RWANDA 1986 M.I.S. REPORT

GUKINGIZA NI UGUHOZAHO

MBERE YO GUTAHA, SOBANUZA IGIHE UZAGARUKIRAHO

MARCH 1987

MARYANNE NEILL

COUNTRY SUMMARY

Country RWANDA Annual Report 1986 Calendar Year

Population 6,373,591

Estimated Number of Live Births 344,174

	Dates
Project Agreement	June 1984
End of Project	May 1988
First Project Review	November 1985
First Evaluation	October 1986
Second Project Review	
Second Evaluation	

Annual and Cumulative Funding by Source

Source	Current Annual Funding	Cumulative Funding To Date
National Government ***	$76,220	$134,354
USAID	$190,298	$574,312

***Includes UNICEF contribution

National CCCD Program Manager Dr. Augustin Ntilivamunda

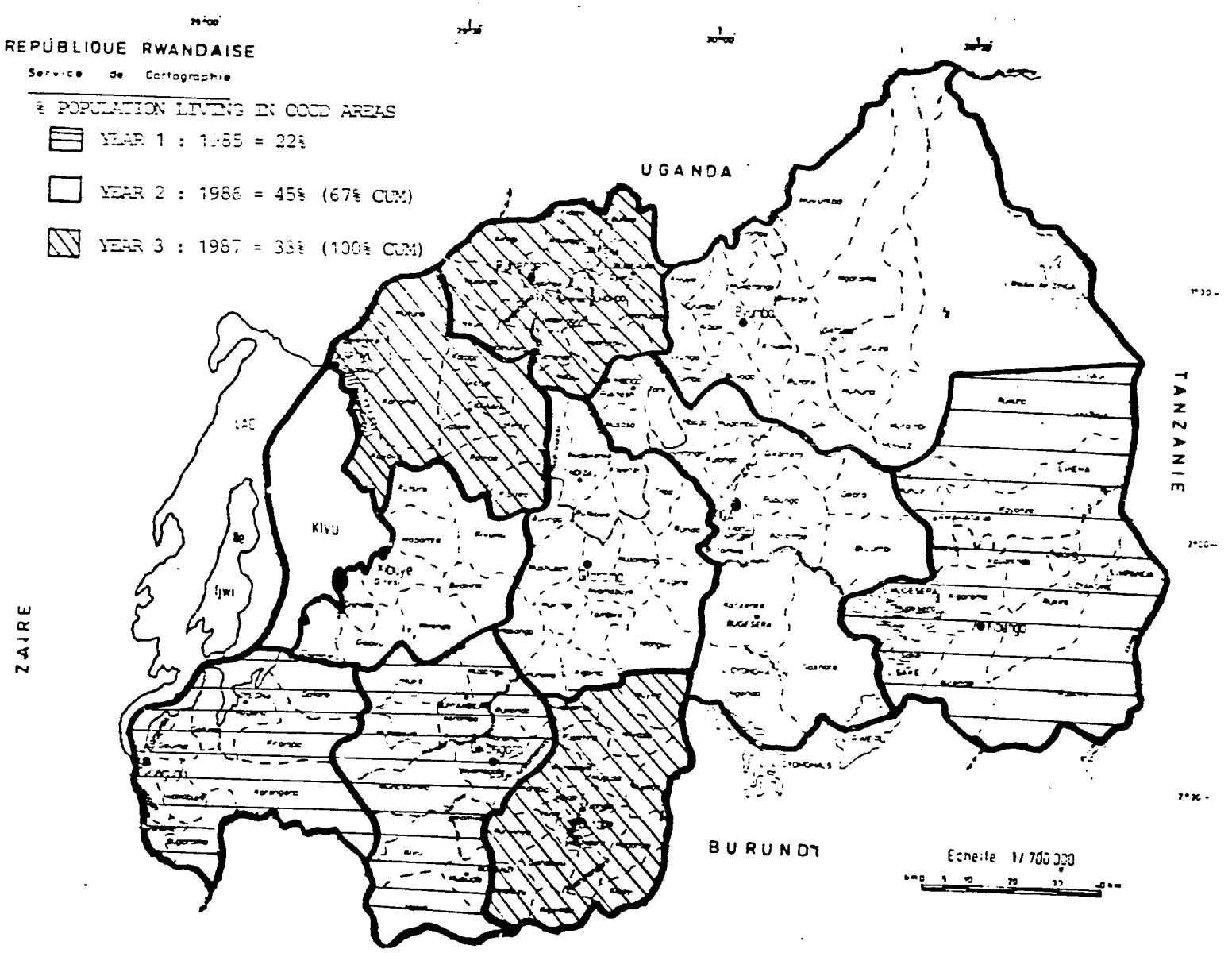
National EPI Director Dr. Emmanuel Kazima

Diarrheal Disease Director (if different) Dr. Augustin Ntilivamunda

Malaria Director (if different) Dr. Laurent Bugilimfura

Technical Officer Maryanne Neill

RWANDA : CURRENT AND PROJECTED
CCCD PROGRAM AREAS



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2. MAJOR ACHIEVEMENTS OF RWANDA CCCD PROJECT DURING CY 1986

A. MANAGEMENT

--Developed a Draft Four Year Plan for the Control of Diarrheal Diseases
--Developed a Draft Supervision Plan of Activities
--Developed the CCCD 1986 Workplan
--Integrated Commodity storage into the National Pharmacy
--Increased full-time staff assigned to Central Offices for CCCD to include;
** Malaria Coordinator: Physician
** Chief of Training and Supervision: Medical Assistant
** Chief of Surveillance: Medical Assistant
** Liason for the EPI Offices: Medical Assistant
--Developed Draft for Four Year Plan for Control of Malaria
--Held Internal Coordination Committee Meeting
--External Evaluation completed

B. TRAINING

--Conducted National Mid-Level Management Course for four regions
--Conducted three Regional Training Workshops to include all Chief of Health Center and Hospital Directors for the original 3 CCCD pilot regions
--Supported two week On-the-Job Training Course for five nurses at the Kigali ORT unit
--Created a Training Materials Storage Room at the National Pharmacy
--Conducted "on-the-job" training through supervision in five of the seven CCCD regions
--Held the EPI Mid-Level Managers Course for all Hospital Directors and CCCD/EPI Supervisors
--Conducted two day Malaria In-vivo Workshop for 16 participants
--Developed guide for the establishment of ORT units in health centers and hospitals
--Introduced session on sterilization practices in CCCD training courses

C. HEALTH EDUCATION

--Conducted Formative Research for the development of a Mini-Mass Media EPI Campaign
--Trained the Health Education Office in developing effective radio programs on the theme of Vaccinations
--Created Health Education Materials for Mothers, health Workers and Political Authorities
**Posters
**Flyers
**Guides
**Radio Messages
**Health Talks
**Developed and Printed New Vaccination Cards

D. HEALTH INFORMATION SYSTEMS

--Introduced revised method of register record-keeping in health centers for line-listing of all children for ORT, Malaria Treatment, and EPI

--Improved Monthly Report form for CCCD related diseases

--Researched cases and deaths for CCCD diseases for all ten regional reference hospitals for <5 year olds for 1980-1986

--Conducted hospital records research for diarrhea and measles for the Kigali Hospital for 1984-1986

--Produced end-of-the year annual report to rank regions by progress performed in EPI, including graphic presentation of measles cases

--Introduced new health facility survey (supervision) forms

--Conducted an International Vaccination Coverage Survey

E. OPERATIONAL RESEARCH

--Conducted a Health Finance Study to determine population's ability to pay for health services

--Completed in-vivo and in-vitro chloroquine resistance study to determine most appropriate treatment schedule for malaria

--Study on Immunogenicity of Measles Vaccine completed and results used to institute MOH policy to vaccinate sick children

--Began vaccinations in the Pediatric Service at the Kigali Hospital and developed patient data sheets to monitor ongoing vaccination coverage among sick children

--Supported Rwandan Physician's consultancy to CCCD/Burundi to assist with measles research study

--Created Operational Research Review Committee and general guidelines for proposal review

--Supported National Study on Malaria Prevalence with sample size of approximately 3000 subjects

3. MAJOR PROBLEMS AND ACTIONS

I.
Problem: Lack of Finalization and MOHSA approval for National CDD, Malaria, Training/Supervision, and EPI Plans have slowed down progress especially in the areas of Diarrheal Diseases and Training.
Action: Project Management Review will take place within 60 days of June 1987 for consideration of continuation of CCCD Project if above Plans are unofficial.

II.
Problem: Central Level MOHSA personnel continue to have less than adequate time to devote to project activities because of the myriad of responsibilities given them.
Action: Utilize new project personnel in the most effective manner, including persuasion of MOHSA to delegate authority and consider Management training courses for project Directors in the near future.

III.
Problem: Lack of acceptable improvement in the area of Sterilization Practices.
Action: Increase monitoring of individual health centers. Increase equipment needed to improve sterilization practices and provide adequate amounts of injection equipment. Plan and conduct at least one workshop per region to improve sterilization practices in 1987. Develop and print a practical guide to reinforce proper sterilization and injection practices.

IV.
Problem: Experienced Measles epidemic while having high measles vaccination coverage results.
Action: Need to conduct vaccine efficacy study as well review the cold chain. Research optimal age to vaccinate children for measles and gather data on 1986 epidemic cases and deaths to investigate at what age measles is occuring and encourage vaccinations at every contact with children. Develop a system to motivate health workers, mothers and communities to immunize their children.

V.
Problem: A review of supervisory activities appears to show a direct relationship between professional competence of CCCD/EPI supervisor and his region's progress towards the project objectives.
Action: Revise supervisory forms to include more quantifiable results in order to show the importance of continuing supervision from the Central MOH Offices. Revise training courses to correct common weak areas found in the field. Train the Supervisors to continue the Supervision activities year round and to send the monthly form into the Central Office for more timely action on problems encountered. Increase periodic meetings of all Regional Supervisors to discuss problems and success. Twice a year include the Supervisors in the Regional Physicians Meetings to encourage cooperation.

4. MAJOR GOALS AND OBJECTIVES FOR CY 1987

A. Increase CCCD services from seven regions to ten regions by the end of 1987 thereby increasing the availability of SRO, chloroquine, and vaccinations from 157 to 250 health facilities.

--Conduct Mid-Level Managers course for three regions not yet included in CCCD

--Conduct at least 6 regional workshops

--Ensure availability of project commodities at every health facility

--Continue Intensive Supervision activities

B. Increase coverage of fully immunized children under one year of age from 58% to 65% by the end of 1987.

--Carry-out vaccination coverage survey to verify 1986 results

--Increase number of fixed vaccination sites to include all health facilities

--Use mini-measles health education campaign evaluation to identify reasons for mothers not to vaccinate their children and improving health education messages

--Reinforce the vaccination of sick children in hospitals and during consultations at the health centers

C. Establish an ORT training and demonstration unit at the Butare Medical School Hospital Pediatric Service with major emphasis on hands-on training for medical students.

--Assist in the development of an operational research proposal submitted by the Chief of Pediatrics

--Conduct at least 2 training sessions for hospital personnel in ORT

--Identify educational materials needed for the Medical School's curriculum to increase ORT knowledge for medical students

D. Establish at least three long-term surveillance sites for the monitoring of drug-resistance to malaria in three endemic regions.

--Finalize and approve research protocols developed by Malaria Coordinator

--Identify sites and train personnel

--Invite consultant from Malaria Branch/CDC to evaluate progress and preliminary results

--Carry out second in-vitro study for comparison of 1986 results

--Establish Malaria Laboratory at the Kigali Hospital to verify long-term surveillance sites results

E. Launch a communications campaign for the promotion of ORT.

--Consultant invited to pre-plan two month follw-up consultancy for the execution of a communications campaign for ORT

--Carry out formative research and field test health education materials

--Involve political authorities in the launching of an ORT campain

--Carry-out mid-term review of campaign to re-orient messages if necessary

F.Establish a plan of action for the improvement of Health Information Systems in collaboration with UNICEF, W.H.O., the World Bank, CCCD and the MOHSA. Emphasis will be placed on more age specific morbidity and more quantifiable EPI and CDD program management data.

--Complete the assessment of the MOH health informations system

--Establish sentinel surveillance system in each of ten regions to monitor progress of CCCD specific diseases while waiting for reporting form revisions in the MOHSA

--Establish quarterly bulletins to encourage feedback information to the health facilities

--Investigate computerization capabilities for the MOHSA

--Emphasize Disease Surveillance skills and register record-kepping in training courses

IMMUNIZATION SUMMARY

An International Vaccination Coverage survey was carried out in September. Comparison of the 1983 International Coverage Survey with 1986 show the following results:

VACCINE	1983	1986
BCG (scar)	49%	86%
Polio I	57%	92%
Polio II	39%	88%
Polio III	25%	81%
DPT I	63%	92%
DPT II	46%	89%
DPT III	36%	81%
Measles	42%	78%
*Tetanus	20%	24%

*Estimated by two doses received over total number of pregnant women.

Although vaccination coverage increased for all antigens for the Expanded Program for Immunization in Rwanda, the country experienced a measles epidemic this year.

1985 Measles Vaccinations <12 months old = 151,322
1986 Measles Vaccinations <12 months old = 183,962

1985 Measles Cases/Deaths = 17,098/289
1986 Measles Cases/Deaths = 42,283/765

In October 1986, EPI's vaccination schedule changed from vaccinating 0-5 year olds to 0-2 year old children. Information collected from the ten regions show that approximately 12% of the cases in the first half of 1986, were below 9 months of age and over 20% of the cases occurred in children over 6 years of age. In the age group, 9 months to 6 years, (more detailed age breakdown was not available on a national level) 26% of the cases were not vaccinated while 41% were cases occurred among vaccinated children. This raised questions as to the maintenance of the cold chain and proper vaccination techniques. Vaccine testing at CDC Atlanta showed the measles vaccine to be potent and field visits verified proper cold chain practices down to the level of the health center. Outreach vaccination practices proved to be less satisfactory. A common practice among technicians is to fill a single syringe with enough vaccine for up to ten children, while only changing the needle for each injection. It is doubtful all children are receiving the correct dose for measles. Also, the practice of using alcohol for cleaning the skin before injecting must be discouraged since it is doubtful vaccinators wait until the skin is dry before injecting.

	MEASLES INCIDENCE/100,000	# HOSPITAL CASES	VACCINATION COVERAGE	
	1986*	1986	1985	1986
KIGALI	595	552	50%	62%
GITARAMA	441		53%	62%
BUTARE	821	259	43%	49%
GIKONGORO	261		41%	30%
CYANGUGU	741	230	36%	45%
KIBUYE	1400		49%	57%
GISENYI	1434	301	54%	60%
RUHENGERI	1620	208	44%	52%
BYUMBA	164	133	41%	51%
KIBUNGO	514	256	46%	54%

*Incidence totals include all ages

Another problem the MOHSA is alerted to is the increase in the number of cases of polio. Information shown proves that cases do not appear to be concentrated in one particular region. Unfortunately, statisitics arrive at the Epidemiology Office up to two months after the fact, therefore not allowing adequate time for outbreak investigation. There is one qualified epidemiologist based at the MOHSA and a second at the Butare Medical School. This does not allow for efficient timely outbreak investigation. Information requested of the Regional Medical Physicians often do not arrive until serveral months after the request.

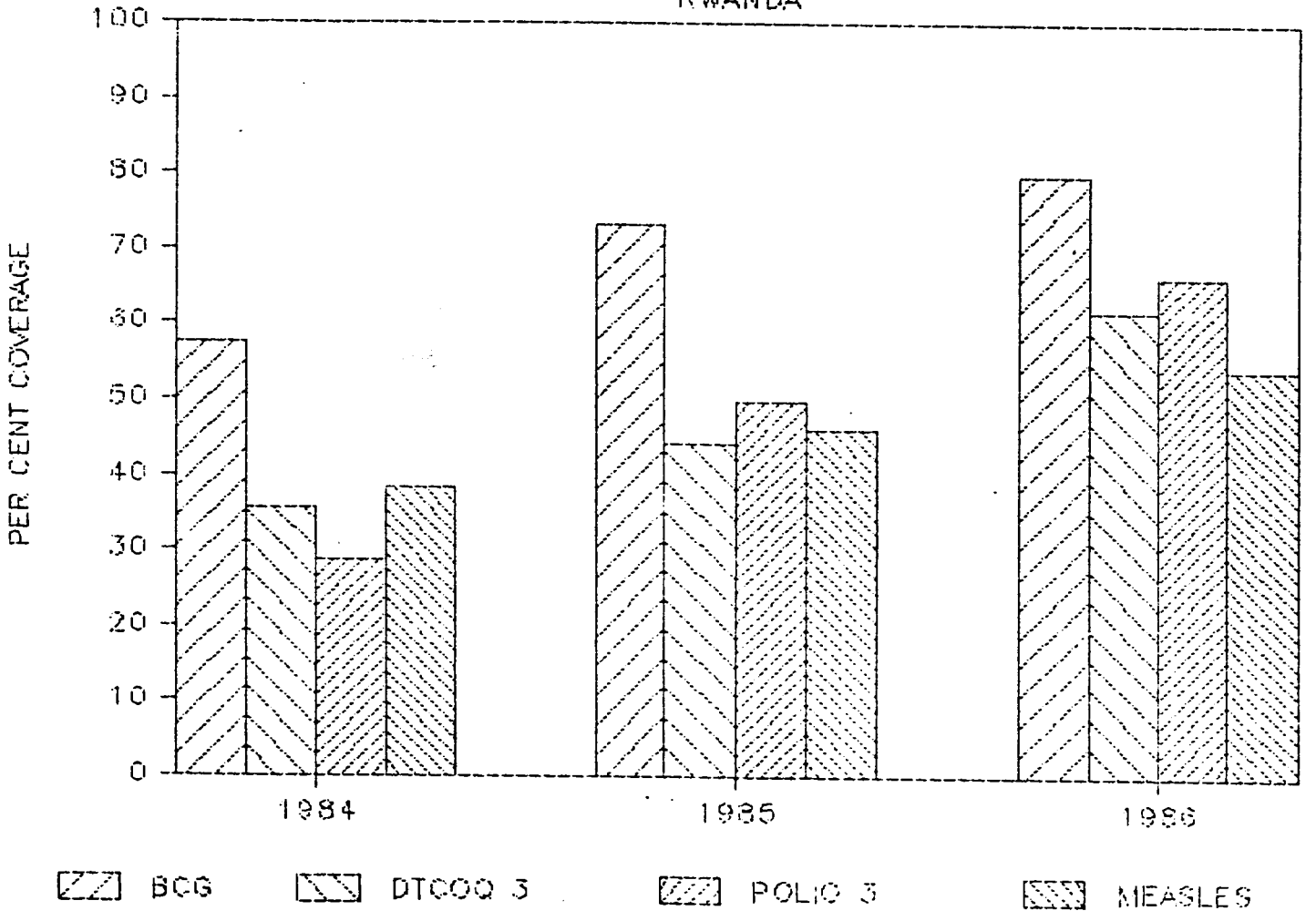
EPI must continue to increase efforts to raise vaccination coverage, but also must improve their reporting systems. Training in cold chain techniques and vaccination practices must constantly be reinforced. Supervision in the field with observation of vaccination sessions is mandatory in order to monitor correct vaccination techniques as well as verify actual total of children vaccinated to reports sent into the Central Offices. A vaccine efficacy study is in order as well as a polio prevalence survey. Increased social mobilization through media campaigns and health center personnel health education training is of utmost importance for 1987. A verification of the national vaccination coverage survey must be repeated in 1987.

