forms, in addition to a standard clinic register, which is already in use in family planning and other health facilities in Senegal.

The first form consists of the two opposite sides of a tickler file card for each client. The second form is an appointment and identification card to be given to each client. The third form is a monthly report of new acceptors and active users, which also includes commodity supply and usage information in order to permit routine monitoring of the logistics system in addition to family planning service statistics. Each form, which will have a distinctive name and letter number code, is discussed in detail below.

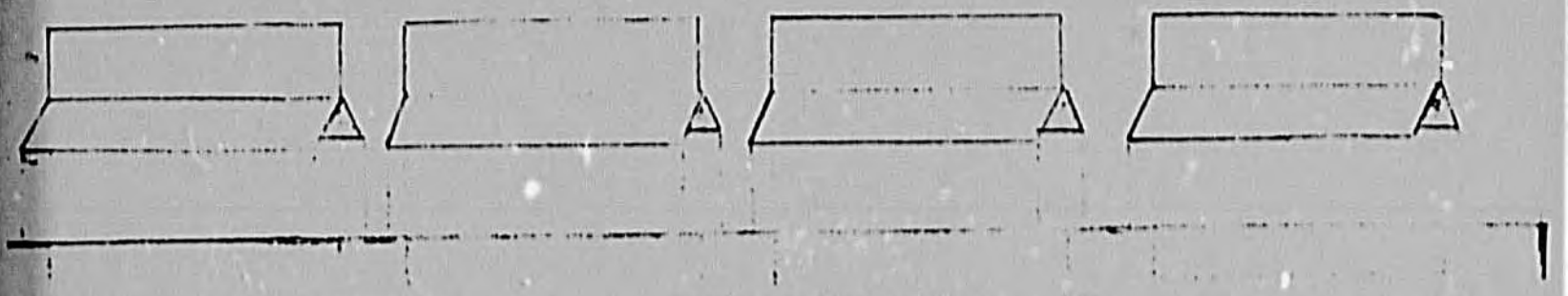
A. PF-1: Fiche de Consultante (Client Form)

This form will be presented on cardboard stock and will be called PF-1, Fiche de Consultante (see Figure 1a and 1b). After the records system is implemented, it will be completed for all female family planning clients at the time of their first visit when a medical exam is performed, before it is decided which contraceptive method will be used. The form records the woman's age, marital status, client number, pregnancy history, and results of a gynecological medical exam. At the bottom of the card the method to be used will be indicated by a check mark (✓) after this decision is made. The form should also be used for male condom clients without recording the medical information.

If a client is given another subsequent complete physical exam, particularly at the time of a method change because of side effects, a new Fiche de Consultante will be completed and stapled on top of the previous one.

FIGURE 1A

RECTO



PLANIFICATION FAMILIALE FICHE DE CONSULTANTE NO._____

ADRESSE PROFESSIONELLE DU MARI_____

NOM ET PRENOMS_____ ADRESSE (DOMICILE)_____

AGE_____ DATE ACTUELLE__/__/__ SITUATION MATRIMONIALE_____

GROSSESSES____ AVORTMENTS____ MORT-NES____ ENFANTS DECEDES____ ENFANTS VIVANTS_____

(1) ANTECEDENTS PHYSIOLOGIQUES: MENARCHE____ REGULARITE____ ABONDANCE_____

DUREE____ DATE DES DERNIERES REGLES____ DYSMENORRHEE____ METORRHAGIE_____

(2) ANTECEDENTES: PATHOLOGIQUES_____ CHIRUGICAUX_____ HEREDITAIRE_____

(3) EXAMEN CLINIQUE: TENSION ARTERIELLE_____ COEUR_____ POUMONE _____

SEINS_____ ABDOMEN_____ THYROIDE_____ VARICES_____

OEDEMES_____ RECHERCHE DE GANGLIONS_____

(4) EXAMENS COMPLEMENTAIRES: ALBUMINE_____ SUCRE_____

HEMATOCRITE_____ BW_____ GS Rh_____

(5) EXAMEN GYNECOLOGIQUE:

(A) ORGANES DES ANNEXES_____

(B) SPECULUM: (1) VAGIN: LESIONS_____ PERTES_____

(2) COL: COULEUR_____ POSITION_____ LESIONS (EROSION, KYSTES, LACERATIONS)____

(C) LE TOUCHER

(1) UTERUS: TAILLE_____ FORME_____ POSITION_____

MOBILITE_____ SENSIBILITE _____

(2) ANNEXES: OVAIRES (DROIT)_____ OVAIRES (GAUCHE)_____ RECTO-VAGINAL_____

(D) PRELEVEMENTS: FROTTIS VAGINAL____ FROTTIS DE PAP____ GONNOCOQUE_____

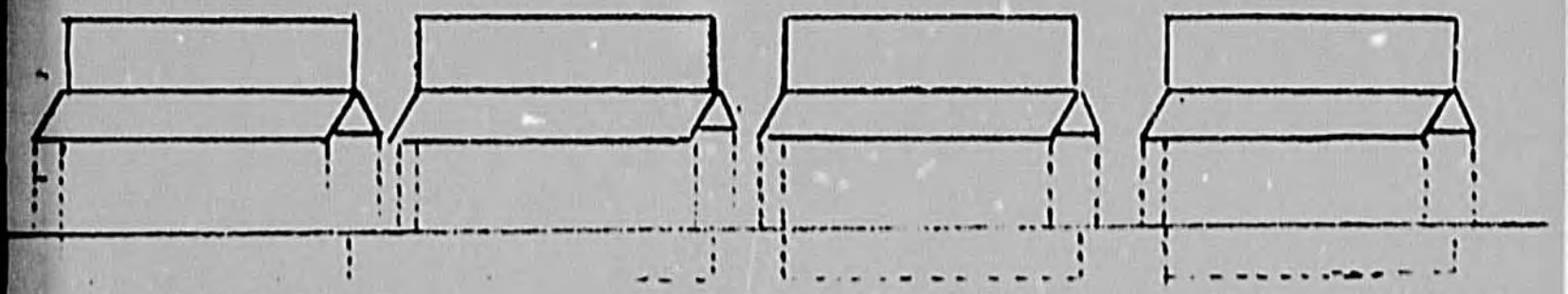
(6) METHODE CONTRACEPTIVE: PILULE_____ DIU_____ DIAPHRAGME_____

INJECTABLE_____ CONDOM_____ AUTRE_____

(7) OBSERVATIONS:

FIGURE 1B

FRONT



FAMILY PLANNING CLIENT CARD NO._____

NAME_____ ADDRESS_____

WORK ADDRESS OF HUSBAND_____

AGE_____ DATE_____ MARITAL STATUS_____

PREGNANCIES_____ ABORTIONS_____ STILLBIRTHS_____ DECEASED CHILDREN____ LVIING CHILDREN____

(1) MENSTRUAL HISTORY: MENARCH_____ REGULARITY_____ FLOW_____

DURATION_____ DATE OF LAST PERIOD_____ DISMENORRHEA_____ METRORRHAGIA_____

(2) SIGNIFICANT HISTORY: MEDICAL_____ SURGICAL_____ HEREDITARY_____

(3) CLINICAL EXAM: B.P._____ HEART_____ RESP. SYST_____

BREASTS_____ ABDOMEN_____ THYROID_____ VARICROSE VEINS_____

EDEMA_____ INFECTIONS_____

(4) LABORATORY TESTS: ALBUMIN_____ SUGAR_____ HEMATOCRIT_____

WASSESMAN_____ BLOOD GROUP-RH_____

(5) GYNECOLOGICAL EXAM:

(A) EXTERNAL GENITALS:_____

(B) SPECULUM: (1) VAGINA: LESIONS_____ DISCHARGE_____

(2) CERVIX: COLOR_____ POSITION_____ LESIONS_____

(C) BI-MANUAL EXAM

(1) UTERUS: SIZE_____ SHARE_____ POSITION_____

MOBILITY_____ SENSITIVITY_____

(2) ADNEXA: OVARIES_____ TUBES_____ RECTO-VAGINAL EXAM_____

(D) SAMPLES: VAGINAL SMEAR_____ PAP SMEAR_____ GONNOCOCCAL_____

(6) CONTRACEPTIVE METHOD: PILL_____ IUD_____ DIAPHRAGM_____

INJECTABLE_____ CONDOM_____ OTHER_____

(7) REMARKS:_____

Obviously, the Fiche de Consultante is not intended to and does not have space to record the detailed history or exam results of the few clients with many medical problems. For such clients, reference will be made in the clinic register and in the Observations Section (Section 7) of the Fiche de Consultante to a separate medical file for the client. This should be in an ordinary file folder, which will be filed by client number in a separate file cabinet. This file will contain laboratory results and all other details of the client history and medical exam, which could not be contained on the Fiche de Consultante.

Active clients in the few clinics presently offering services should be entered on a Fiche de Consultante at the time of their next routine visit without filling in the medical information in order to integrate current users into the system. Medical information can then be added at the time of the client's next physical examination, when needed for various reasons such as a method change, side-effects, etc.

Subsequent routine visits of the client to the center are recorded on the opposite side of the Fiche de Consultante (see Figures 2a and 2b). This includes brief medical information on the client's weight, blood pressure, date of last menstrual period (LMP), and the date of the end of her last pregnancy (month and year). As with medical exam information recorded on the first side of the card, details of this section can be referred in the remarks column to a more extensive medical file.

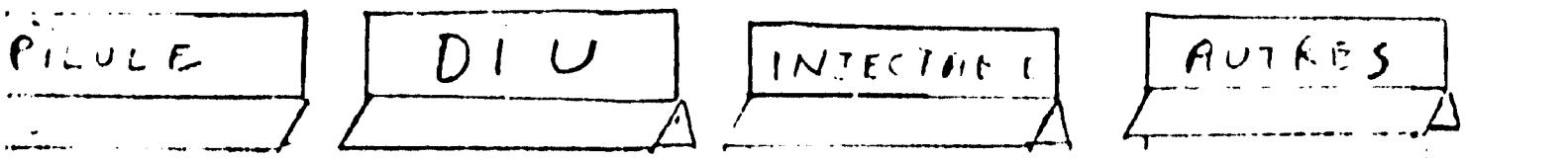
Depending on the method chosen, a tab with the name of the method will be affixed in 1 of 4 positions on the top of the card. The tabs will facilitate counting the cards by method, when filed. The cards will then be filed in a vertical position in an open file box--the side recording visits facing front-- according to the month of the next clinic appointment. There will be file dividers between each month (see Figure 3). At the time of a method change, the old tab must be removed or cut off with a scissor. A tab for the new method will then be affixed in the appropriate position.

At the end of each month, a count will be made by method of the cards of all clients in succeeding months whose next appointment has not yet fallen due. These clients will be considered "active;" that is, they have a contraceptive method in their possession, are presumably using it, and have an appointment for a subsequent visit. These cards will be filed by the month of the next visit in the front part of the box behind a large separator labeled "ACTIVE."

At the same time, a count will be made of all cards remaining in the file under the month which has just ended. These are women who have not kept their scheduled appointment during the previous month and are now considered to be "INACTIVE," for program purposes, since they have presumably run out of their supply of contraceptives (not strictly true for IUD clients). These cards will be removed and placed in the rear part of the same file box by month of missed visit, behind a large divider labeled "INACTIVE." These clients can then be followed up by means of home visits to ascertain the reason for their failure to return to the clinic. At that time, they could be motivated to resume contraceptive use. If followup activities do not yet exist, as will be

Figure 2A

VERSO

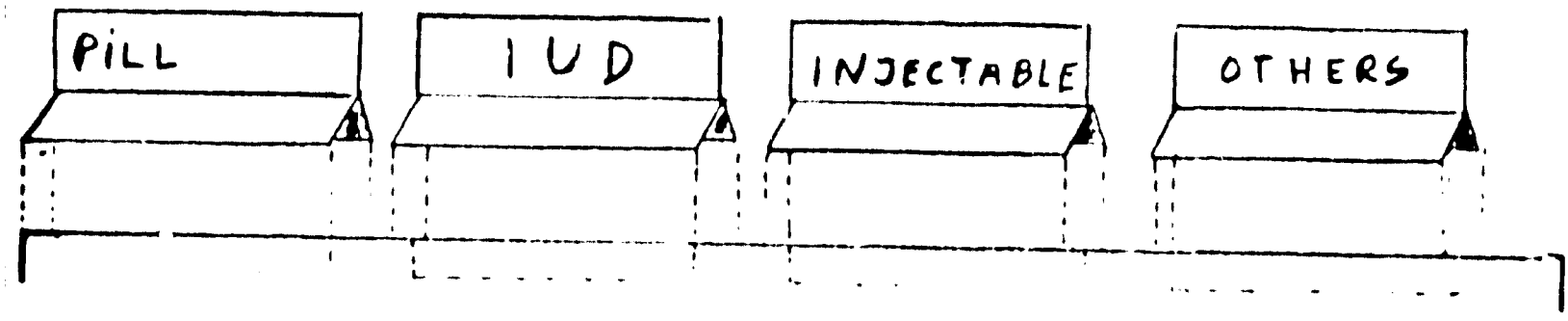


CENTRE DE NOM NO.