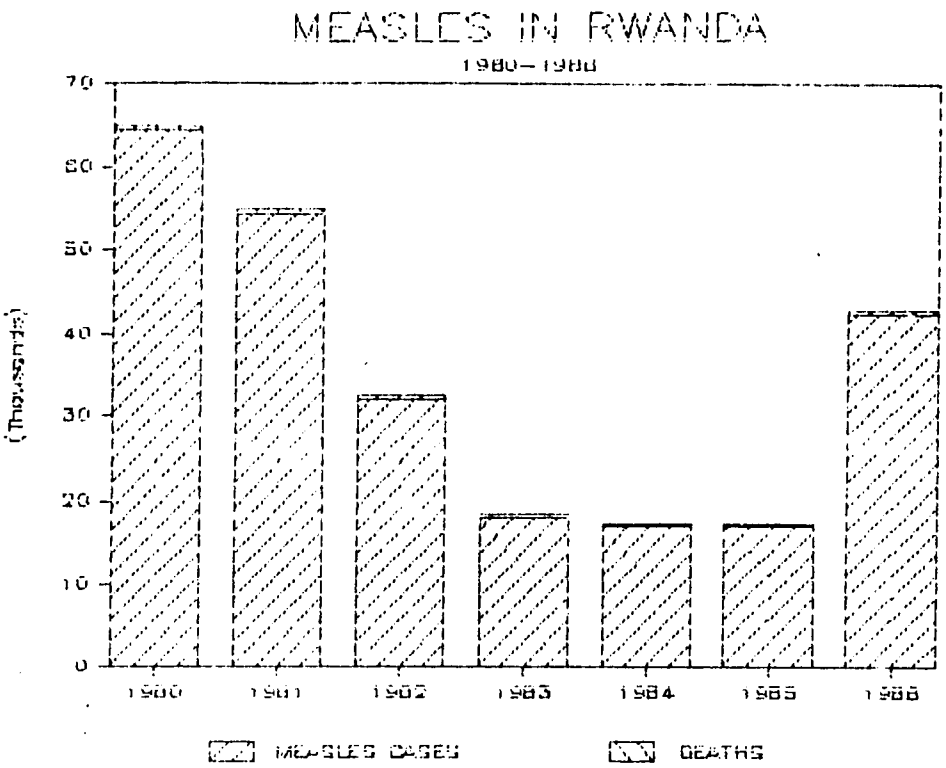
Coverage Surveys: Immunizations

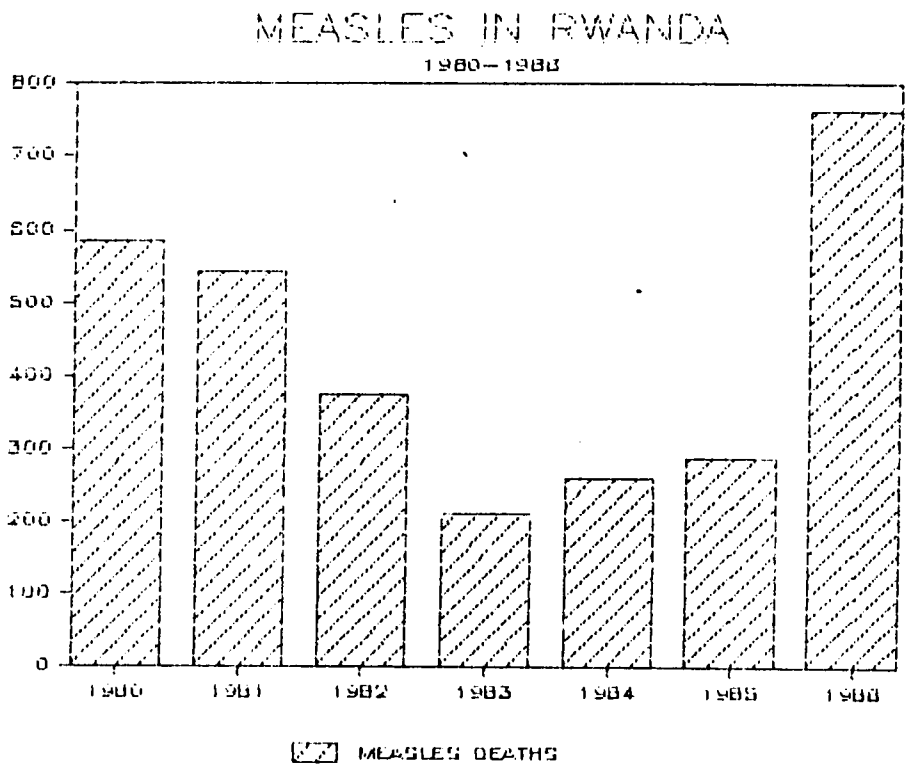
Dates		Children Age (Months)	Children Number	Percent Coverage of Children CARD	BCG	DPT1	DPT2	DPT3	POL1	POL2	POL3	MEAS	FULLY	Number of Women	% Coverage of Women During Last Pregnancy CARD	TT1	TT2	Area
05	85	12-36	212	98	96	95	91	84	94	90	84	90	77	0	0	0	0	GITARAMA
05	85	12-36	212	83	69	79	71	65	79	68	55	70	42	0	0	0	0	BUTARE
05	85	12-23	212	83	71	81	71	57	79	65	55	71	52	0	0	0	0	RUHENGERI
05	85	12-36	212	87	83	80	75	67	78	72	64	65	45	0	0	0	0	KIGALI
05	85	12-36	212	88	90	82	71	62	77	63	52	64	42	0	0	0	0	GISENYI
05	85	12-36	212	87	91	84	73	63	84	70	56	49	33	0	0	0	0	CYANGUGU
05	85	12-36	212	90	85	89	81	76	89	77	65	75	59	0	0	0	0	GIKONGORO
05	85	12-36	212	87	87	78	56	49	80	53	47	52	30	0	0	0	0	KIBUYE
05	85	12-36	212	87	83	75	59	48	74	56	45	63	26	0	0	0	0	BYUMBA
05	85	12-36	212	72	71	67	60	46	65	58	41	58	39	0	0	0	0	KIBUNGO
09	86	12-36	219	0	99	98	95	87	97	94	86	78	58	0	0	0	0	RWANDA

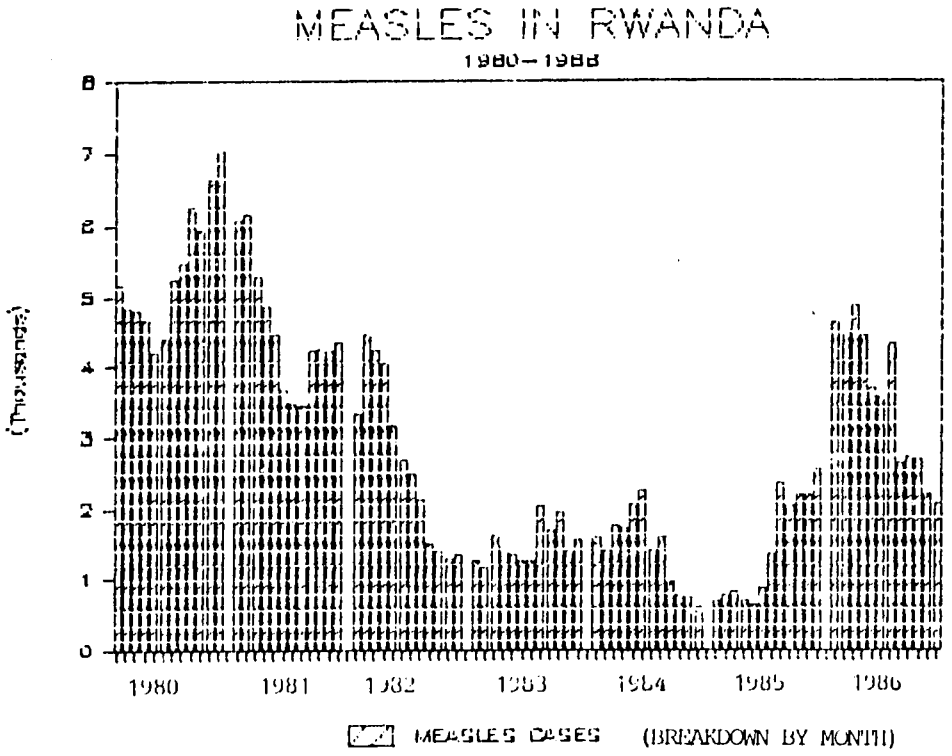
VACCINATION COVERAGE 1984--86

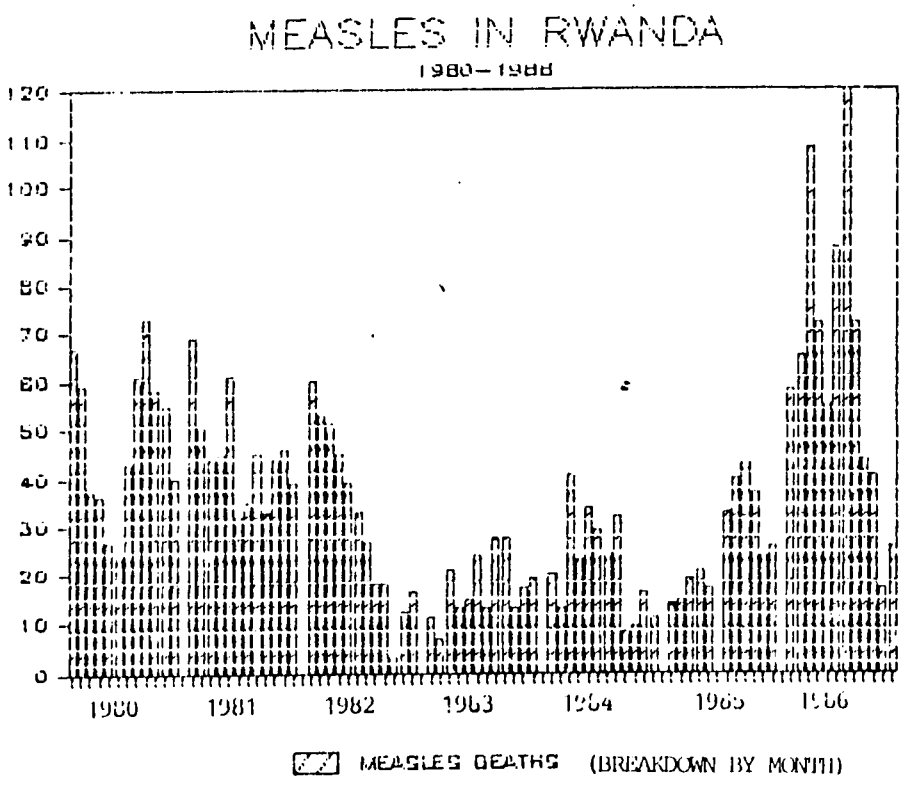
RWANDA




MEASLES IN RWANDA
1980–1988
(Thousands)
70
60
50
40
30
20
10
0
1980
1981
1982
1983
1984
1985
1988
MEASLES CASES
DEATHS


MEASLES IN RWANDA
1980–1988
800
700
600
500
400
300
200
100
0
1980
1981
1982
1983
1984
1985
1988
MEASLES DEATHS


MEASLES IN RWANDA
1980-1988
(Thousands)
0
1
2
3
4
5
6
7
8
1980
1981
1982
1983
1984
1985
1986
MEASLES CASES (BREAKDOWN BY MONTH)

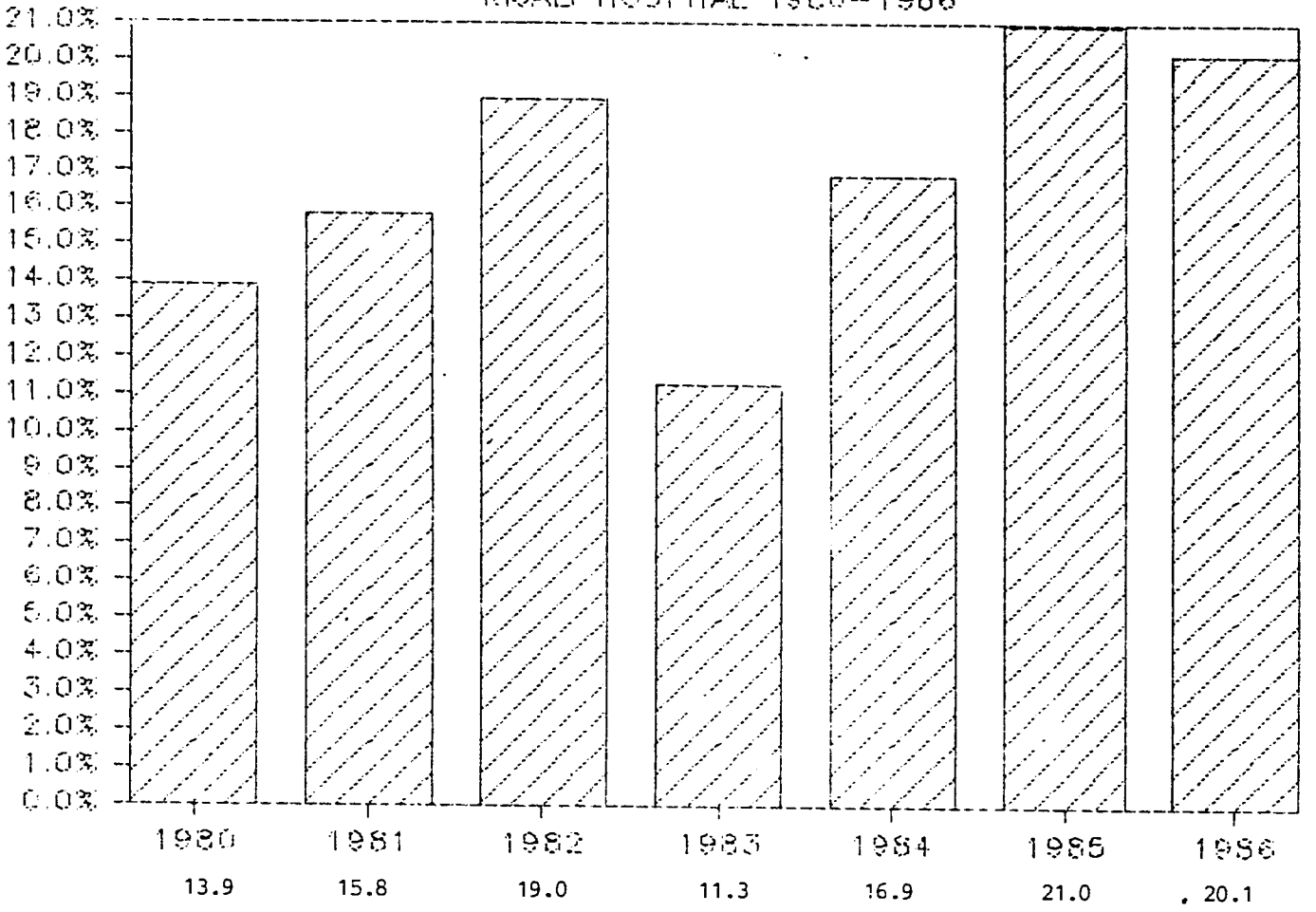

MEASLES IN RWANDA
1980-1988
0
10
20
30
40
50
60
70
80
90
100
110
120
1980
1981
1982
1983
1984
1985
1986
MEASLES DEATHS (BREAKDOWN BY MONTH)

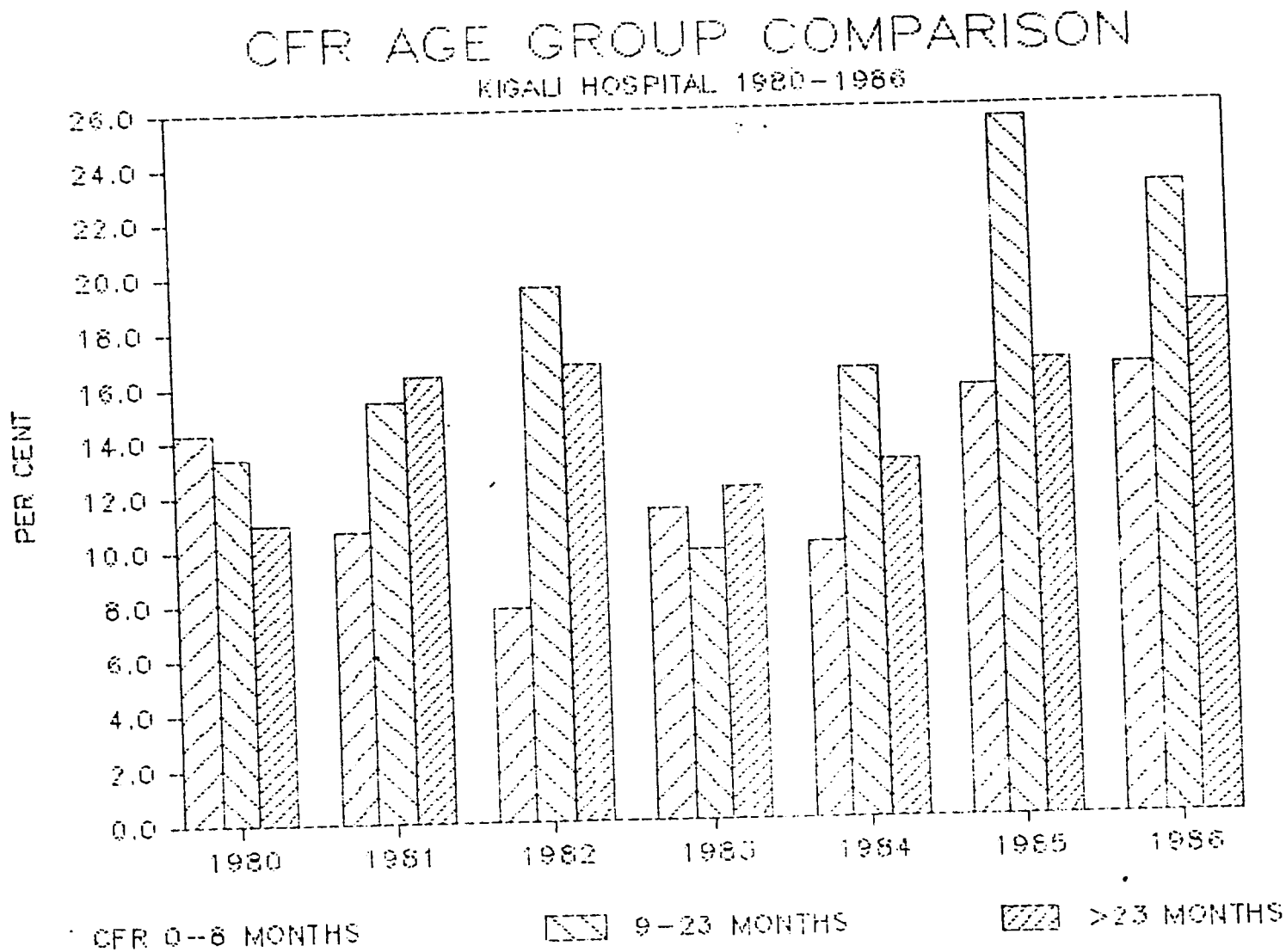
KIGALI HOSPITAL UNDER FIVE YEAR OLDS
MEASLES CASE FATALITY RATIOS

YEAR AGE (MOS)	1980	1981	1982	1983	1984	1985	1986
0-2	33.3%	33.3%	0.0%	ERR	0.0%	0.0%	0.0%
3-5	26.7%	6.7%	4.0%	0.0%	36.4%	11.1%	16.7%
6-8	11.5%	11.5%	9.7%	12.5%	5.5%	10.5%	16.5%
9-11	11.9%	16.2%	20.2%	9.1%	12.7%	27.4%	20.0%
12-23	13.7%	15.2%	19.2%	10.2%	17.6%	24.4%	24.2%
24-35	16.0%	16.1%	13.5%	19.4%	14.1%	20.2%	25.7%
36-47	2.2%	20.4%	17.3%	8.3%	15.7%	12.0%	15.0%
48-59	15.4%	13.2%	17.4%	11.1%	10.7%	15.4%	9.7%
>=60	0.0%	7.5%	33.3%	0.0%	5.3%	23.1%	11.1%
TOTAL	13.9%	15.8%	19.0%	11.3%	16.9%	21.0%	20.1%