VISITES							
DATE	UNITES FOURNIES	POIDS	T.A.	DATE DERN. REGS.	DATE FIN DERN. GROS.	OBSERVATIONS	DATE DE PROCHAIN REMB-TOUS

FIGURE 2B

BACK



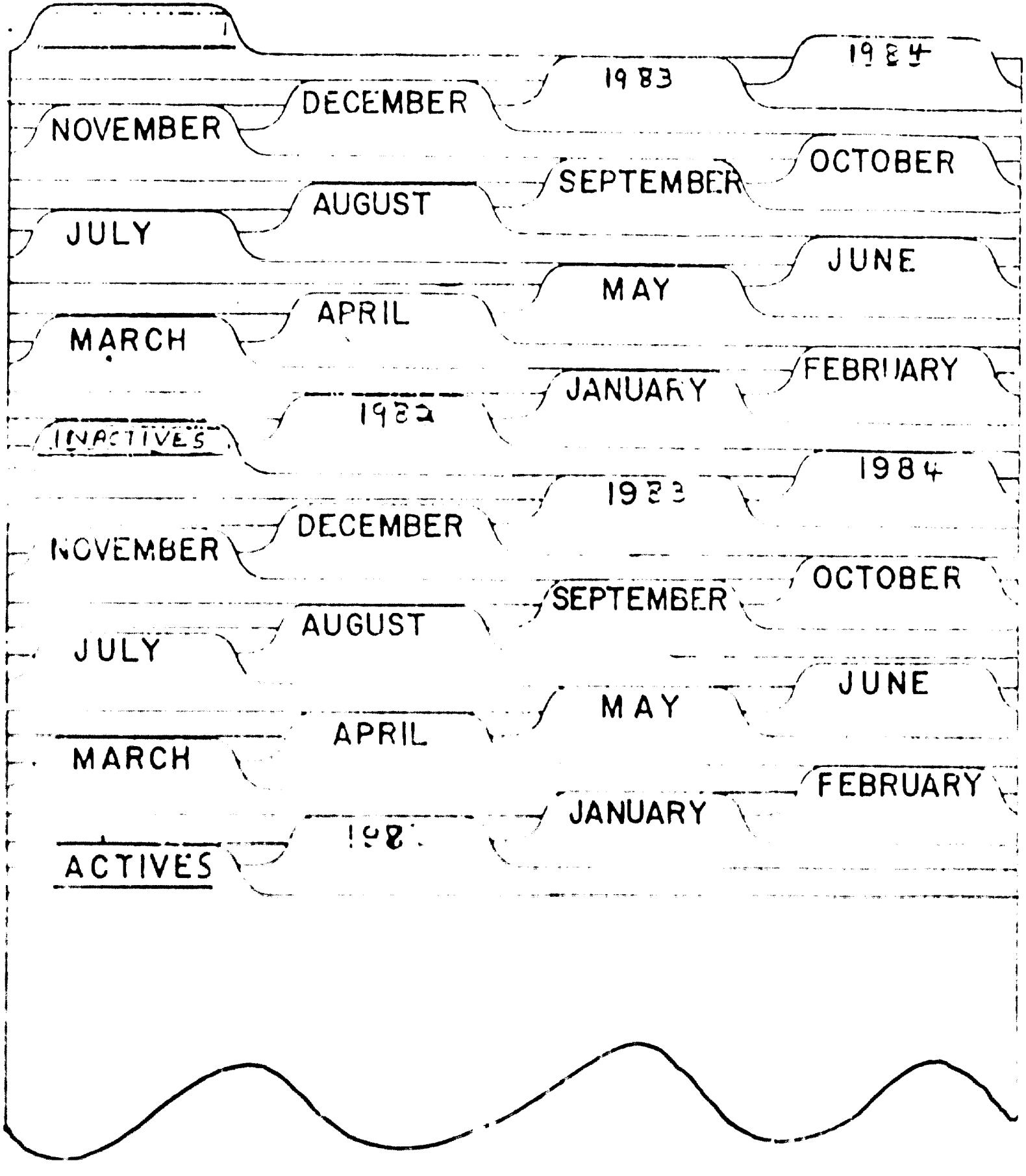
CENTER_____ NAME _____ NO. _____

VISITS

DATE	UNITS SUPPLIED	WEIGHT	B.P.	DATE L.M.P.	END LAST PERIOD	REMARKS	DATE OF NEXT APPT.

FIGURE 3

SEPARATEURS DES FICHES
DE CONSULTANTES



the case in the early stages of the Senegal Project, the cards will be maintained in the inactive section of the file box until the patient returns. Once followup activities are begun, additional forms to monitor these activities can be designed.

As a special case, women who are found to be pregnant at the time of a kept appointment will be given an appointment to return in the month when the birth is due. Their card will be kept in the active file under the month of this appointment. Although this will overstate the number of active clients, it will facilitate post partum followup. If it is learned that the client has died, become menopausal, or been sterilized, the card will be permanently removed from the active file.

To facilitate use of the system, a standard monthly supply must be determined for condoms, NeoSampoon, and other spermicides. Based on experience elsewhere, I suggest that 20 sexual encounters per month be established as an upper limit in the beginning of the program. Therefore, a 6-month supply of condoms for male or female clients would be 120 pieces, and a 6-month supply of NeoSampoon would be six tubes (of 20 tablets). These norms can be changed as Senegalese program managers acquire experience. However, for convenience in monitoring the program, all clients should be given a 6-month supply of any method used (or a fixed n-months supply).

The division between active and inactive clients will have two purposes: 1) to provide an accurate count of the number of active users, and 2) to count and identify those clients who have discontinued use and are in need of followup, if and when followup activities are begun. It could also be used as a basis to estimate a ratio of discontinuing clients.

Clinic personnel will be trained in the use of PF-1 "Fiche de Consultante" and the filing, system with the aid of the training manual that has been prepared.

B. PF-2: Carte de Rendez-vous (Appointment Card)

The second form to be used will be called PF-2 "Carte de Rendez-Vous," which was developed by ASBEF (see Figure 4). The same card will be used by Ministry of Health Clinics by having them reprinted to include on the first page, "MINISTERE DE LA SANTE PUBLIQUE, CENTRE DE _____."

This card will be kept in the possession of the family planning client (it can also be used for other nonfamily planning clinic patients). The card contains the client's name, address, her/his client number, and space for recording the date of 21 subsequent appointments. When a client arrives at the clinic for an appointment for a subsequent visit, the file box is searched for the client's Fiche de Consultante behind the divider for the month of appointment. The Fiche de Consultante should be filed within each monthly section in numerical order so that they can be quickly found. This is particularly important in large clinics.

I suggest that with one minor addition, the numbering system already in use at the P.M.I. de Medina be adopted by all Senegalese family planning clinics. The number consists of a left-hand numeral, which is a consecutive count of

FIGURE 4

RV le

RV le

RV le

RV le

RV le

RV le

RV le

A. S. B. E. F. N° _____

P M I Modèle

CENTRE DE

CARTE DE RENDEZ-VOUS

Nom

Prenoms

Adresse

RV le

RV le

RV le

RV le

RV le

RV le

RV le

RV le

RV le

RV le

RV le

RV le

RV le

RV le

RV le

all new family planning clients each year beginning each January 1. Following this numeral is a dash, which is followed by a two-digit number representing the year of the client's first visit.

The minor addition is that this two-digit number be preceded by another one - or two-digit number representing the month of the client's first visit, which would result in three separate numerals separated by dashes. Therefore, for example, the 184th new client in a clinic in 1981 who entered in June would be assigned 184-6-81 as her/his client number on the PF-1 Fiche de Consultante and on the PF-2 Carte de Rendez-Vous. This number would be permanently assigned to this client, even in subsequent years.

This numbering system not only facilitates finding the Fiche de Consultante in the file box in large clinics by referring to the client number on the Carte de Rendez-Vous, but it also provides: 1) a running count of new clients which can be used for monthly and annual reports, and 2) a means of measuring the length of time clients have been users as a further basis in estimating a ratio of discontinuing clients for various time periods.

C. PF-3: Rapport D'Activites Pour le Mois de _____ (Report for the Month of _____).

The third form to be used will be called Formulaire PF-3 RAPPORT D'ACTIVITES POUR LE MOIS DE _____, subtitled PLANIFICATION FAMILIALE (see Figures 5a and 5b). The format of this report is the same format as are other Ministry of Health monthly reports for other clinic activities such as prenatal/postnatal care and pediatric consultations. It will be printed on the same paper as these similar Ministry of Health monthly reports.

In Section A. "VISITES DE CONSULTATION," this form gathers monthly information on the number of visits to the clinic by new and old family planning clients, by method. This data is gathered from the daily clinic register, which is already in use in all Senegalese health facilities. In this register, all consultations are chronologically recorded and totalled by type at the end of each month. Visits by male condom users should henceforth be recorded also. (A simple system for condom distribution in the reception area of clinics should be developed.) Clients re-admitted to the program after having discontinued contraceptive use should be counted under visits from old family planning clients, NOT under new acceptors.

Visits recorded under the first five categories--pill, IUD, injectable, condom male, and other methods--should only include visits when a contraceptive method is supplied or visits for an IUD checkup. A visit for a method change should be recorded under the new method given. Other types of visits, such as treatment of method complications, IUD expulsion and IUD removal, where no new method is supplied, should be listed under "other visits."

The next category of information on the PF-3 monthly report, "Nombre de Consultants Actifs," is gathered by counting the PF-1 Fiche de Consultante, which are in the active section of the file box whose appointments in subsequent months have not yet fallen due. These should be counted by method, which is facilitated by the appropriate tabs affixed to the top of each card.

FIGURE 5A

PR-3

RAPPORT D'ACTIVITES POUR LE MOIS DE _____ 19____

CENTRE DE _____

RESPONSABLE _____

PLANIFICATION FAMILIALE

A. VISITES DE CONSULTATION

	PILULE	DIU	INJECT-ABLE	AUTRES METHODES	CONDOMS HOMMES	RENS.	AUTRES VISITES	TOTAL
NOUVEAUX								
ANCIENS								
TOTAL								

B. NOMBRE DE CONSULTANTS ACTIFS

PILULE	DIU	INJECTABLE	AUTRES	CONDOM HOMMES	TOTAL

C. APPROVISIONNEMENT ET CONSOMMATION

METHODE	CONDITIONNEMENT	SOLDE AU DEBUT DU MOIS	RECU PENDANT LE MOIS	CONSOMMATION PENDANT LE MOIS	SOLDE A LA FIN DU MOIS
NORINYL 1 + 50	PLAQUETTE (CYCLE)				
NORINYL 1 + 80	PLAQUETTE (CYCLE)				
MINIPILULE	PLAQUETTE (CYCLE)				
BOUCLE DE LIPPES	UNITE				
T EN CUIVRE	UNITE				
SEPT EN CUIVRE	UNITE				
DEPO-PROVERA	FLACON DE 10 DOSES				
NORISTERAT	AMPOULE 1 DOSE				
DIAPHRAGME	UNITE				
NEO-SAMPOON	TUBE DE 20 TABLETTES				
CONDOMS	UNITE				

FIGURE 5B

FP-3

REPORT FOR THE MONTH OF _____ 19_____

CENTER_____

_____

FAMILY PLANNING

A. CLIENT VISITS

	PILL	IUD	INJECT	OTHER	CONDOM MALE	INFO.	OTHER VISITS	TOTAL
NEW ACCEPTORS								
OLD CLIENTS								
TOTAL								

B. NUMBER OF ACTIVE CLIENTS

PILL	IUD	INJECTABLE	OTHERS	CONDOM MALE	TOTAL

C. SUPPLY AND USE

METHOD	HOW SUPPLIED	BALANCE BEGINNING OF MONTH	RECEIVED DURING MONTH	USED DURING MONTH	BALANCE END OF MONTH
NORINYL 1+50	CYCLE				
MINIPILL	CYCLE				
	CYCLE				
LIPPES LOOP	UNIT				
COPPER T	UNIT				
COPPER 7	UNIT				
DEPO-PROVERA	AMPULE-10 DOSE				
NORISTERAT	AMPULE-1 DOSE				
DIAPHRAGM	UNIT				
NEO-SAMPOON	TUBE-20 TABLETS				
CONDOM	UNIT				

This will provide the number of clients contracepting in the area served by the facility, at any given point in time.

An annual report can be prepared from parts A and B of this form, using the same type of format. To arrive at the annual total of client visits, the data for each month of the year is added up. Since the "nombre de consultants actifs" is a prevalence level for a given point in time, the figures as of December 31 would represent the total at the end of the year.

National and/or regional level reports can be prepared by totalling the separate reports for each facility providing family planning services. Reports at the regional level would provide a total of all facilities in the region; reports at the national level would provide a total of all regions.

The information on the lower part of this form under C, "Approvisionnement et Consommation" (Supply and Use), will be explained below in Part III, Logistics.