MEASLES CASE FATALITY RATE

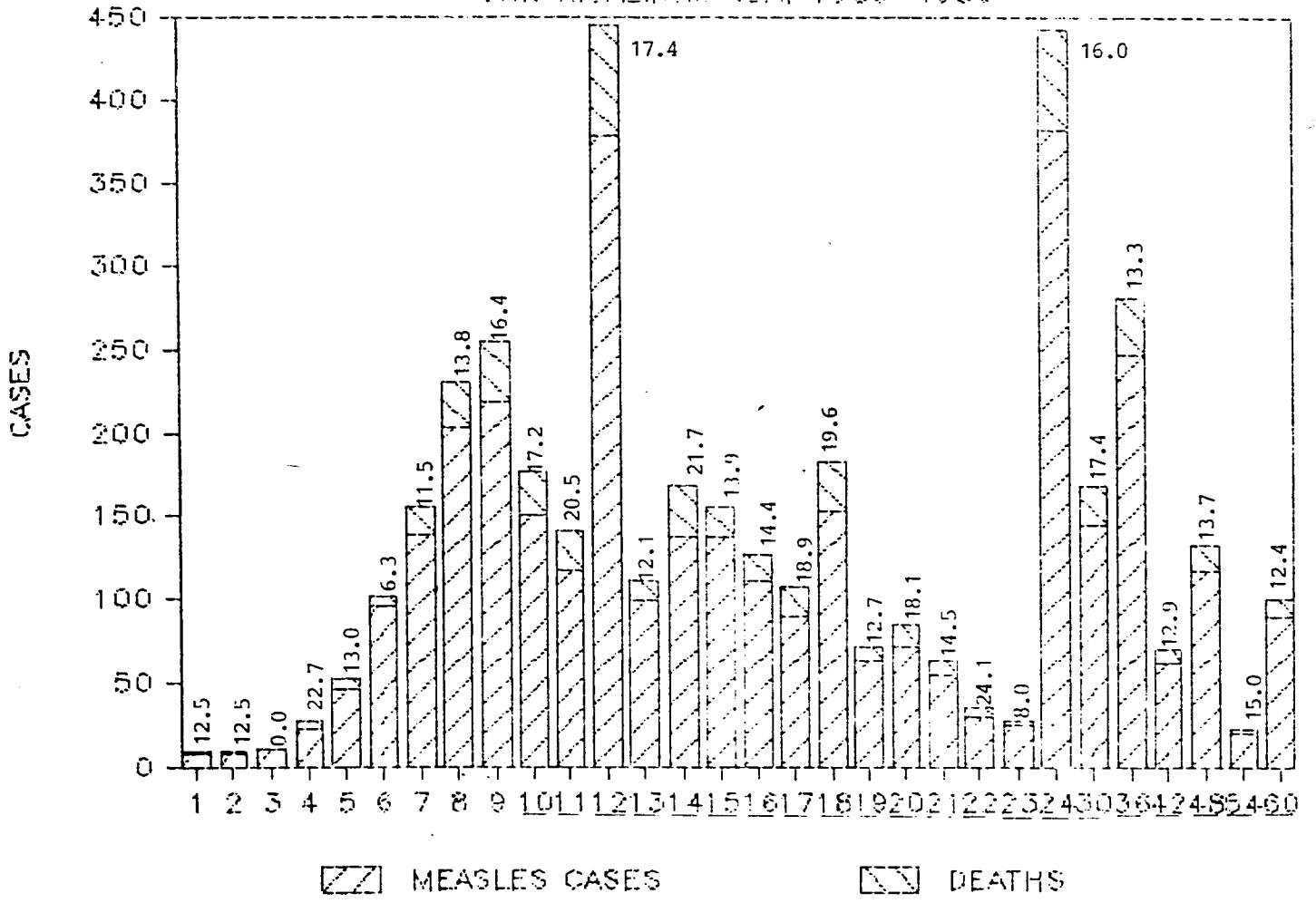
KIGALI HOSPITAL 1980--1986



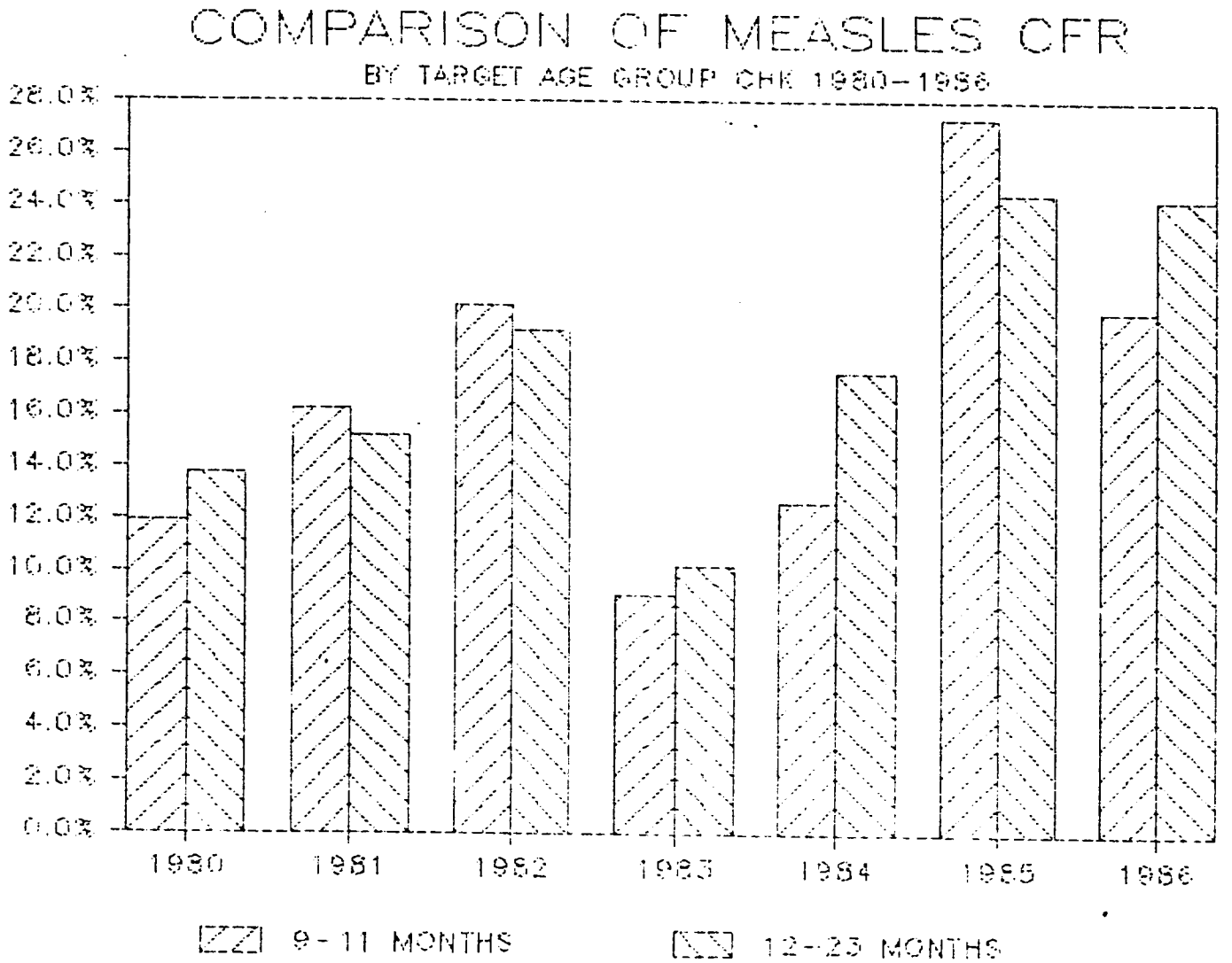

CFR AGE GROUP COMPARISON
KIGALI HOSPITAL 1980-1986
PER CENT
26.0
24.0
22.0
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
1980
1981
1982
1983
1984
1985
1986
CFR 0--8 MONTHS
9-23 MONTHS
>23 MONTHS

MEASLES CASES BY MONTH IN AGE

CHK KIGALI, RWANDA, 1980-1986

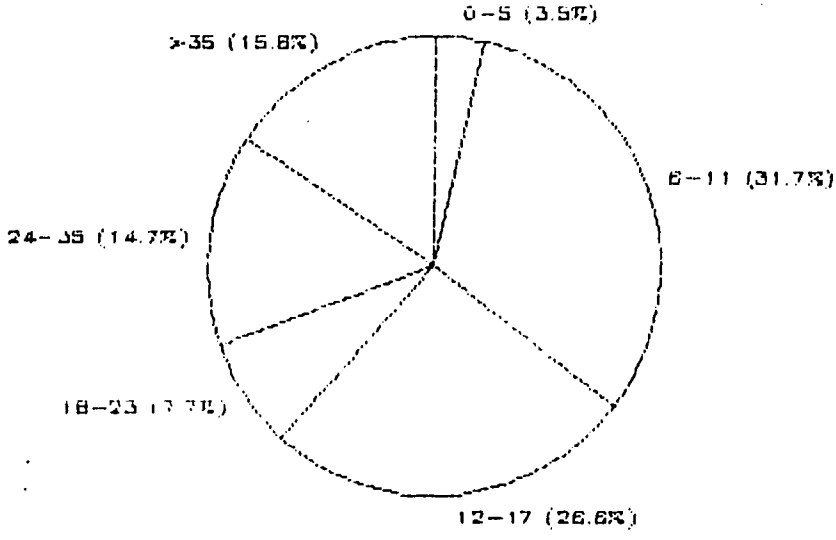


(WITH CASE FATALITY RATIOS)


COMPARISON OF MEASLES CFR
BY TARGET AGE GROUP CHK 1980-1986
28.0%
26.0%
24.0%
22.0%
20.0%
18.0%
16.0%
14.0%
12.0%
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
1980
1981
1982
1983
1984
1985
1986
9-11 MONTHS
12-23 MONTHS

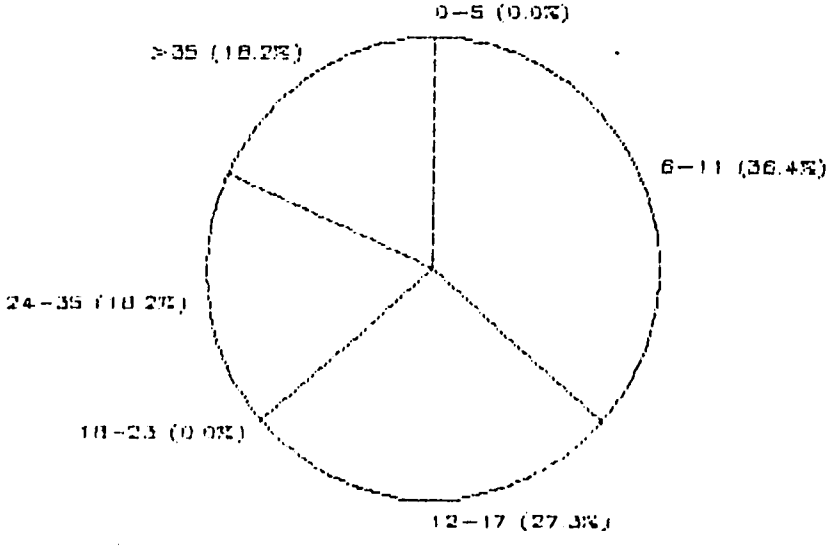
MEASLES CASE DISTRIBUTION / BUTARE (HOSPITAL)

< 5 YEARS OLD, BY AGE IN MONTHS



MEASLES % CASES DEAD / BUTARE (HOSPITAL)

< 5 YEARS OLD, BY AGE IN MONTHS



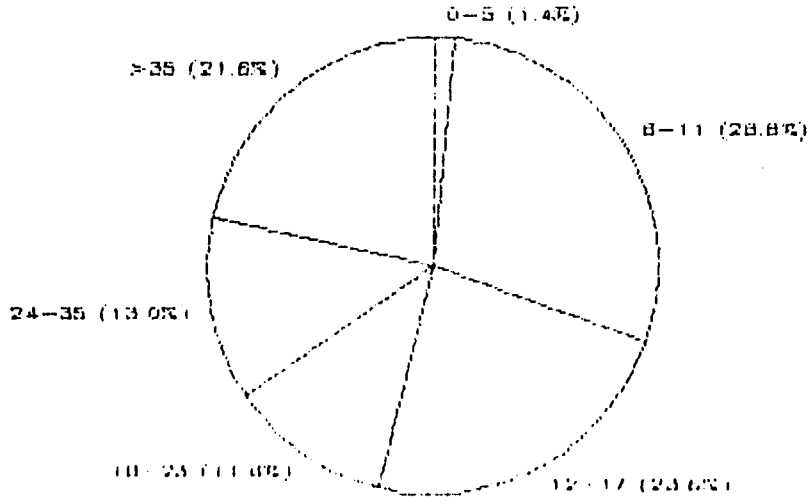
Form used at the Kigali Pediatric Ward to vaccinate hospitalized children. (1986)

During morning rounds, the pediatricians mark the number of the hospital bed corresponding to the child who is able to be safely vaccinated. Nurses vaccinate in the afternoon, as well as in the ORT ward.

DATE	NOM DE L'ENFANT	DN	AGE	POIDS	T°	DIAGNOSTIC	VACCINS DEJA RECUS				VACCINS DONNES A LA PEDIATRIE			
							Vaccin	Date	Vaccin	Date	Vaccin	Date	Vaccin	Date
(1)							DTC1 DTC2 DTC3 ROUG. BCG		POL1 POL2 POL3 POL4		DTC1 DTC2 DTC3 ROUG. BCG		POL1 POL2 POL3 POL4	
(2)							DTC1 DTC2 DTC3 ROUG. BCG		POL1 POL2 POL3 POL4		DTC1 DTC2 DTC3 ROUG. BCG		POL1 POL2 POL3 POL4	
(3)							DTC1 DTC2 DTC3 ROUG. BCG		POL1 POL2 POL3 POL4		DTC1 DTC2 DTC3 ROUG. BCG		POL1 POL2 POL3 POL4	
(4)							DTC1 DTC2 DTC3 ROUG. BCG		POL1 POL2 POL3 POL4		DTC1 DTC2 DTC3 ROUG. BCG		POL1 POL2 POL3 POL4	
(5)							DTC1 DTC2 DTC3 ROUG. BCG		POL1 POL2 POL3 POL4		DTC1 DTC2 DTC3 ROUG. BCG		POL1 POL2 POL3 POL4	
(6)							DTC1 DTC2 DTC3 ROUG. BCG		POL1 POL2 POL3 POL4		DTC1 DTC2 DTC3 ROUG. BCG		POL1 POL2 POL3 POL4	

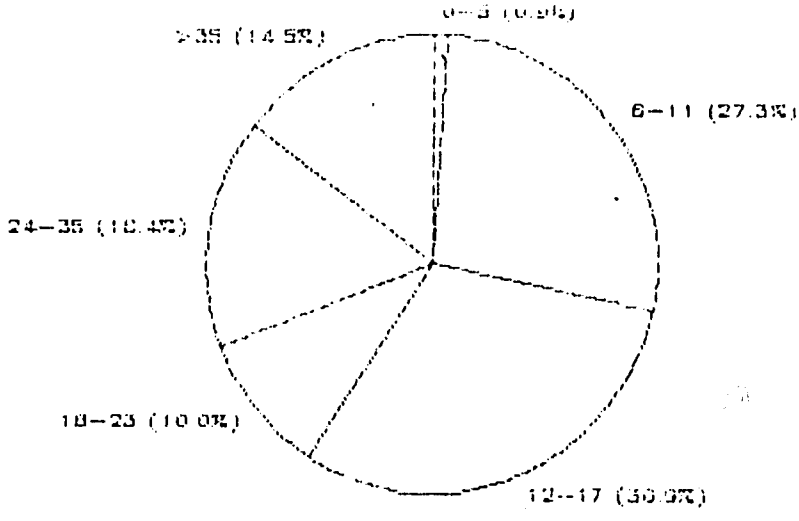
MEASLES CASE DISTRIBUTION / KIGALI

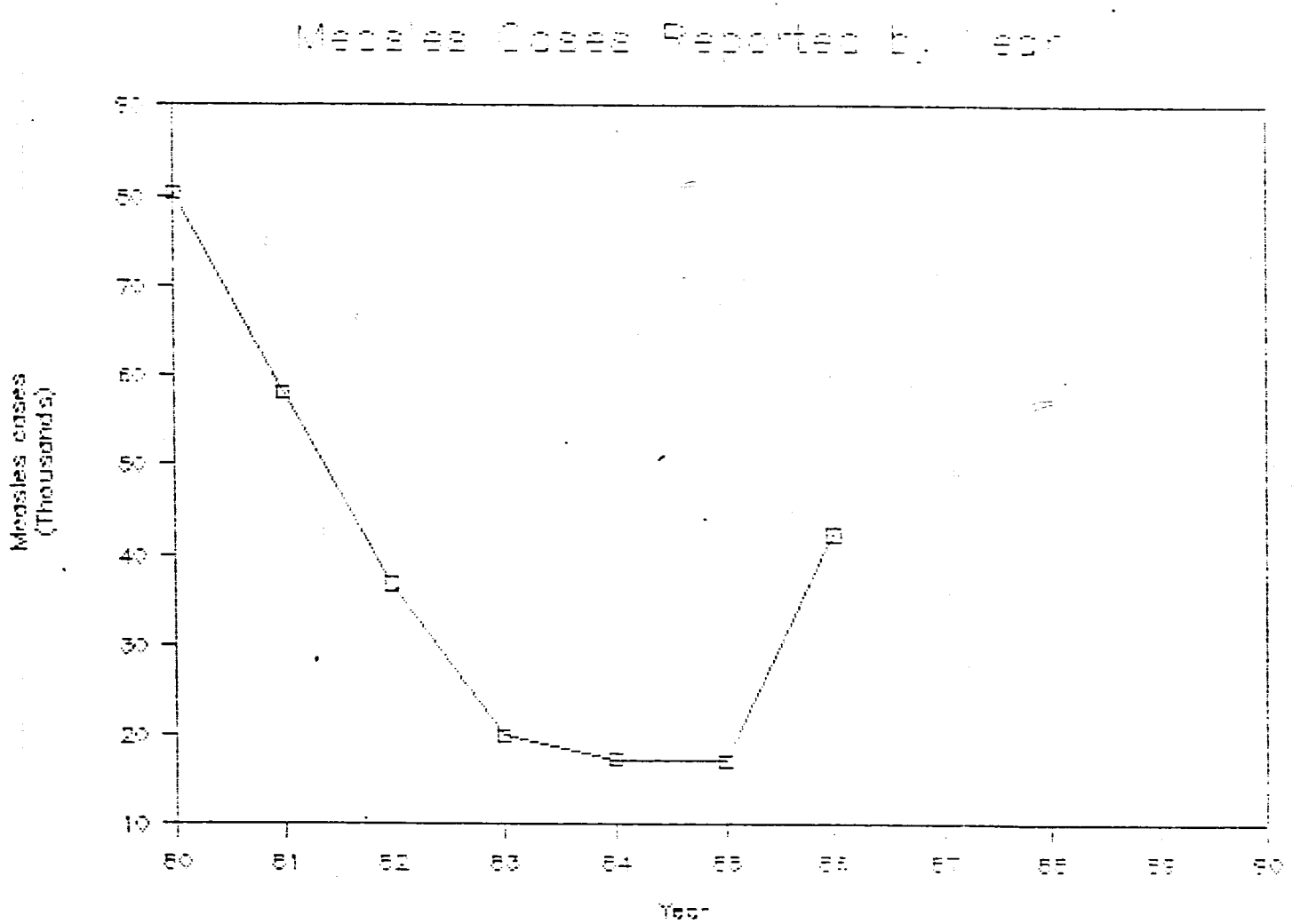
< 5 YEARS OLD, BY AGE IN MONTHS (HOSPITAL)