III. LOGISTICS

At the present time, there is essentially no logistics system in Senegal for the procurement, storage, and distribution of family planning supplies. Although contraceptives are stored under clean and dry conditions in the P.M.I. de Medina and other facilities I visited, no schedule for periodic inventories existed prior to my visit, and there is no regular system for delivery of supplies from a central storage point to facilities providing services. However, since family planning services are just beginning in Senegal, this situation should be considered an advantageous one, since an efficient and effective logistics system can be easily put into place without disrupting established procedures. The objectives of the logistics system should be to provide family planning facilities with the correct contraceptives in sufficient quantities at the correct time for the least cost, in order to ensure continuous availability of supplies. In the early stages of a program, in particular, it is essential that abundant quantities of supplies are continuously available to provide for the early sharp increase in new clients experienced by all new programs.

A. National Level Needs

A report by the Family Planning Project Design Team in Project Paper Senegal 685-0217 recommended that the family planning logistics system in Senegal be based on using the P.M.I. de Medina as the central level supply point. The logistics system should be managed by the supply clerk of the Family Health Project in collaboration with the administrator (gestionnaire) of the P.M.I. de Medina. Although the P.M.I. de Medina does not, at the present time, have all the warehouse space needed for national level storage of contraceptive supplies, if additional warehouse space is obtained elsewhere in Dakar, which is under the administrative control of the P.M.I. de Medina, a national level supply system could be based at the P.M.I. de Medina.

In the public and semiprivate sector, family planning services are being provided or will soon begin in the following centers. Based on rough estimates, the numbers in parentheses are the annual number of active family

planning clients to be served in the first year of the project. In subsequent years, more accurate data will, of course, be obtained.

Dakar Area

1. P.M.I. Medine (3.500)
2. P.M.I. Pikine (1.500)
3. Centre de Sante de Rufisque (1.000)
4. Centre de Sante Choucair--Grand Yoff (1.000)
5. Dispensaire Hann-sur-mer (200)
6. Maternite Abbasse N'Dao (2.000)
7. Hopital le Dantec (1.500)
8. Cliniques de l'ASBEF (2.000)

Sine-Saloum Region

9. Centre Medical de kassnack (1.500)
10. P.M.I. de Kaolack (500)
11. Centre de Sante de Fatick (500)
12. Centre de Sante de Kaffrine (200)

The P.M.I. de Medina has been providing family planning services for more than 1 year. Based on past use it is estimated that it will use, in the next year, 48,000 cycles of pills, 500 IUDs, 650 doses of injectable contraceptives, 204,000 condoms, and 4,000 tubes of NeoSampoon. Using the estimated number of 3,500 active clients to be served at the P.M.I. de Medina as a basis for determining needs in other centers, the following needs for contraceptive supplies for the first year of project operation in each facility would be as follows:

Facility	Pills (Cycles)	IUDs (Units)	Injectable (Doses)	NeoSampoon (Tubes)	Condoms (Units)
Medina	48,000	500	650	4,000	204,000
Pikine	21,000	225	350	1,800	89,250
Rufisque	14,000	150	200	1,200	59,500
Yoff	14,000	150	200	1,200	59,500
Hann-sur-mer	2,800	30	40	240	11,900
Abbasse N'Dao	28,000	300	400	2,400	119,000
H. le Dantec	21,000	225	300	1,800	89,250
ASBEF	28,000	300	400	2,400	119,000
Kassnack	21,000	225	300	1,800	89,250
Kaolack	7,000	75	100	600	29,750
Fatick	7,000	75	100	600	29,750
Kaffrine	2,800	30	40	240	11,900
TOTAL*	240,000	2,300	3,100	19,000	925,000

*Rounded to nearest thousand

Pills should be supplied according to the following mix:

1 + 50 dose	80 percent
Minipill	20 percent

IUDs should be supplied according to the following mix:

Copper T	25 percent
Cooper 7	25 percent
Lippes Loop A	10 percent
Lippes Loop B	10 percent
Lippes Loop C	20 percent
Lippes Loop D	10 percent

Injectables should be supplied according to the following mix:

Noristerat	80 percent
DepoProvera	20 percent

At the present time the P.H.I. de Medina has in stock the following quantities of contraceptives, which are stored in three different locations:

Pill:	
1 + 50	7,800 cycles
1 + 80	3,600 cycles
Minipill	0 cycles
TOTAL	11,400 cycles
IUD:	
Copper T	40 units
Copper 7	0 unit
Lippes Loop A	0 unit
Lippes Loop B	0 unit
Lippes Loop C	9,800 units
Lippes Loop C	6,400 units
TOTAL	16,240 units
Injectables:	
DepoProvera	0 dose
Noristerat	0 dose
TOTAL	0 dose
NeoSampoon:	220 tubes
Condoms	3,006,480 units
Diaphragms: size 70	560 units
TOTAL	560 units

Therefore, the following amounts of each contraceptive method must be immediately ordered. The information on pill and condom requirements has been separately submitted to AID/Washington on the standard Contraceptive Procurement Tables:

Pill:		
1 + 50	184,000 cycles	
1 + 80	46,000 cycles	
TOTAL	230,000 cycles	
	+ 624,000 cycles	forecast for use in 1983 as buffer stock.
IUD:		
Copper T	575 units	
Copper 7	575 units	
Lippes Loop A	230 units	
Lippes Loop B	230 units	
Lippes Loop C	0 unit	
Lippes Loop D	0 unit	
TOTAL	1,610 units	
	+ 5,750 units	-forecast for use in 1983 as a 1-year buffer stock
TOTAL	7,360 units	
Injectable:		
DepoProvera	600 doses	
Noristerat	2,500 doses	
	3,100 doses	
	+ 7,750 doses	-forecast for use in 1983 as a 1-year buffer stock
TOTAL	10,850 doses	
NeoSampoon	19,000 tubes	
	+47,500 tubes	-forecast for use in 1983 as a 1-year buffer stock
TOTAL	66,500 tubes	
Condoms:	0 units	

In addition to the above methods, a total of 1,000 diaphragms should be supplied in the following sizes in the same proportions to each center, until a demand can be ascertained for this method: 60 mm-100 units, 65 mm-100 units, 70 mm-0 units, 75 mm-300 units, 80 mm-300 units, 85 mm-100 units, 90 mm-100 units. Five tubes of extra cream should be supplied with each diaphragm.

As will be explained later, after the first year of project operation, there will be more accurate means of forecasting contraceptive supply needs based on past usage, predicted increases in clients, and the opening of new centers. Nevertheless, it seems apparent at the present time that there is a large surplus of condoms on hand in Senegal; several years' supply based on the above estimates of use. Although action on this problem can be delayed until more accurate usage data is available in about 1 year, USAID should plan to dispose of part of this stock by shipment to nearby countries, which may have a need for condoms. Normally, only a 1-year supply, plus the usual shipping

lead time, or about 24 months total supply should be on hand at the national level. Contraceptives should not be stored longer than 5 years in tropical countries. Additional supplies and equipment required for implementation of the family planning project will be set forth in Annex A.

B. Management of Contraceptive Supplies

The primary objective of a well-run logistics system is to avoid stockout (ruptures de stock); that is, interruptions of the supply of a particular contraceptive method. For this reason, it is essential that family planning staff at all levels be well trained in supply management. Since this cannot be immediately accomplished in a new program, it is best that the decision-making authority for ordering and shipping contraceptive supplies remain at higher administrative levels until lower level staff are trained in supply management. This is called a "push" system of requisition and supply; i.e., higher level staff in Dakar will decide the timing and amounts of contraceptives to ship to facilities in Cap Vert and Sine-Saloum based on monthly inventory reports from these regions. Later, as lower level staff are trained and become familiar with supply management procedures, a "pull" system of requisition and supply can be organized where individual P.M.Is, hospitals, health centers and dispensaries can be made responsible for the timing and amount of contraceptive supplies they will then order following supply management procedures.

For this reason, I recommend that initial responsibility for determining the timing and amounts of supply deliveries from the P.M.I. de Medina be assigned to the supply clerk who is to be assigned to the Family Planning Project Office under the direction of M. Marone, in collaboration with M. Diagne, the gestionnaire of the P.M.I. de Medina, ~~Planning Project Office.~~ The supply system will be based on three forms: (1) a requisition and issue voucher to be called PF-4 "BON DE COMMANDE ET BORDEREAU DE LIVRAISON" (see Figure 6), (2) an "inventory control card" or stock card (which is already being used in the PMI DE MEDINA) to be called PF-5 "Carte de Stock" (see Figure 7), and (3) a monthly inventory report of items of supply which are received, issued, and on hand, which is the lower part of PF-3 "RAPPORT D'ACTIVITES POUR LE MOIS DE _____." C. APPROVISIONNEMENT ET CONSOMMOTION (see Figure 5).

The system for resupply will assume that all facilities providing family planning services will receive a large initial supply of contraceptives equal to approximately half the annual amounts suggested in part III A of this report. When this shipment or any other shipment is to shipped, the gestionnaire of the PMI de Medina, or the supply clerk of the Family Planning Project, will fill out Formulaire PF-4 "BON DE COMMANDE ET BORDEREAU DE LIVRAISON". He will first enter the "Quantite en Stock" in the receiving facility for each article to be shipped (as will be explained later this information will come from the monthly report PF-3 RAPPORT D'ACTIVITES POUR LE MOIS DE _____").

He will then enter the "Quantite Commandee" (amount ordered) and sign on the first signature line. The approving officer, M. Marone, will then sign on the second signature line, at which time the last of the four copies will be detached for the files of the gestionnaire or the shipping clerk. The top

FIGURE 6 (EN QUATRE EXEMPLAIRES AVEC CARBONS)

BON DE COMMANDE ET BORDEREAU DE LIVRAISON NO. _____

DESTINATAIRE: _____

_____

COMMANDE				LIVRAISON		
No. DE SERIE	ARTICLE	QUATITÉ EN STOCK	QUANTITÉ COMMANDE	QUANTITÉ EXPEDIE	QUANTITÉ REÇU	OBSERVATIONS

COMMANDE PAR: _____ DATE: _____

APPROUVE PAR: _____ DATE: _____

EXPEDIE PAR: _____ DATE: _____

REÇU PAR: _____ DATE: _____

PF-5

CARTE DE STOCK

FIGURE 7

SOLDE MINIMUM ..... SOLDE MAXIMUM .....

PRODUIT :

~~FICHE~~ N°

CONDITIONNEMENT :

Imp. Gutenberg Dakar

ENTRÉES			SORTIES			STOCK
DATE	PROVENANCE	QUANTITÉ	DATE	DESTINATAIRE	QUANTITÉ	

FIGURE 7

ENTRÉES			SORTIES			STOCK
DATE	PROVENANCE	QUANTITÉ	DATE	DESTINATAIRE	QUANTITÉ	

three copies will then be sent to the warehouse from where the shipment will actually be made. The person actually in charge of shipping (either the shipping clerk himself or a separate warehouseman) will then fill out the column "QUANTITE EXPEDIEE" (amount shipped), sign the third signature line and will keep the third copy of the form.

If the "QUANTITE EXPEDIEE" differs from the "QUANTITE COMMANDEE" this will be explained under "OBSERVATIONS." For example, if the national level warehouse does not have sufficient quanitites of a requested item, or if it is felt that the receiving facility has requested too little of an item, the "QUANTITE EXPEDIEE" may differ from the "QUANTITE COMMANDEE." However, once the system is operating well, this type of problem should not occur frequently.

The first two copies of the PF-4 "BON DE COMMANDE ET BORDEREAU DE LIVRAISON" will be sent along with the shipment. The receiver will then sign these two copies, keep the second for his/her records, and send the original back to the person who initiated the shipment in Dakar or Kaolack. Thus, at the national level there will be a complete record of the shipment from initiation to receipt at the facility or regional level.

Central level staff should schedule shipments to family planning facilities approximately every 3 months. This is known as the "shipping interval." Since this may not always be adhered to in the early stage of the program, "emergency" shipments may become necessary in the interim period, although this adds to the cost of the program. Certain family planning facilities may have their own means of transport for going to the central or regional level to get their supplies. Nevertheless, in general it is more desirable to supply lower level facilities using the funds for fuel and means of transport belonging to the national or regional level. The decision as to the quantities to be sent in a shipment will be based on information gathered in "C. APPROVISIONNMENT ET CONSOMMATION," the lower part of Formulaire PF-3, "RAPPORT D'ACTIVITES POUR LE MOIS DE _____". This will be derived in turn from the PF-5 "CARTE DE STOCK," which will provide guidelines on the maximum and minimum amounts to be in stock for each item of supply in each storage facility. This will be explained in detail later.

The "CARTE DE STOCK" will record all receipts and issuances of any particular contraceptive or any other item used by the Family Planning Program at the national, regional, departmental, or health facility level. The person recording the information under "PROVENANCE," (origin) will enter the name of the facility which sent the shipment as well as the number in the upper right-hand corner of the applicable PF-4 "BON DE COMMANDE ET BORDEREAU D'EXPEDITION." For receipts at the national level from overseas suppliers this column would refer to the vendor's invoice, PIO/C number or other transaction record. When recording information on the CARTE DE STOCK under "DESTINATAIRE," the name of the facility, which is to receive the shipment as well as the number in the upper right-hand corner of the relevant PF-4 "BON DE COMMANDE ET BORDEREAU D'EXPEDITION," will be recorded.