MEASLES % CASES DEAD / KIGALI

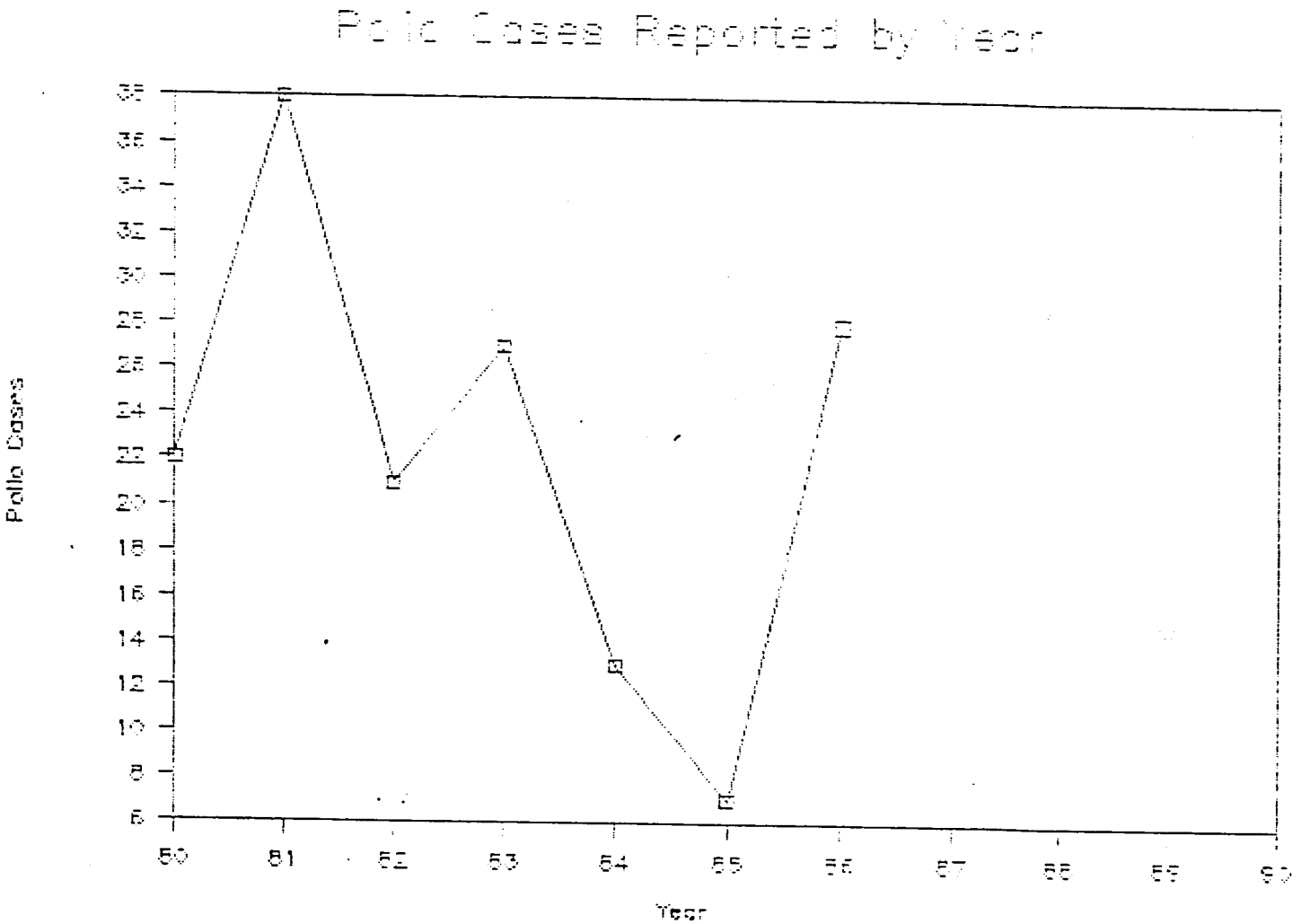
< 5 YEARS OLD, BY AGE IN MONTHS (HOSPITAL)

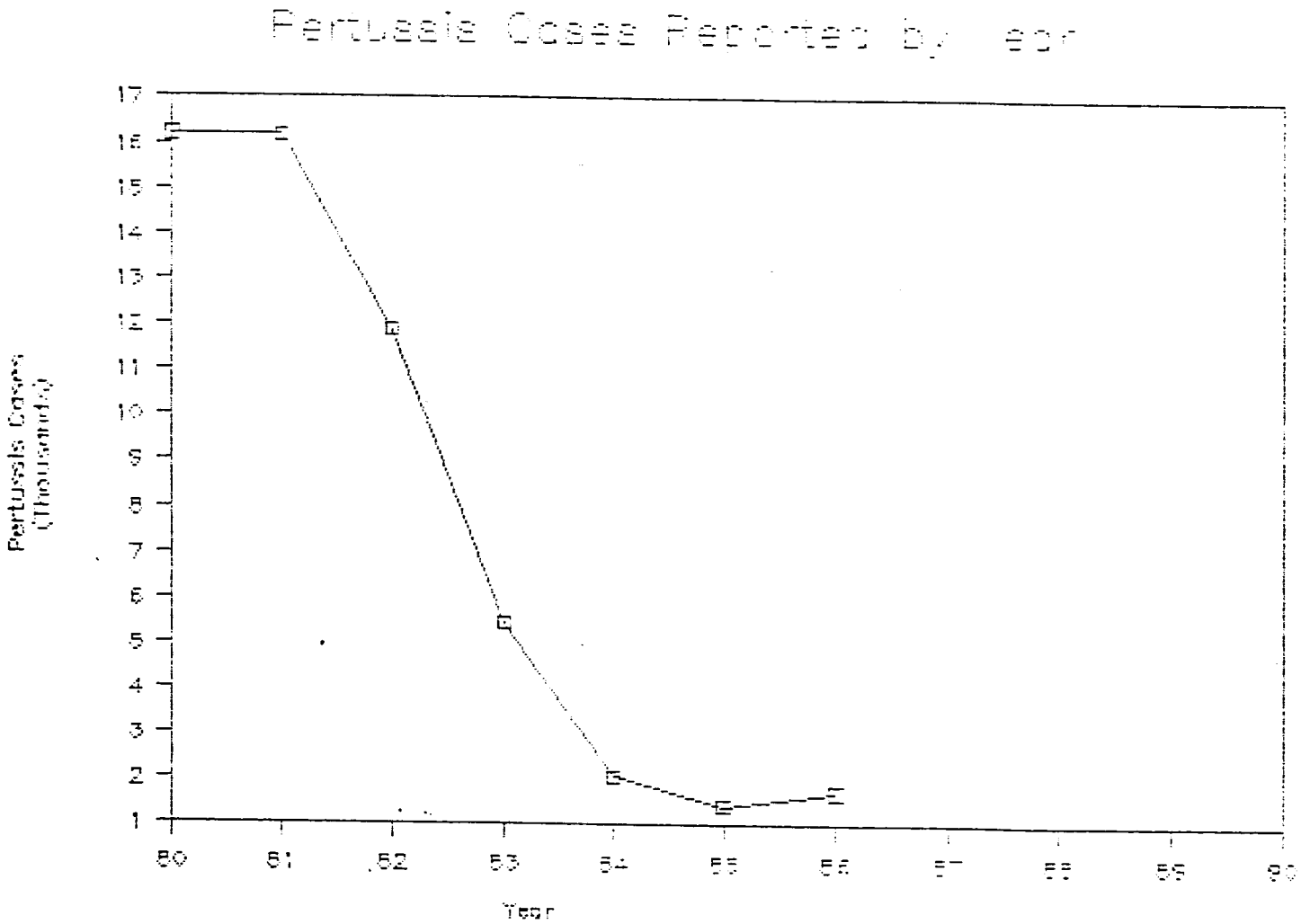


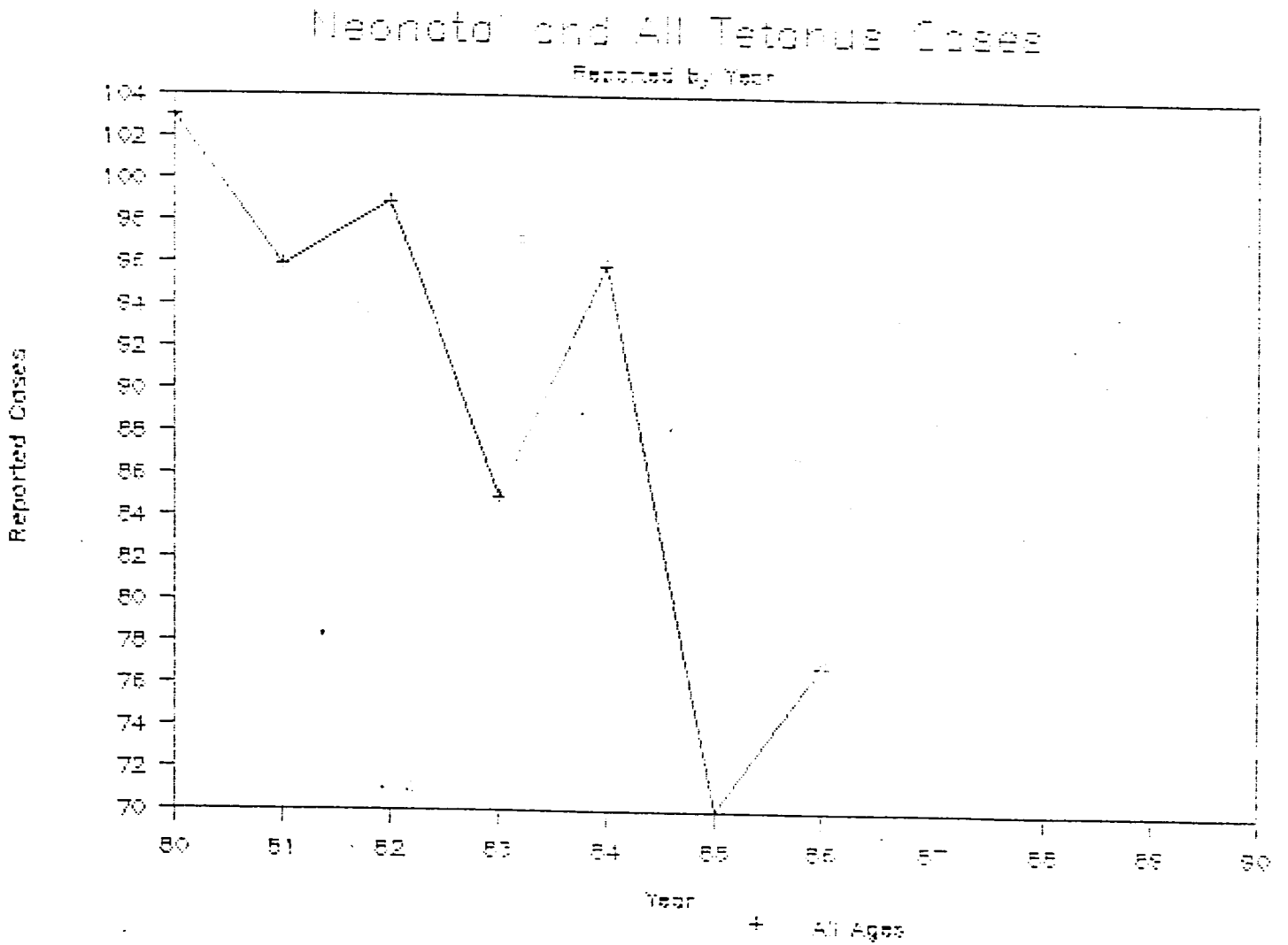

Measles Cases Reported by Year
Measles cases (Thousands)
Year

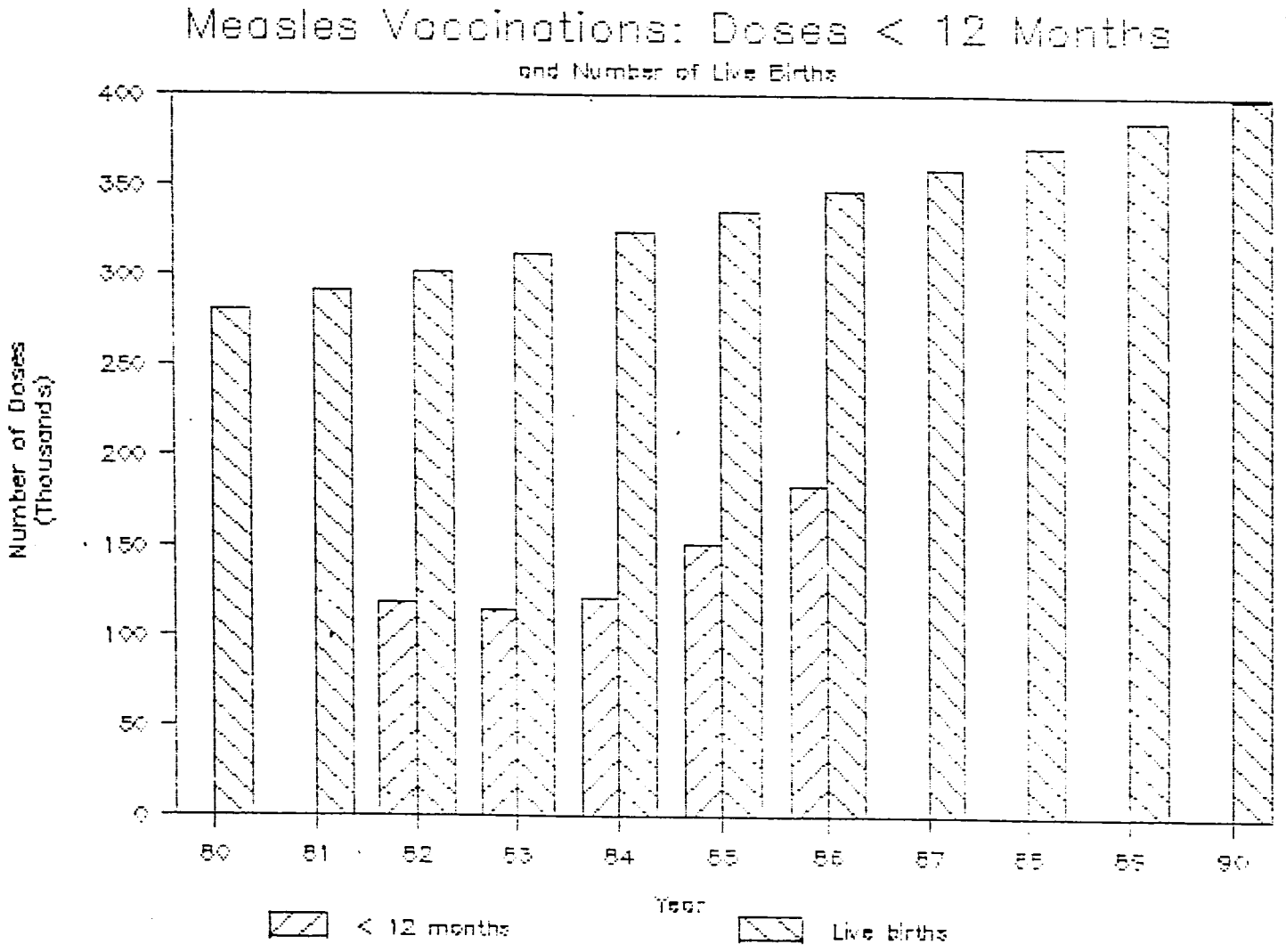
1986 CASES OF POLIO BY MONTH

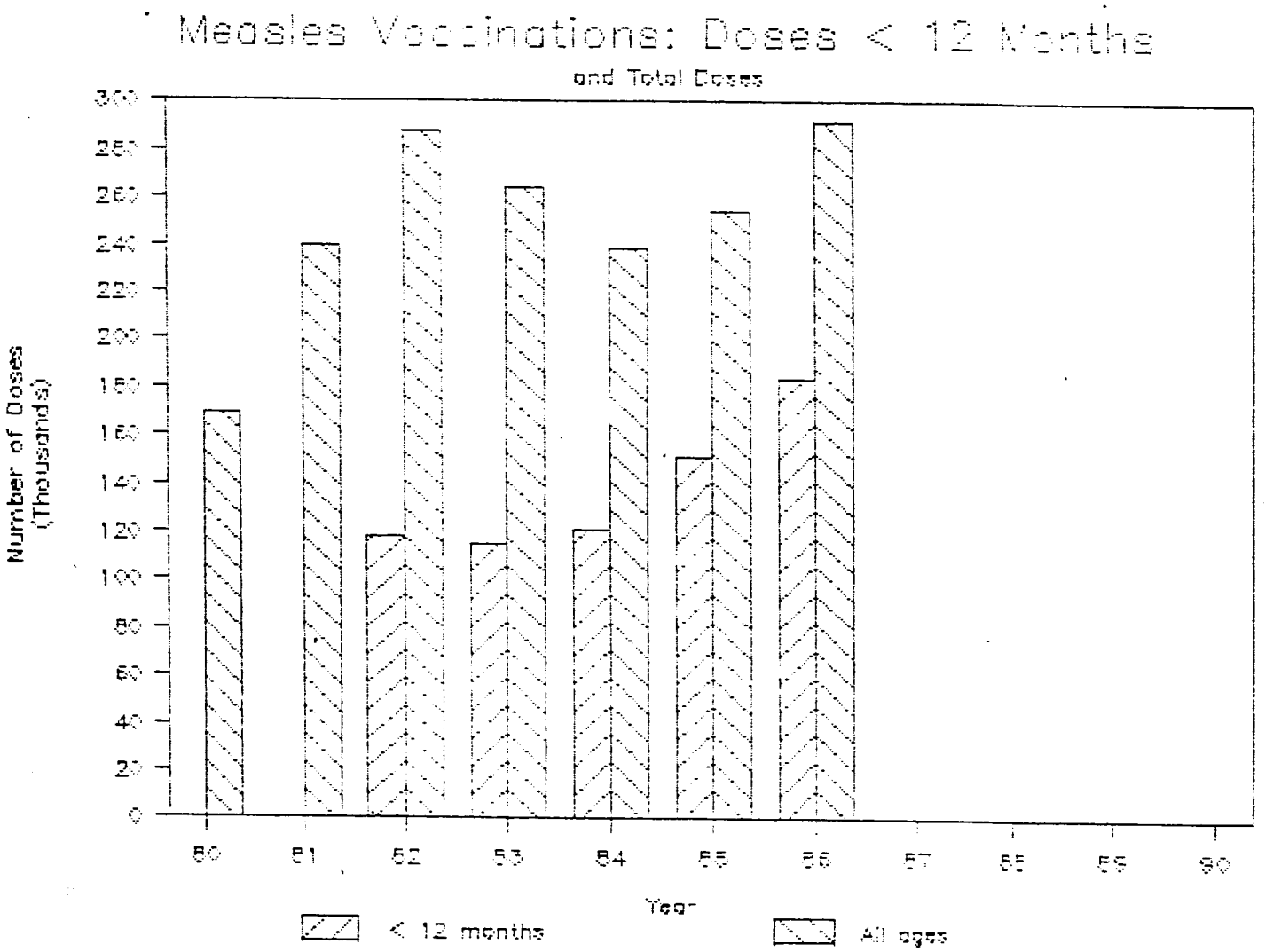
REGION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOT
KIGALI										1			1
GITARAMA	1			1	1						1		4
BUTARE					2								2
GIKONGORO													
CYANGUGU				1									1
KIBUYE					1								1
GISENYI	1											1	2
RUHENGERI					1		1	3		1		1	7
BYUMBA													
KIBUNGO				2	1	1	1		1/1	1			7/1
TOTAL	2			4	6	1	2	3	1/1	3	1	1	25/1