When stock is issued frm the storage facility of a clinic to be given to midwives for distribution to clients, the quantity should be enough to serve all clients to be seen on 1 or more days. Amounts of contraceptives given

to individual clients will not be recorded on the "CARTE DE STOCK," but will be recorded on PF-1 "FICHE DE CONSULTANTE," on the "VISITES" sides of the card, under "UNITES FOURNIES" (units furnished). The information gathered each month for each contraceptive method on the CARTE DE STOCKs used in a facility will be summarized in C. "APPROVISIONNEMENT ET CONSOMMATION (supply and use) on PF-3 "RAPPORT D'ACTIVITES POUR LE MOIS DE _____". The information required for this monthly report is self-explanatory, and it should be emphasized again that at the level of facilities providing services to family planning clients the quantities recorded under "CONSOMMATION PENDANT LE MOIS" (use during the month) refer to amounts issued from the storage area of the facility in large quantities for 1 or more day's use and not to amounts issued to individual clients.

Once the program has been in operation 6 or more months in a given facility, the minimum and maximum balances of stock on hand can be calculated. Initial shipments of contraceptives and other supplies to family planning facilities should be large enough to last several months. At the end of 6 months, an average figure of the amount "CONSOMMATON PENDANT LE MOIS" should be calculated for the past 6 months. This will give the average monthly usage figure for each item of supply.

In a facility providing family planning services directly to clients, a 3 months' supply of each item should be kept on hand as a minimum supply. An additional number of months' supply of each item should be kept in stock which is equivalent to the shipping interval, which in Senegal will be 3 months, as mentioned before. When added to the minimum supply of 3 months, the 3 months representing the shipping interval will give the maximum number of months supply, which will be 6 months. Therefore, at all family planning facilities a minimum of 3-months' supply and a maximum of 6-months' supply ofcontraceptives should be kept in stock at all times. When regional level warehouses are established in the future, a minimum of 6-months supply and a maximum of 9-months supply should be kept on hand, since the shipping interval will probably be 3 months to regional level warehouses also. At the national level, as mentioned earlier, I recommend that a minimum of a 1-year supply of all contraceptive supplies be kept on hand. Since the shipping interval for supplies from overseas will be 1 year, the maximum national level supply should be 2 years. The calculation of an average 1-month supply at the regional and national levels is done in the same manner as at the facility level. It is, therefore, important that monthly reports similar to PF-3 "RAPPORT D'ACTIVITES POUR LE MOIS DE _____" be prepared for the national and, eventually, the regional levels also. These can perhaps be done at longer intervals such as every 3 or 6 months.

Logistics data on the number of months supply on hand of all items must be regularly monitored to ensure the smooth running of the supply system. At the national level this should be calculated for stocks in the national level warehouse, which should be 12-24 months' supply as well as for the total of stocks at all health facilities, which in the aggregate should be equivalent to 3-6 months' supply. I recommend that national level logistics managers be trained in this type of analysis at a future time.

At least once per year an inventory must be performed by actually counting all supplies stored at the national, regional, and health facility levels. The results must then be compared with balances on the CARTE DE STOCK and if discrepancies are found, the reason must be noted. The corrected total must then be noted upon the CARTE DE STOCK and the word "INVENTAIRE" written across the appropriate line on the card. Counts must also be made of supplies as they are received or issued in order to verify amounts entered on the BON DE COMMANDE ET BORDERAU DE LIVRAISON.

C. Storage of Contraceptive Supplies

A warehouse building or space for storage within a health facility must be structurally sound and dry; that is, not subject to leaks in the windows or roof or to seepage in the walks or floor. In addition, contraceptives should be protected within the building from exposure to direct sunlight through doors, windows, or other openings.

Contraceptives will normally last 5 years without spoiling. However, this period can be reduced if temperatures inside the storage area rise above 40 C, or if the supplies are exposed to sunlight. Therefore, the building in which contraceptives are stored should be kept as cool as possible by having sufficient ventilation through windows and/or louvered air vents.

In order to ensure that contraceptive supplies do not remain in a storage area longer than 5 years, a FIFO (First In-First Out, Premieres Entrees-Premieres Sorties) system of storage and distribution of supplies must be adopted in all warehouses and smaller storage facilities where contraceptives are stored. In this system, cartons must be clearly marked with their date of manufacture in large, easy to read numerals; different shipments with different dates of manufacture should be stacked separately by year of manufacture. Cartons with the oldest date are then distributed first; cartons with later dates are not issued until all earlier-dated supplies have been distributed. If the date of manufacture is not available, the date of receipt in Senegal should be used. No more than 2 or 3 years' supply should be in stock at any time at all program levels combined; therefore, if the FIFO method is followed, no supplies will be kept on hand as long as 5 years.

To facilitate the FIFO method, and for ease of counting when perforaing physical inventories, cartons should be stacked in such a way that all cartons and their dates of manufacture (or receipt) are visible. Cartons should not be stacked in such a way that a large percentage are in the interior of large stacks with their manufacture dates blocked from view.

To assure air circulation around cartons and minimize insect infestation, cartons should be stacked on pallets at least 10 cm from the floor and stacked at least 30 cm from any wall or ceiling. In order to avoid cartons at the bottom of a stack being crushed by the weight of the cartons above, they should be stacked no more than 2.5 meters high. These principles are illustrated in Figures 8 and 9.

As training aids for midwives, nurses, and warehouse managers, it is suggested that, after being adapted to Senegal, posters similar to Figures 8 and 9 be distributed to all facilities where supplies are stored. These can be used in