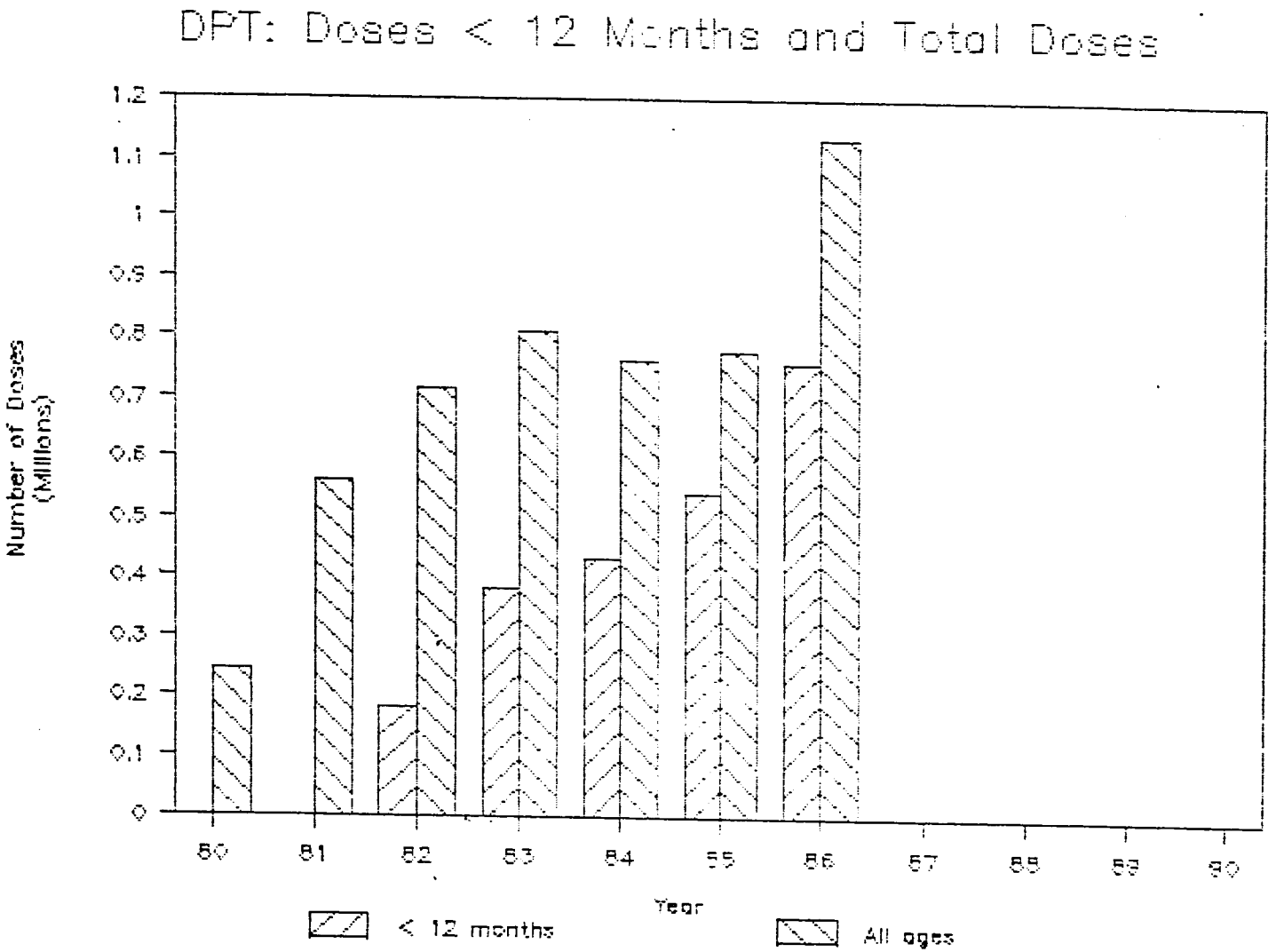

Polio Cases Reported by Year
Polio Cases
Year
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
80
81
82
83
84
85
86
87
88
89
90

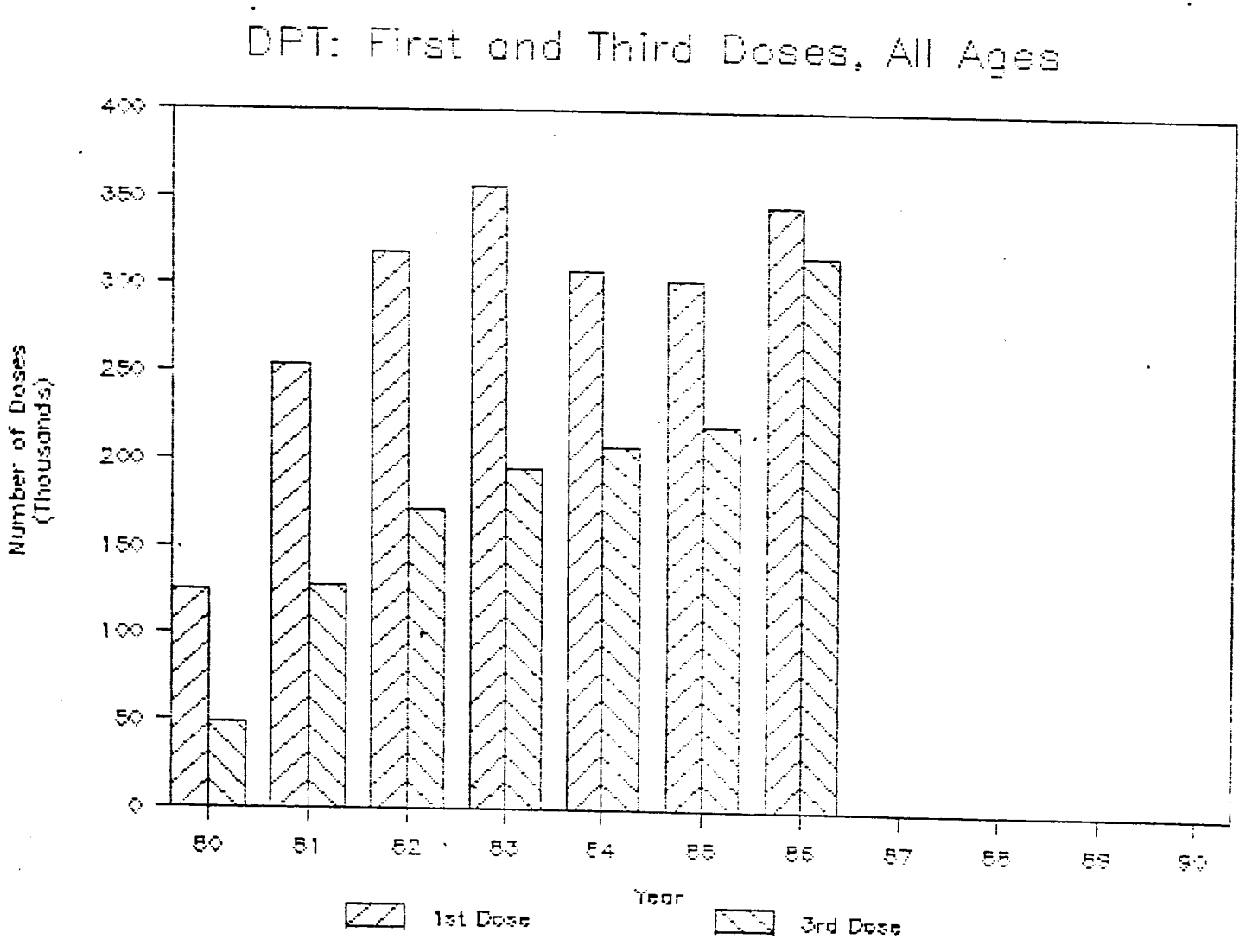

Pertussis Cases Reported by Year
Pertussis Cases (Thousands)
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
60
61
62
63
64
65
66
67
68
69
70
Year

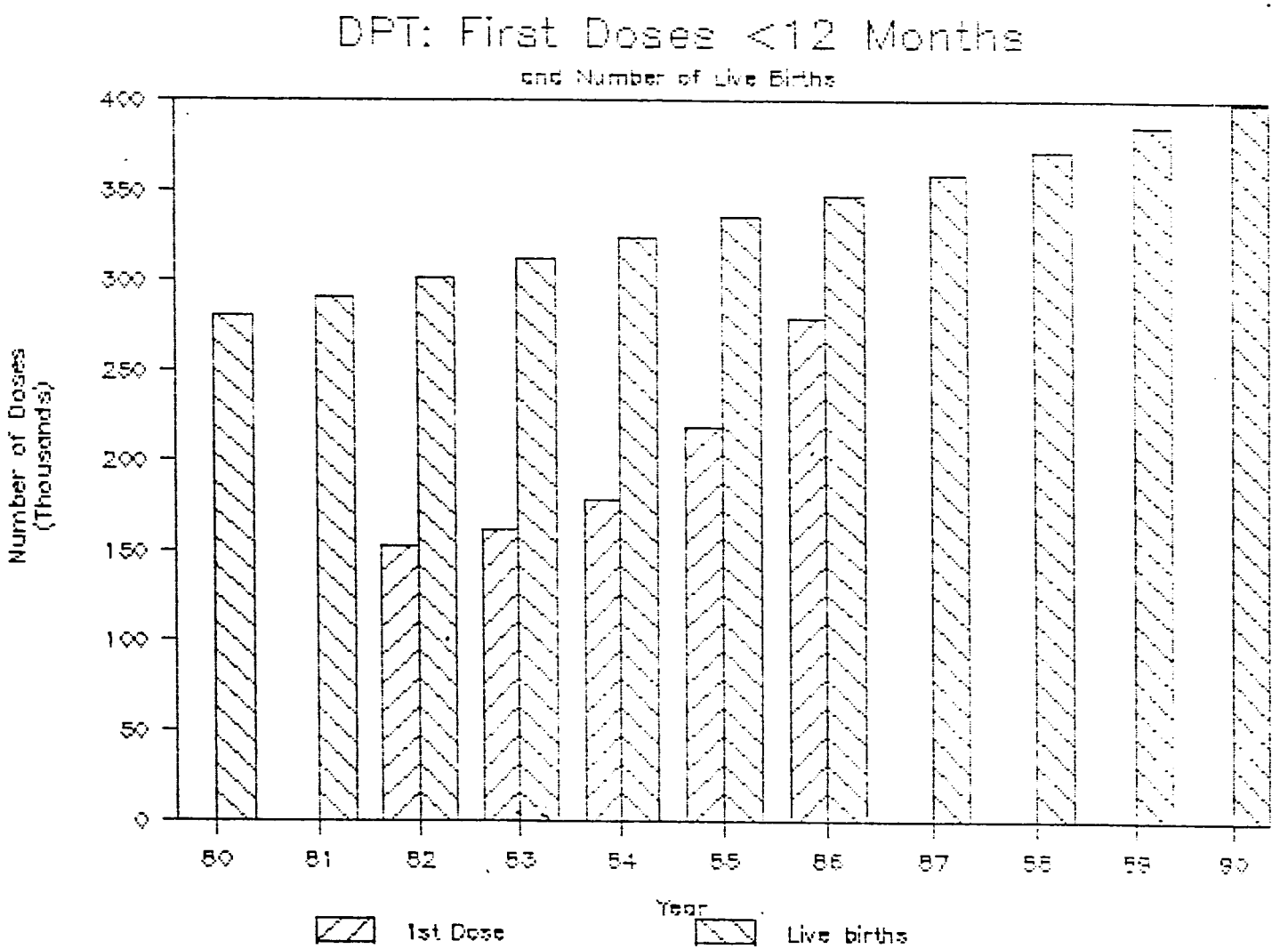

Neonatal and All Tetanus Cases
Reported by Year
Reported Cases
104
102
100
98
96
94
92
90
88
86
84
82
80
78
76
74
72
70
80
81
82
83
84
85
86
87
88
89
90
Year
All Ages

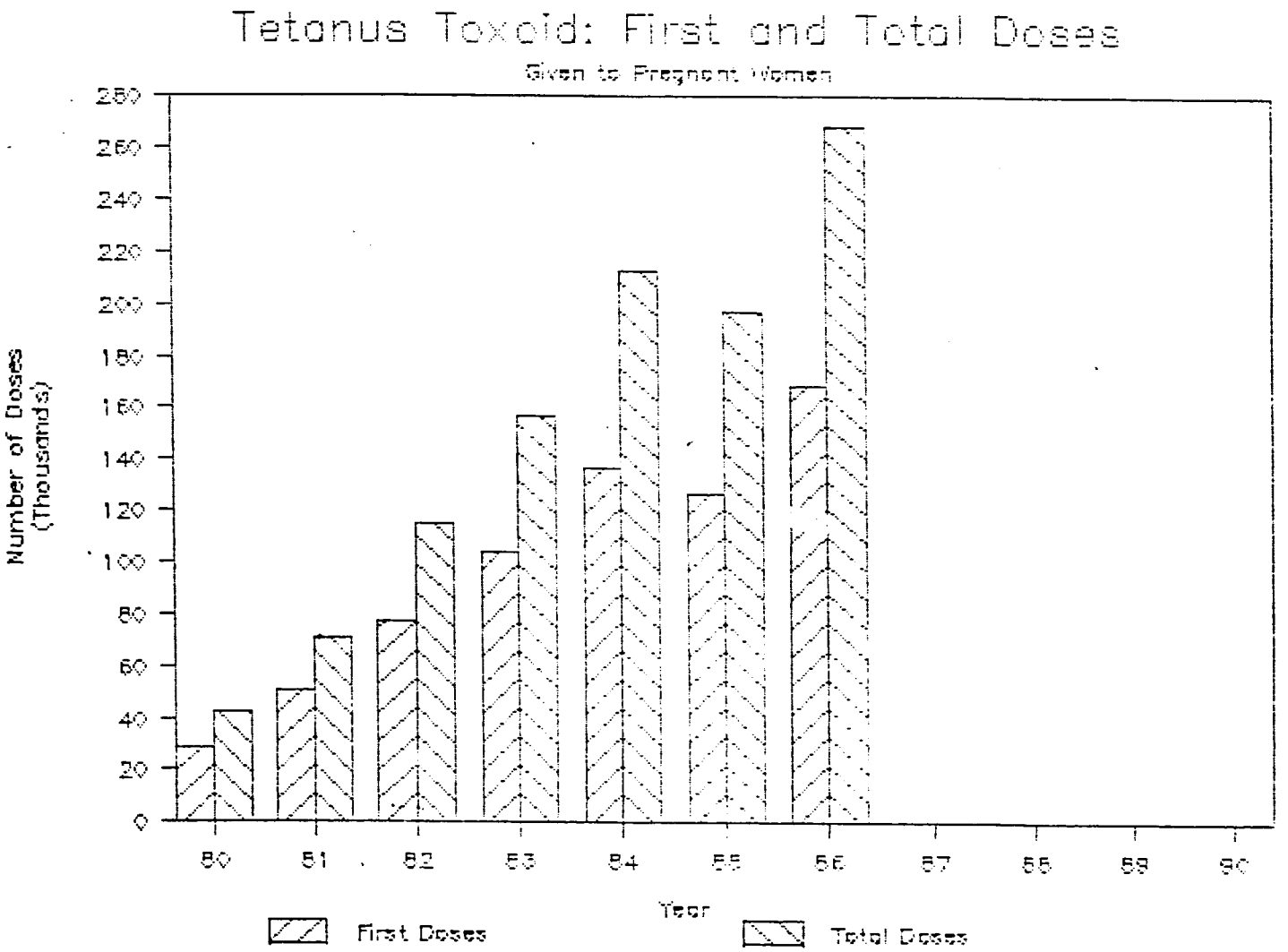

Measles Vaccinations: Doses < 12 Months
and Number of Live Births
Number of Doses (Thousands)
400
350
300
250
200
150
100
50
0
80
81
82
83
84
85
86
87
88
89
90
Year
< 12 months
Live births

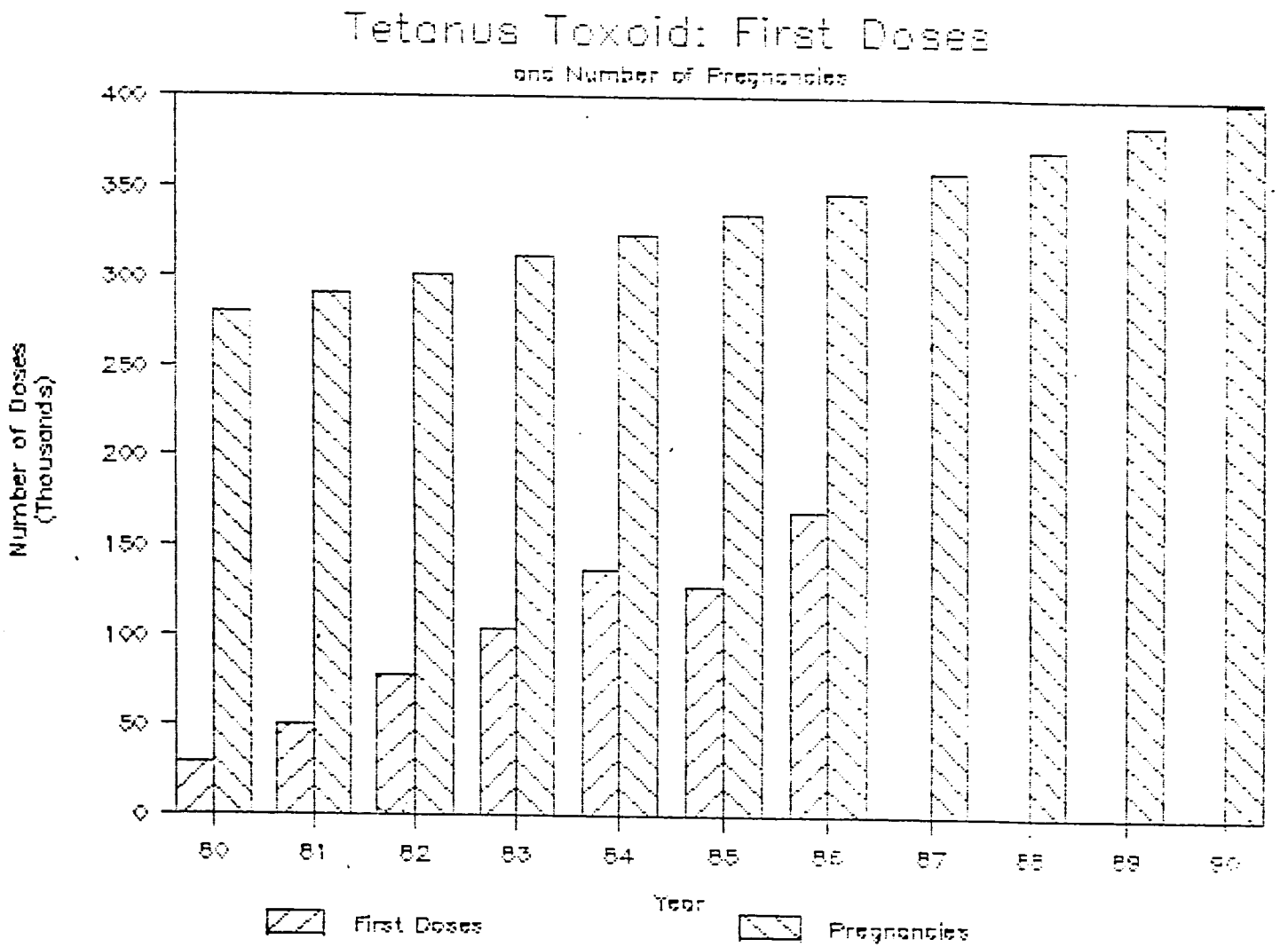

Measles Vaccinations: Doses < 12 Months
and Total Doses
Number of Doses
(Thousands)
0
20
40
60
80
100
120
140
160
180
200
220
240
260
280
300
80
81
82
83
84
85
86
87
88
89
90
Year
< 12 months
All ages

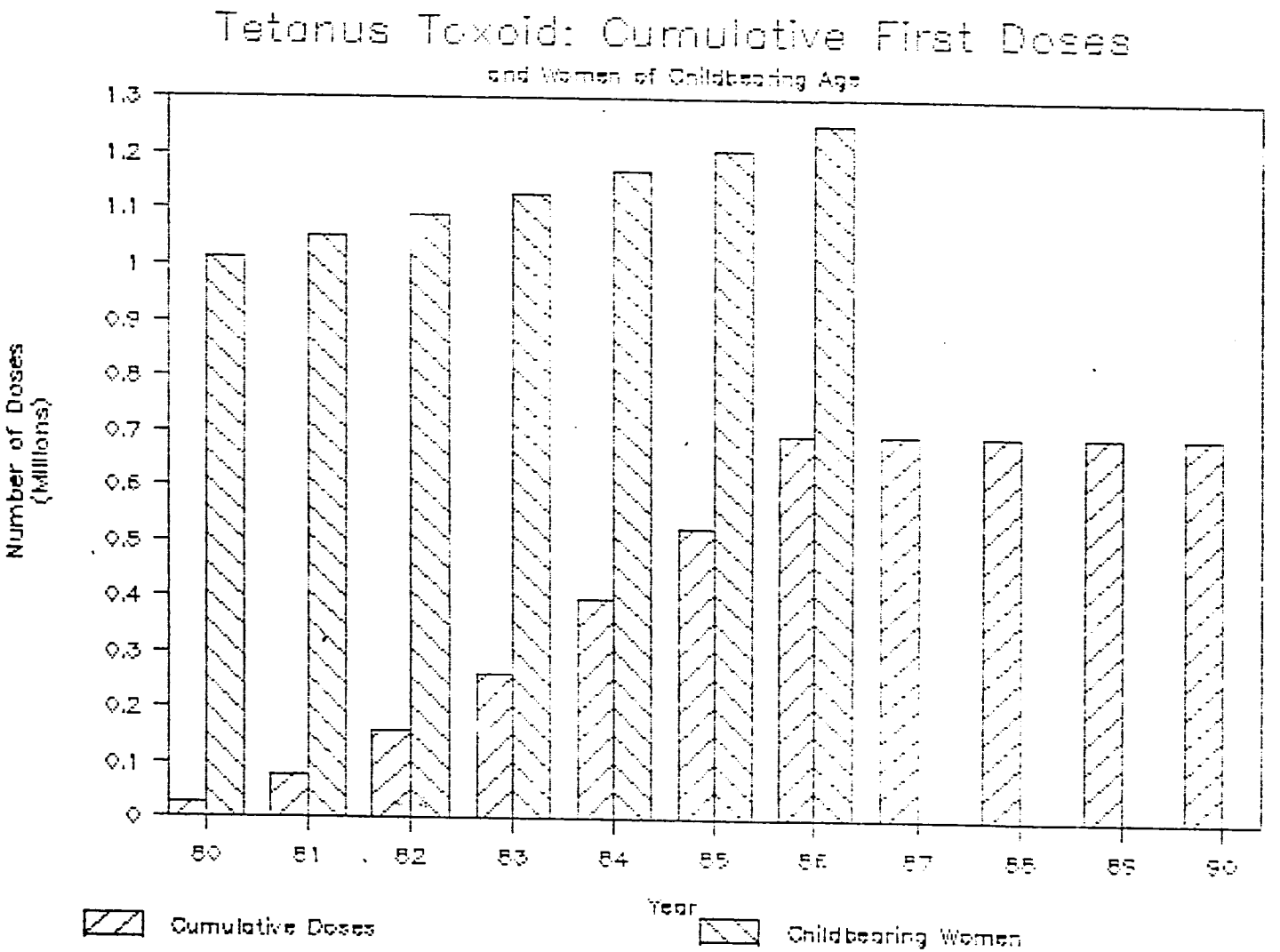

DPT: Doses < 12 Months and Total Doses
Number of Doses (Millions)
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
80
81
82
83
84
85
86
87
88
89
90
Year
< 12 months
All ages


DPT: First and Third Doses, All Ages
Number of Doses (Thousands)
400
350
300
250
200
150
100
50
0
80
81
82
83
84
85
86
87
88
89
90
Year
1st Dose
3rd Dose


DPT: First Doses <12 Months
and Number of Live Births
Number of Doses (Thousands)
400
350
300
250
200
150
100
50
0
80
81
82
83
84
85
86
87
88
89
90
Year
1st Dose
Live births


Tetanus Toxoid: First and Total Doses
Given to Pregnant Women
Number of Doses (Thousands)
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
80
81
82
83
84
85
86
87
88
89
90
Year
First Doses
Total Doses


Tetanus Toxoid: First Doses
and Number of Pregnancies
Number of Doses
(Thousands)
400
350
300
250
200
150
100
50
0
80
81
82
83
84
85
86
87
88
89
90
Year
First Doses
Pregnancies


Tetanus Toxoid: Cumulative First Doses
and Women of Childbearing Age
Number of Doses (Millions)
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
80
81
82
83
84
85
86
87
88
89
90
Year
Cumulative Doses
Childbearing Women

DIARRHEA SUMMARY

Control of Diarrheal Diseases by Oral Rehydration Therapy is in its earliest beginnings for Rwanda. The CCCD project has provided services in seven out of ten regions and identified difficulties towards implementation of effective ORT in health facilities. The National Coordinator for Diarrheal Diseases has developed the four year plan for CDD activities based on the country-specific problems encountered to date.

A. Increase of Availibility of SRO Packets by CCCD

	1985	1986	%Increase
Health Centers	45	175	380%
Hospitals	9	22	244%

B. Reported Cases Treated with SRO, IV, or SSS in Health Centers

REGION	CASES	TREATED BY ORS	TREATED BY IV	TREATED BY SSS
GIKONGORO	8,225	7,917 (96%)	166 (2%)	142 (2%)
KIBUNGO	9,367	9,367 (98%)	1	226 (2%)
CYANGUGU	9,195	9,025 (98%)	84 (1%)	86 (1%)
GITARAMA (4 MONTHS)	2,862	2,258 (79%)	4	11
BYUMBA (5 MONTHS)	721	710 (98%)	0	11

C. Quantities of ORS Distributed Per Region in 1986

GIKONGORO	22,500
CYANGUGU	53,125
KIBUNGO	16,935
BYUMBA	6,875
KIGALI	6,250
GITARAMA	35,000
KIBUYE	1,250
RUHENGERI	40,000
TRAINING/SUPERVISIONS	14,250
TOTAL PACKETS FOR 1986	196,185

D. Estimation of Children with Diarrhea for 1986

67% of population in CCCD regions = 869,508 children
x 2 episodes per year = 1,739,016 case
x 43% of cases seen by health worker = 747,777 total cases

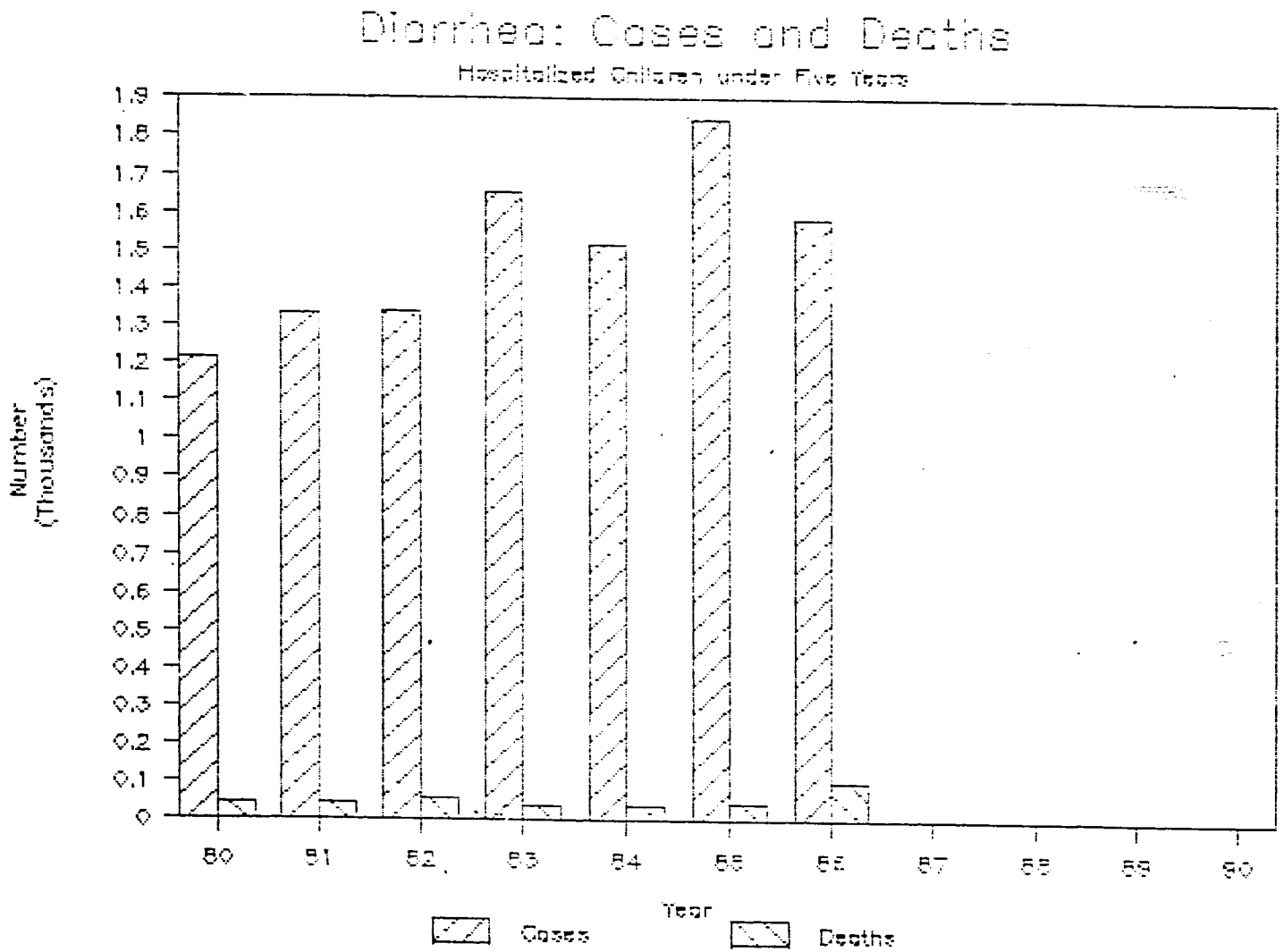
35

Points A, B, C, and D give evidence supporting the relatively low correct utilization of ORS for the management of diarrhea episodes. Supervision activities have shown that out of the seven CCCD regions, 64% of the nurses could properly prepare ORS. Only 51% could correctly fill out the treatment registers.

CCCD/Rwanda has made services available, completed a Knowledge, Attitudes and Practices Survey, completed two National Training Courses, and three Regional Courses, and developed a guide on how to establish an ORT unit based on the unit presently operating at the Kigali Hospital. Seven nurses aides have each recieved a two week "on-the'job" training course at the Kigali ORT unit and several examples of a simplified treatment chart are under consideration for printing. The National CDD four-year plan has been developed and is waiting final approval. A proposal to create an ORT Training Unit at the Butare Medical School's Hospital is under review. Baseline data has been collected both at the Butare and Kigali Reference Hospitals. Plans are underway for a National Campaign to promote the Control of Diarrheal Diseases in 1987. A research study on using sorghum solution to treat diarrhea has begun at the Kigali Hospital ORT unit.

It is felt with all the new activities starting up that CCCD/Rwanda will have a well-thought out program promoting ORT because of the integration between the Medical School, Health Education Offices, results from research to investigate early home therapy possiblities, useful KAP data, improved reporting systems, strong supervision skills, and adapted training modules treatment posters and the promotion of vaccination for sick children.

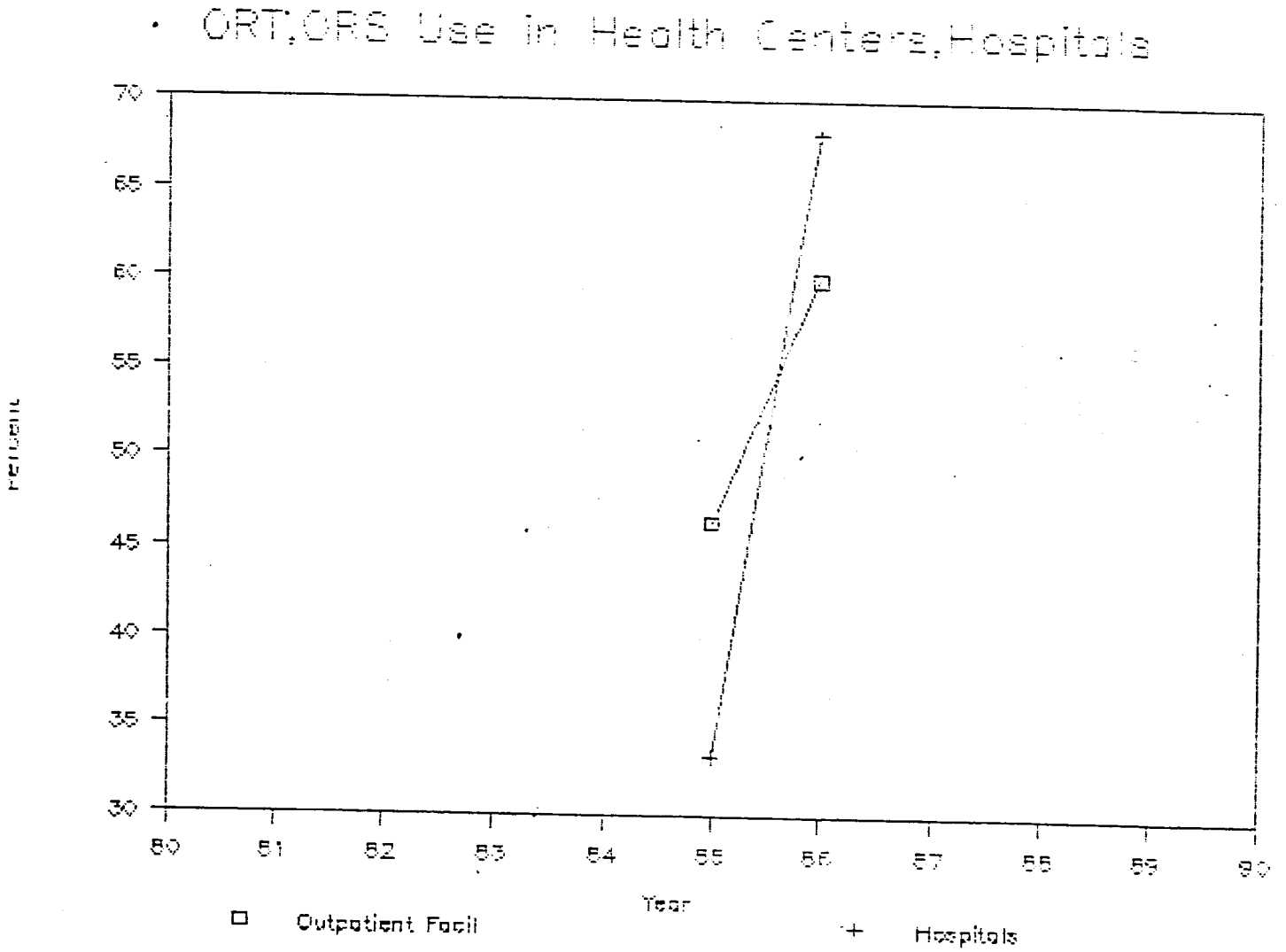
36

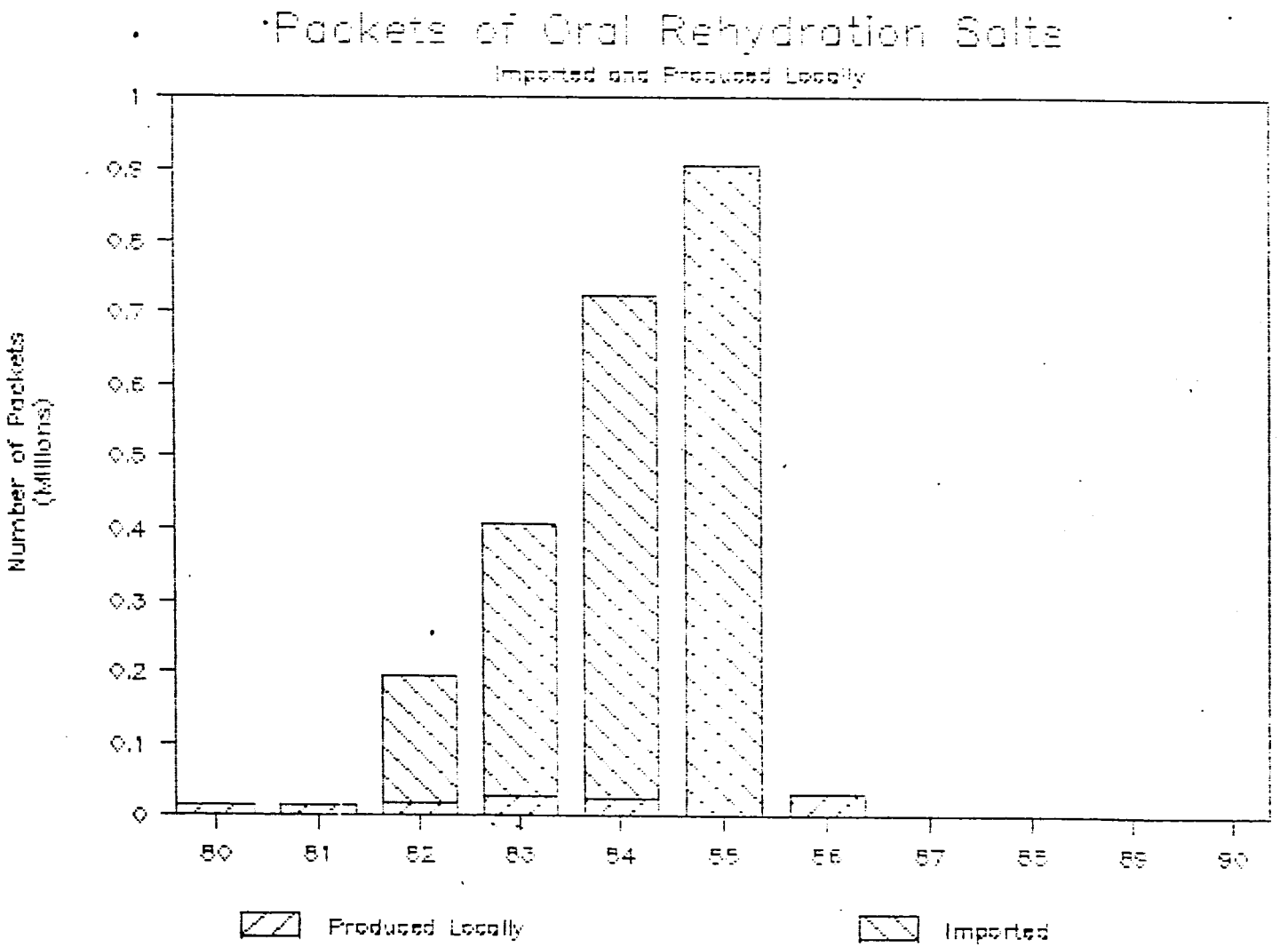

Diarrhea: Cases and Deaths
Hospitalized Children under Five Years
Number (Thousands)
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
80
81
82
83
84
85
86
87
88
89
90
Year
Cases
Deaths