FIGURE 8

MAGASIN POUR L'ENTREPOSAGE DES FOURNITURES EN CONTRACEPTIFS

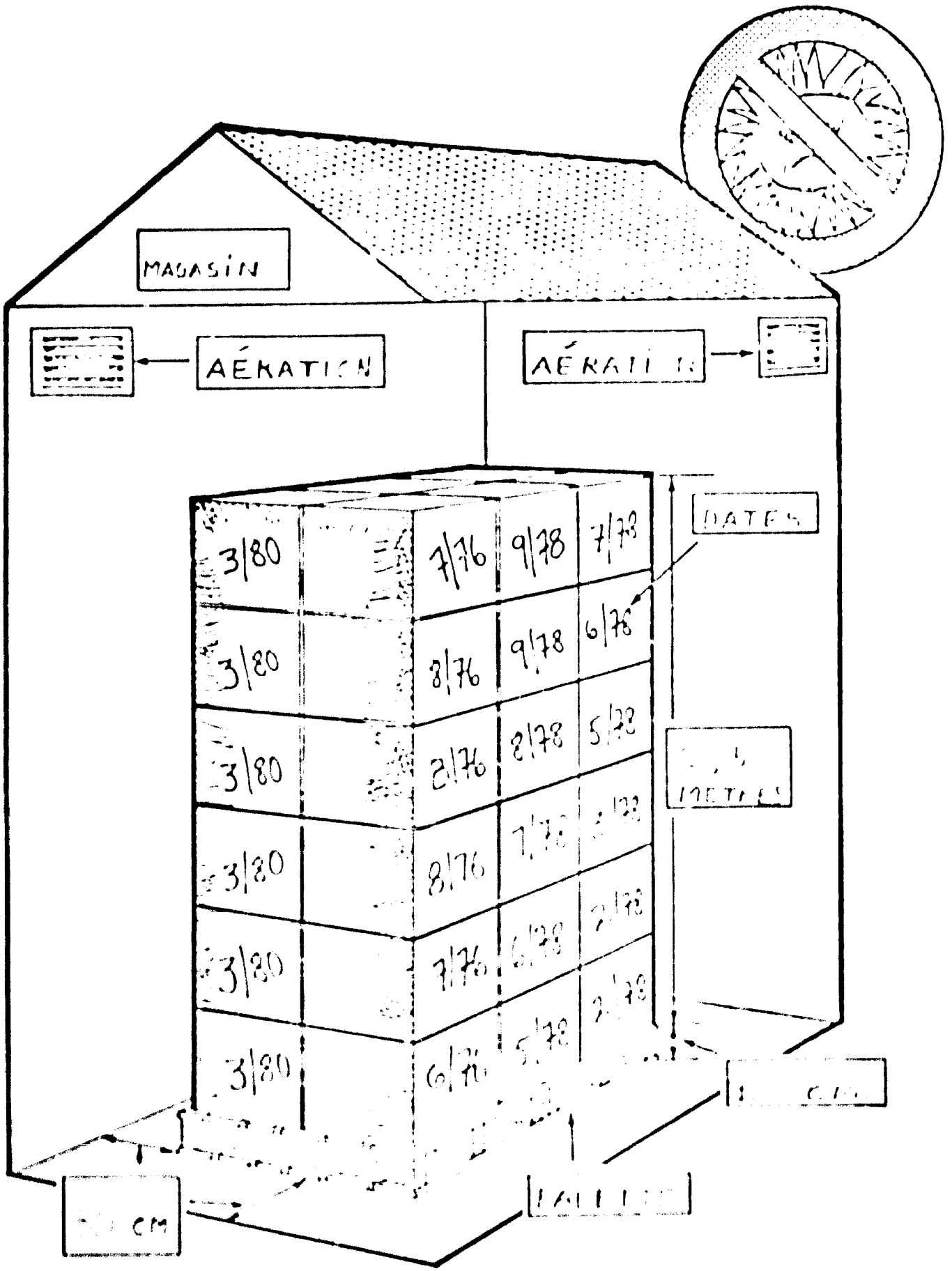


FIGURE 9

METHODOLOGIE A SUIVRE POUR L'ENTREPOSAGE DES FOURNITURES MEDICALES ET CONTRACEPTIFS

1. Maintenir très propres, bien éclairés et bien aérés les locaux réservés à l'entreposage des fournitures médicales.

2. S'assurer qu'il n'existe pas de fissures dans le toit et les murs des locaux, afin d'empêcher l'accès des eaux en cas de pluie, ou autre.

3. Placer des palettes sous les cartons entassés à une hauteur de 10 cm au-dessus du sol.

4. Laisser un espace de 35 cm entre les cartons et les murs pour éviter l'humidité, la chaleur, etc.

5. Ne pas stocker les fournitures médicales et surtout les contraceptifs dans les endroits exposés directement à la lumière solaire (près des portes et des fenêtres).

6. S'assurer que les boîtes et cartons et surtout les contraceptifs sont conditionnés par : date de livraison suivant le principe "premières entrées - premières sorties", c'est-à-dire que les 1ères fournitures médicales stockées devront être les premières à être utilisées. Mentionner lisiblement la date d'arrivée des cartons de contraceptifs.

7. Laisser suffisamment de place entre les cartons pour faciliter l'inventaire des fournitures et la gestion du magasin.

8. La hauteur maximale recommendée pour l'entreposage des cartons de contraceptifs est de 2,5 mètres.

9. Ne jamais stocker dans un même local les insecticides et autres produits chimiques avec les médicaments et contraceptifs.

10. Trouver un endroit spécial pour garder les médicaments et les contraceptifs périmés ou gâtés.

formal training courses and then posted at eye level in warehouses as a reminder.

V. OTHER ACTIVITIES

A. Study of Complications Following Incomplete Abortions

During a previous trip to Senegal, agreement was reached with Professor Paul Correa, Director of the OB/GYN Department of Le Dantec Hospital, Dakar to conduct this study (see Senegal Trip Report dated September 23, 1981). Funding for the study is to be provided by the International Fertility Research Program, North Carolina (IFRP) with technical assistance, including data analysis, to be provided by FPED. A series of discussions were held with Professor Correa's staff and an IFRP representative, which resulted in budgetary constraints being identified which place implementation of the study in jeopardy. After further study of the proposed IFRP budget by Professor Correa and his staff, they will make a decision whether to proceed with the study or not.

B. Contraceptive Technology

Professor Correa has informally agreed to act as technical advisor to the French Language version of the African edition of this book. In a series of discussions on this subject, administrative arrangements were worked out between FPED/CDC, USAID/Senegal, and Professor Correa to formalize the agreement through a purchase order, which would serve as a contract.

C. Survey and Demography Division, Statistics Directorate, Ministry of the Economy and Finance

Along with Dr. Howard Goldberg, I attended a 3-day seminar October 13-15, sponsored by this organization, to explore ways and means to do a more detailed analysis of the results of the 1978 Senegalese Fertility Survey, which was done as part of the World Fertility Survey. Dr. Goldberg will present in detail the conclusion of this seminar in a separate trip report. Several areas of possible collaboration between FPED and the Surveys and Demography Division were identified in a meeting with personnel of this organization, USAID/Senegal, and the writer. These include:

(1) Collaboration on providing technical assistance in designing and implementing a baseline health survey in the Sine-Saloum Region. The resulting data would be used by the USAID Primary Health Care Project in the region. A CDC medical epidemiologist is scheduled to travel to Senegal in mid-December for the initial planning of the study.

(2) A contraceptive prevalence survey in the city of Dakar. The nation-wide Senegalese Fertility Survey included less than 200 women who use modern methods of contraception. This was too small a number on which to do an in-depth analysis. A survey of 1,000-2,000 women in the Dakar area would provide data on the characteristics of contracepting women, which would be useful for the Family Health Project for which the writer acted as a consultant in Part I of this report. This will be further explored through correspondence.

Jay S. Friedman / HSD

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