Coverage Surveys: Diarrhea

Treatment of Diarrhea in Children Under Five Years of Age

Dates		Area	Number of Children	Children With Diarrhea in Last Two Weeks: Number of Cases of Diarrhea	Percent of Cases: Given Home Solutions	Given ORS Solution	Visited Health Facility
02	85	BUTARE	21	12	33	52	57
11	85	NATIONAL	860	469	16	28	42


ORT,ORS Use in Health Centers,Hospitals
70
65
60
55
50
45
40
35
30
Percent
80
81
82
83
84
85
86
87
88
89
90
Year
Outpatient Facil
Hospitals

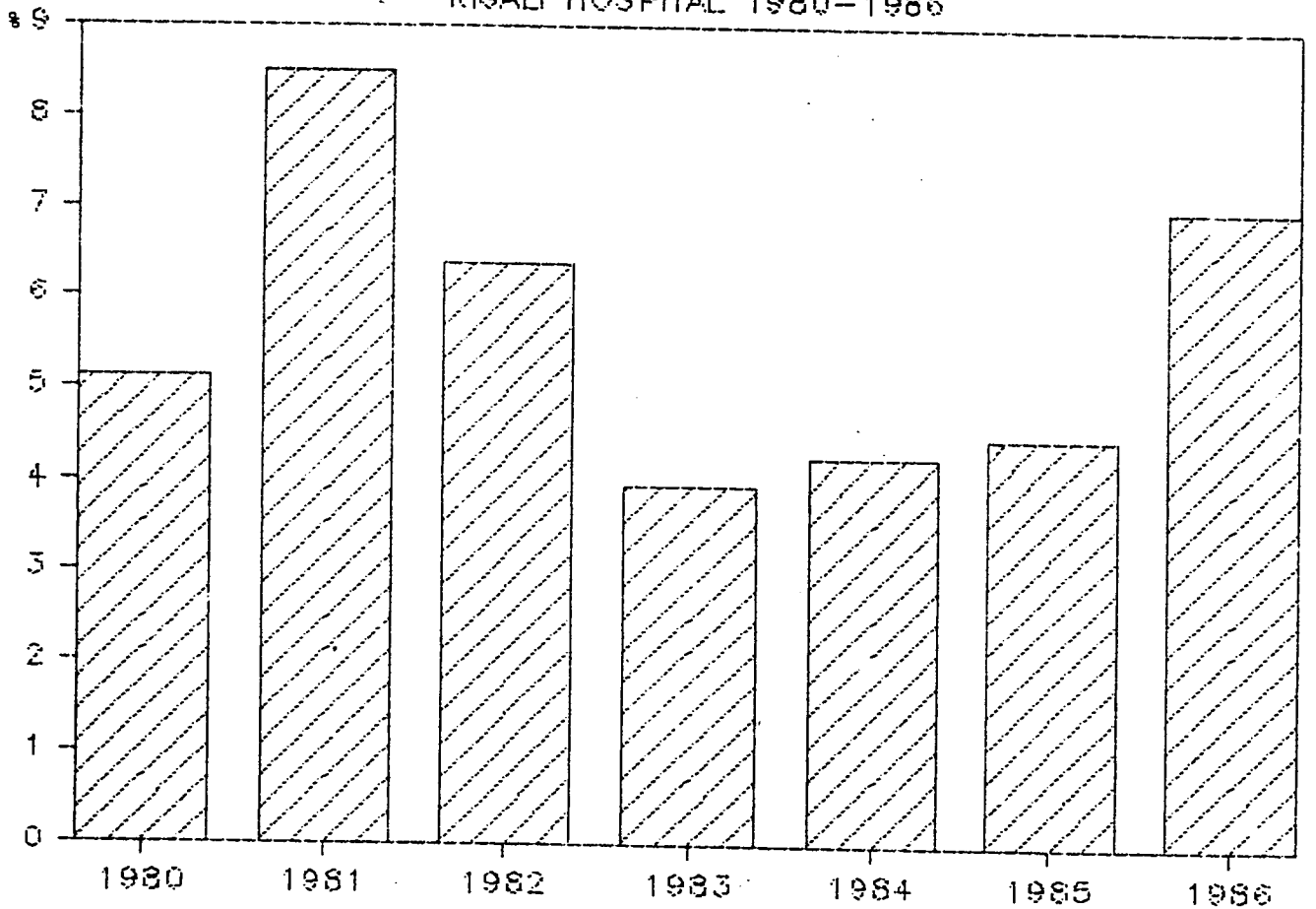

Packets of Oral Rehydration Salts
Imported and Produced Locally
Number of Packets (Millions)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
80
81
82
83
84
85
86
87
88
89
90
Produced Locally
Imported

DIARRHEA CASE FATALITY RATIOS
KIGALI HOSPITAL 1980-1986

	1980	1981	1982	1983	1984	1985	1986
0-5	2.6	9.5	6.6	6.0	3.7	7.0	5.9
6-11	7.1	5.6	5.3	2.7	2.1	3.1	8.0
12-17	5.2	9.5	8.3	4.4	6.7	3.9	4.7
18-23	0.0	16.7	3.6	3.6	0.0	0.0	9.4
24-35	3.6	20.0	10.0	4.0	6.3	10.4	11.1
36-47	0.0	7.1	9.1	0.0	6.7	0.0	7.7
48-59	0.0	9.1	0.0	0.0	0.0	0.0	0.0
>59	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS	5.1	8.5	6.4	3.9	4.3	4.5	7.0

DIARRHEA CASE FATALITY RATE

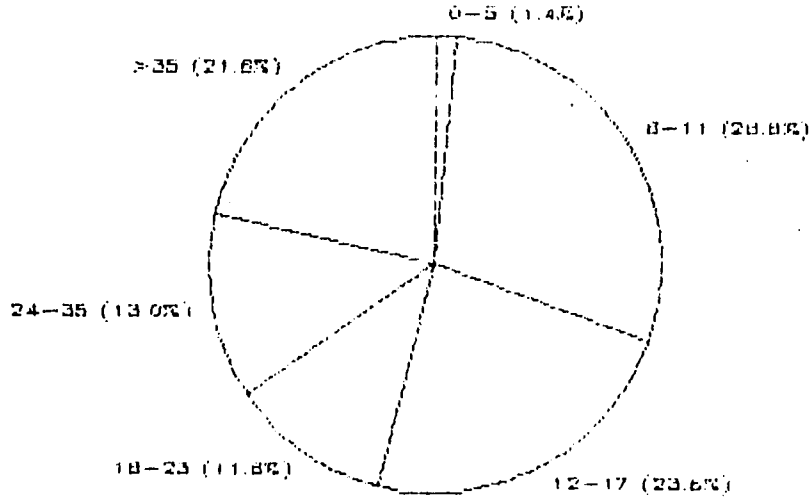
KIGALI HOSPITAL 1980–1986



	1980	1981	1982	1983	1984	1985	1986
CFR=	5.1	8.5	6.4	3.9	4.3	4.5	7.0

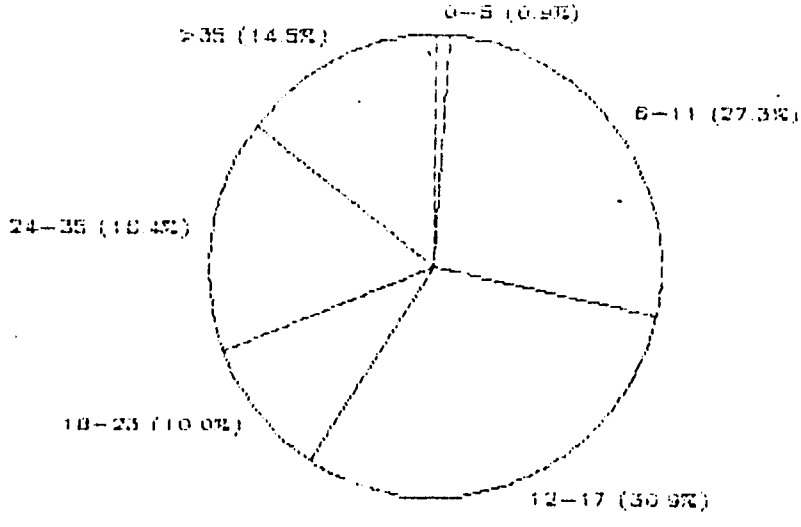
MEASLES CASE DISTRIBUTION / KIGALI

< 5 YEARS OLD, BY AGE IN MONTHS (HOSPITAL)



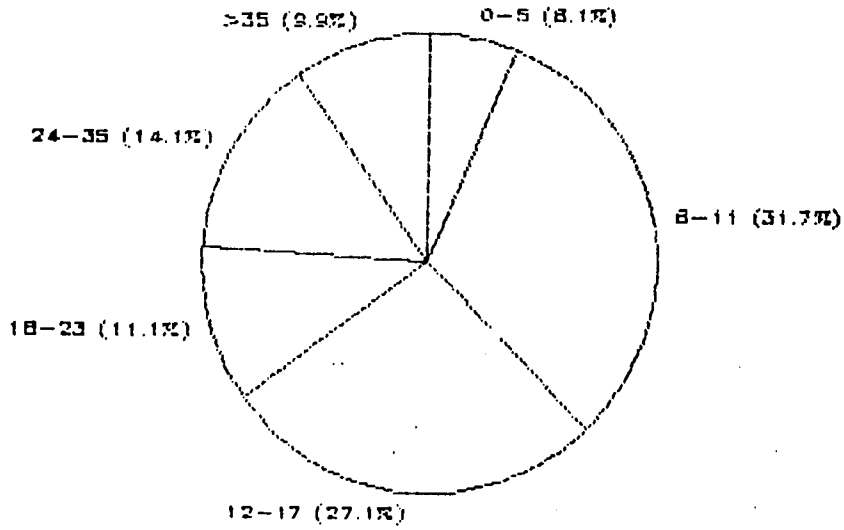
MEASLES % CASES DEAD / KIGALI

< 5 YEARS OLD, BY AGE IN MONTHS (HOSPITAL)



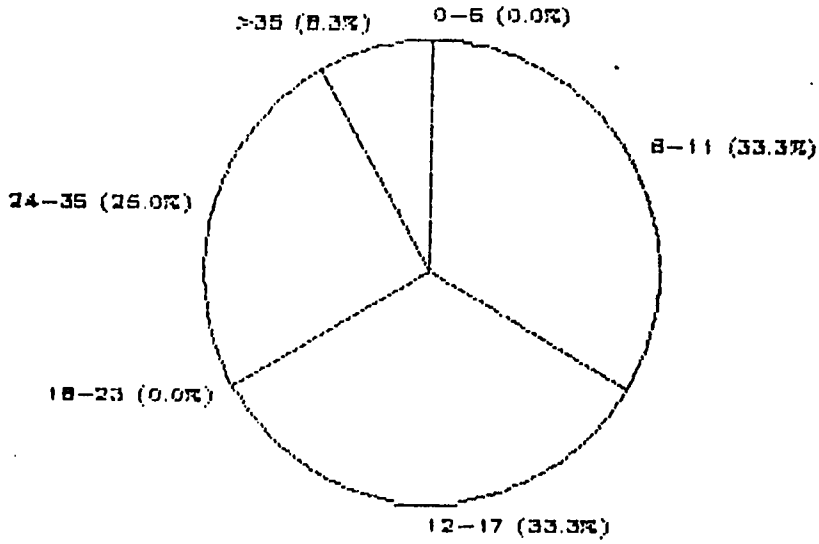
DIARRHEA CASE DISTRIBUTION / BUTARE (HOSPITAL)

< 5 YEARS OLD, BY AGE IN MONTHS



DIARRHEA % CASES DEAD / BUTARE (HOSPITAL)

< 5 YEARS OLD, BY AGE IN MONTHS



MALARIA SUMMARY

CCCD/Rwanda has completed its four-year plan for the control of malaria. All central office staff are trained in in-vivo study techniques as well as the taking and reading of thick and thin slides to detect malaria. This has increased supervision skills in the field. A National Coordinator has been appointed to the Central Offices and a new official treatment schedule has been adopted. A National Malaria Laboratory has been designated at the Kigali hospital for verification of slides from the field's ongoing surveillance of drug resistance.

CCCD/Rwanda has increased treatment of presumptive fevers in children under five years old from 43 health centers in 1985 to 86 health centers in 1986. Hospitals using chloroquine as treatment of first choice increased from 9 in 1985 to 15 in 1986. All facilities follow the three day treatment schedule recommended by W.H.O. (25 mg. chloroquine phosphate over 3 days.) Supervision activities have shown that of 173 nurses surveyed, 60% could correctly treat children with fevers according to the new national policy.

Prophylaxis given to pregnant women increased from 52 facilities to 80 facilities. CCCD decided to offer chloroquine to only four regions while waiting for further results from research on the effectiveness of this practice. Prophylaxis is offered in the four regions with reported high incidence of malaria.

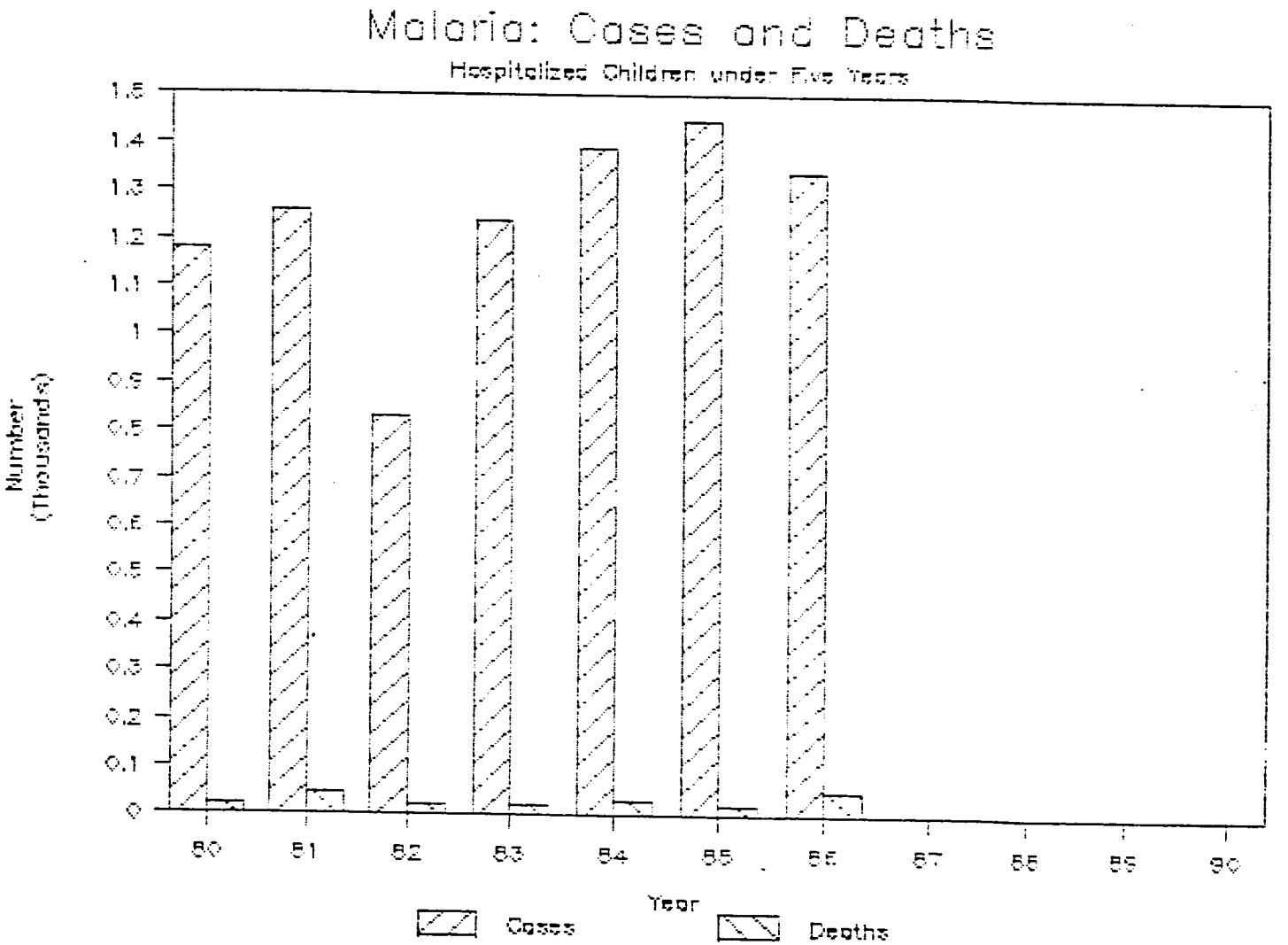
REPORTED MALARIA CASES AND TREATMENTS FOR 1986

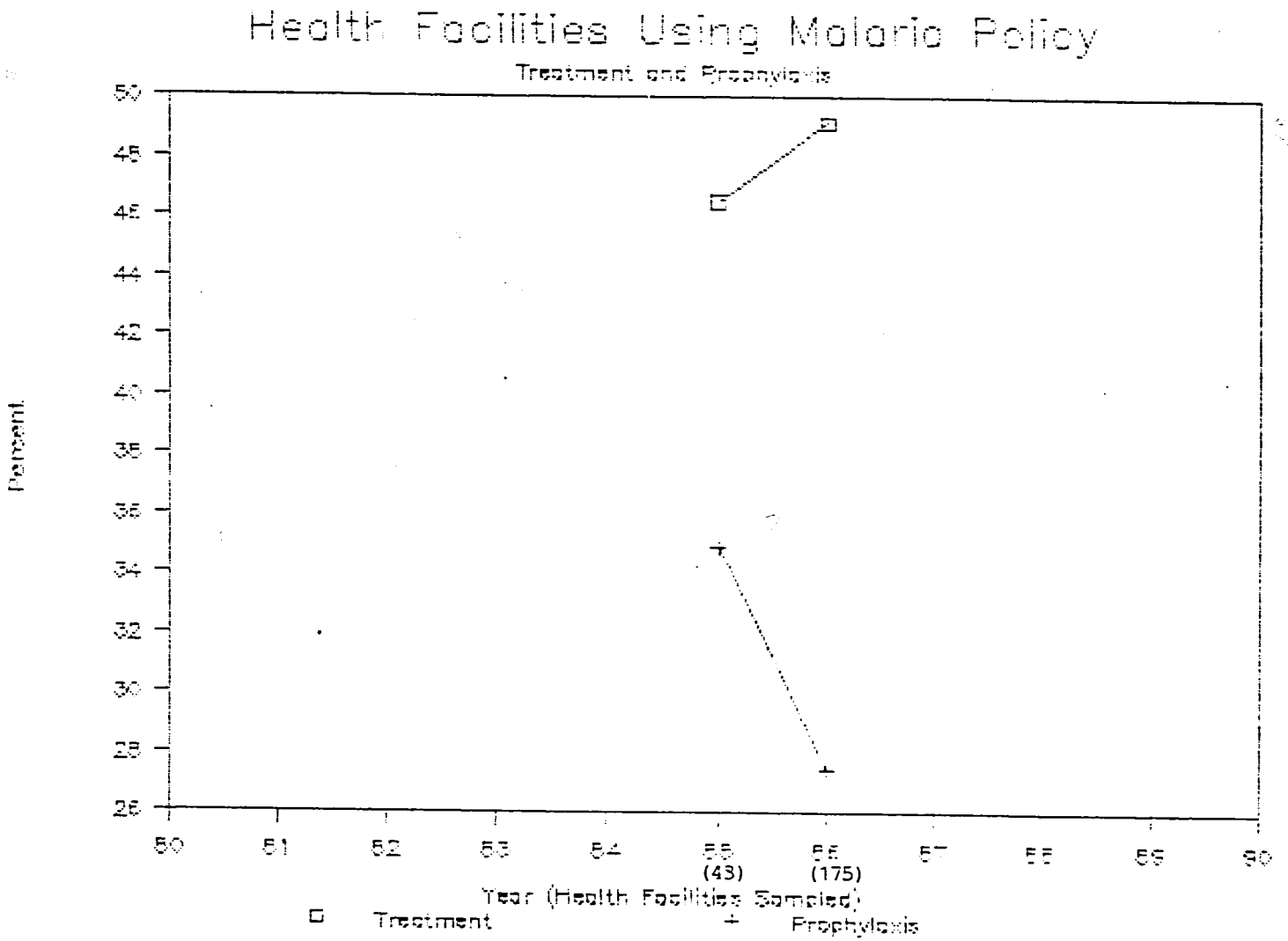
REGION	CASES	TREATMENT BY CHLOROQUINE	TREATMENT BY QUININE	OTHER ANTIMALARIALS
CYANGUGU	8681	7847 (90%)	494 (6%)	339 (3%)
GIKONGORO	3413	3265 (96%)	134 (4%)	14
KIBUNGO	23,503	22,471 (67%)	995 (29%)	132 (4%)
GITARAMA (4 MONTHS)	5229	4306 (91%)	332 (7%)	111 (2%)

ESTIMATION OF % OF PREGNANT WOMEN RECEIVING PROPHYLAXIS

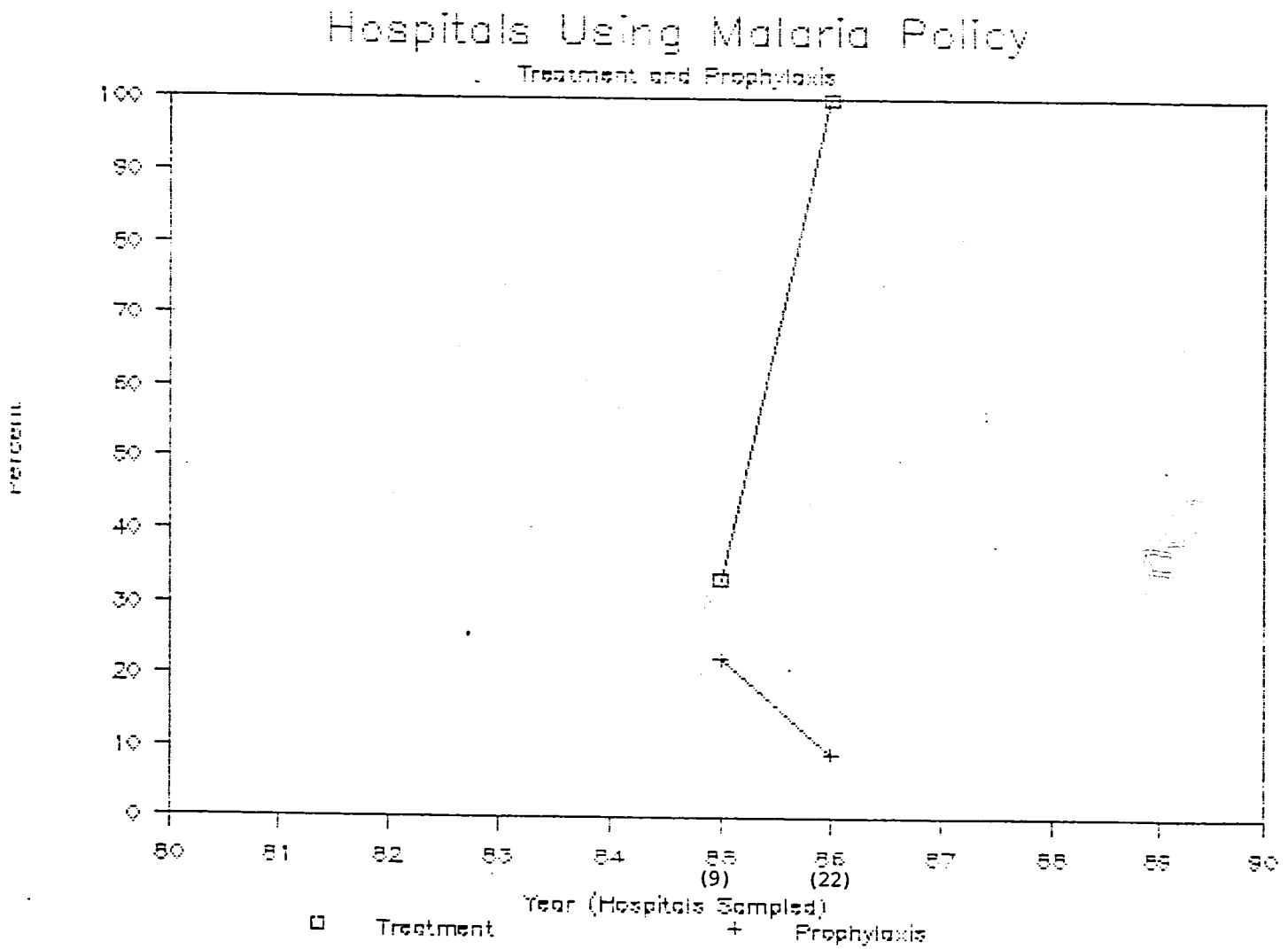
REGION	TARGET POPULATION	%1985	%1986
GIKONGORO	28,404	14%	21%
KIBUNGO	27,511	9%	32%
CYANGUGU	26,852	4%	21%
TOTAL 1986	82,767	9%	24%

CCCD carried out an evaluation of the efficacy of chloroquine therapy and of alternative treaments for p. falciparum in children under 5 years of age. The major objective was to compare the clinical side effects of the C25 and C50 dosage regimens in children under five years of age. It was of major concern to the MOHSA to arrive a safe, effective and economic national treatment schedule. Health facility records were also reviewed to determine compliance rates of children following a six day treatment schedule. The most important results of the study was the adoption of a new national policy of treatment using the W.H.O. recommendations of 25 mg. of chloroquine phosphate over 3 days. Also, the 16 medical personnel who assisted with the study were trained in in-vivo techniques, which will facilitate the MOHSA in carrying out long-term drug resistance surveillance in sentinal sites throughout the country. In-vitro studies were also conducted to determine the sensitivity of p. falciparum parasites in culture to chloroquine, quinine, mefloquine and pyrimethamine.


Malaria: Cases and Deaths
Hospitalized Children under Five Years
Number (Thousands)
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
80
81
82
83
84
85
86
87
88
89
90
Year
Cases
Deaths



**National Policy Instituted in November 1986
***Prophylaxis for Pregnant Women is a Policy only for Original 3 Pilot Regions

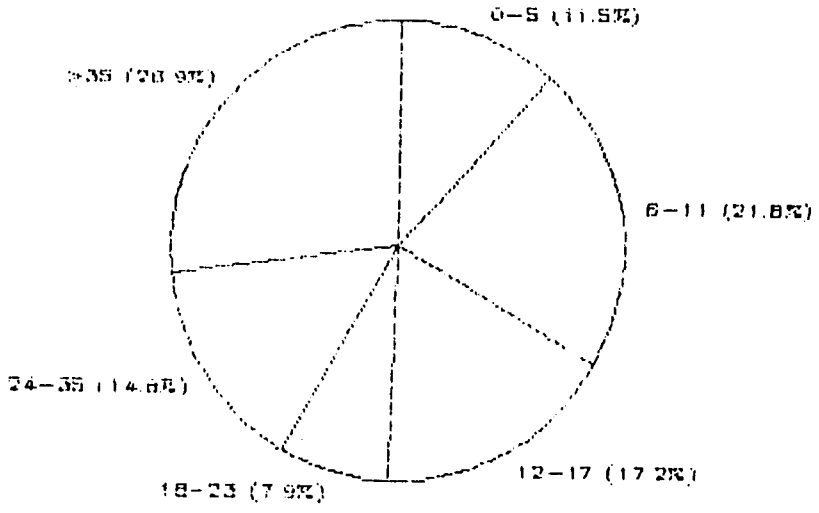


**National Policy Instituted in November 1986
***Prophylaxis for Pregnant Women is a Policy only for Original 3 Pilot Regions

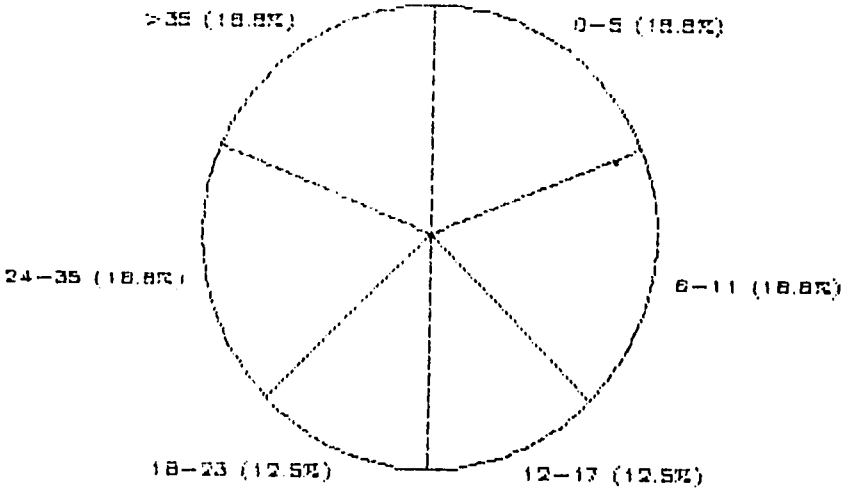
Coverage Surveys: Malaria
Treatment of Fever in Children Under Five Years of Age
Prophylaxis of Pregnant Women

Date		Area	Number of Children	Children With Fever in Last Two Weeks: Number of Fever Episodes	Percent Episodes RX	Percent Episodes RX Appropriately	Number of Women	Pregnant Women Percent Using Prophylaxis During Last Pregnancy: At all	Three or More Months
02	85	BUTARE	25	12	0	0	0	0	0
11	85	NATIONAL	868	503	41	67	0	0	0

MALARIA CASE DISTRIBUTION / KIGALI
< 5 YEARS OLD, BY AGE IN MONTHS (HOSPITAL)

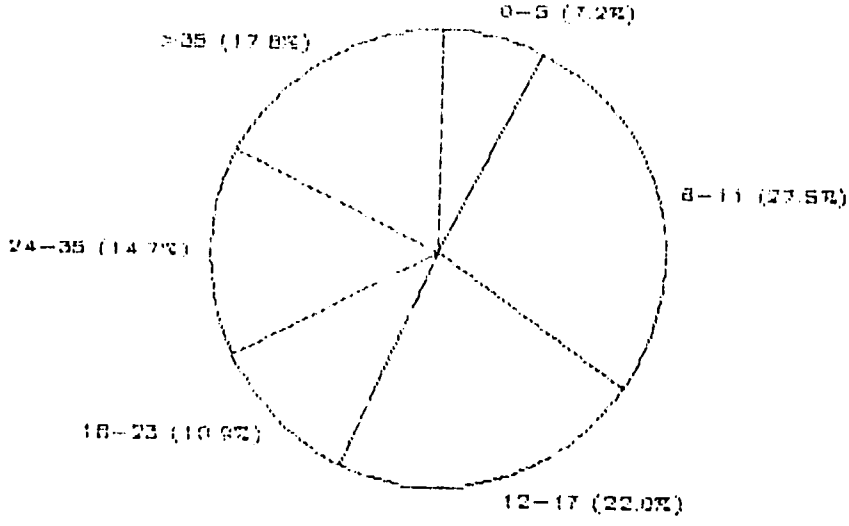


MALARIA % CASES DEAD / KIGALI
< 5 YEARS OLD, BY AGE IN MONTHS (HOSPITAL)



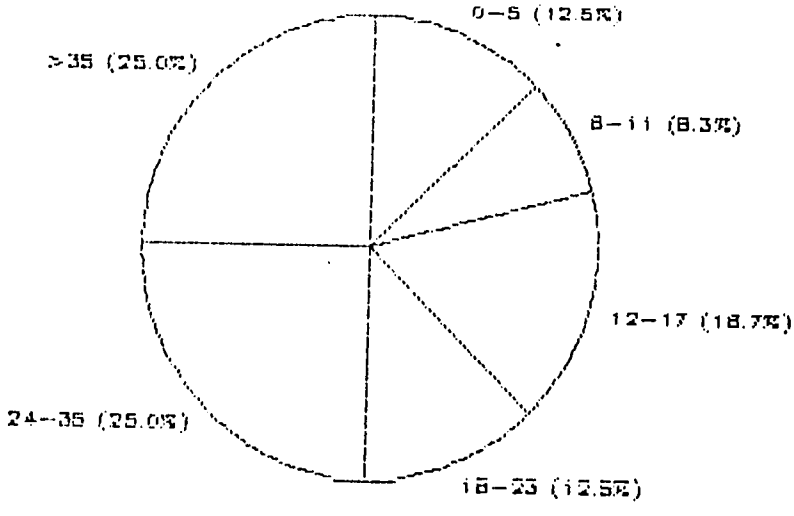
MALARIA CASE DISTRIBUTION / BUTARE (HOSPITAL)

< 5 YEARS OLD, BY AGE IN MONTHS



MALARIA % CASES DEAD / BUTARE (HOSPITAL)

< 5 YEARS OLD, BY AGE IN MONTHS



MINISAPASO

CCCD/PEV

TRAITEMENT DU PALUDISME

Personne avec fièvre

Chloroquine
ou
Amodiaquine
25 mg/kg en 3 jours :
- 10 mg/kg le 1er jour
- 10 mg/kg le 2è jour
- 5 mg/kg le 3è jour

↓

72 heures

Fièvre + → G.E.

Fièvre -: malade guérri

G.E.+ → Sulfadoxine-Pyrimethamine

G.E.-: paludisme guérri

1 comprimé/20 kg en dose unique

↓

72 heures

Fièvre + → G.E.

Fièvre -: malade guerri

G.E.+ → Quinine p.o.

G.E.-: paludisme guérri

20 mg/kg/jr en 3 prises pendant au moins 5 jours

Accès pernicieux

Malade conscient → Quinine p.o.
20 mg/kg/jr en 3 prises
pendant au moins 7 jrs

Malade inconscient

Convulsions sans coma → Quinine IV
10 mg/kg par prise
dilué à 1 gr/l administré pendant 2 à 4 h.
dose à répéter toutes les 12 heures
↓
Si récupération.

Coma → Quinine IV
Dose d'attaque:
20 mg/kg dilué à 1gr/l, administré pendant 4 heures.

HEALTH INFORMATION SYSTEMS

CCCD/Rwanda has developed a temporary parallel system of disease surveillance for the CCCD target diseases. The data presently gathered and reported by the MOHSA is often incomplete and it is estimated that 5% of actual deaths occuring are reported. There is also no age specific disease reporting. CCCD designed a system to gather information not only for surveillance but for monitoring the progress of implementation of the new project interventions. Each health facility in the seven pilot regions keeps a register of daily consultations on malaria, diarrhea,and EPI activities. During supervision it is clear whether the medical personnel can correctly treat cases according to the information in the registers. Monthly reporting forms were developed for the target diseases which are collected by the Regional Supervisor and compilation is done by the Chief of Surveillance at the CCCD Central Office. Monthly forms include the situation of stock as well as data on chemoprophylaxis of pregnant women in four regions. The new Supervision activities gives further data on the ability to carry out CCCD objectives. The system of register record-keeping and examples of the monthly forms as well as the major evaluation points of a supervisory field visit are on the following pages.

REGISTER RECORD-KEEPING BY HEALTH FACILITIES

DATE:

ORT

NAME	AGE	WEIGHT	DEGREE	DAY1 ORS	DAY2 ORS	DAY3 ORS	OBSERVATIONS: ANTIBIOTICS IV OR DECEASED	VAX Y/N

MALARIA

NAME	AGE	WEIGHT	SLIDE RESULTS	DAY1	DAY2	DAY3	OBSERVATIONS 2ND RX, ETC.	VAX Y/N

HEALTH FACILITY EVALUATION CRITERIA

EPI:
1. NUMBER OF VACCINATION SESSIONS PER WEEK
2. SOCIAL MOBILIZATION (PUBLICITY)
3. STERILIZATION PRACTICES (ONE NEEDLE ONE CHILD)
4. VACCINATION AT EVERY CONTACT
5. REGULAR SUPERVISION
6. COLD CHAIN MAINTENANCE
7. INJECTION EQUIPMENT ONLY FOR EPI
8. EPI CALENDER CORRECTLY FOLLOWED
9. CORRECT REGISTRATION DURING SESSIONS
10. EDUCATION DURING CONSULTATIONS (PROMOTE RETURN)

ORT:
1. REHYDRATION IN CONSULTATION WAITING ROOM
2. WEIGHING OF CHILDREN
3. QUALITY OF PHYSICAL EXAM
4. EVALUATION OF DEGREE OF DEHYDRATION
5. QUALITY OF HEALTH TALKS
6. TREATMENT REGISTERS CORRECTLY FILLED OUT
7. PACKET DILUTION CORRECT
8. MAINTENANCE TREATMENT; FOLLOW-UP OF DEGREE B & C
9. CORRECT USAGE OF ANTIBIOTICS

MALARIA:
1. WEIGHING OF CHILDREN
2. THICK SMEAR TAKEN
3. RELIABILITY OF SLIDE RESULTS
4. TIME INTERVAL BEFORE HAVING SLIDE RESULTS
5. TREATMENT REGISTERS CORRECTLY FILLED OUT
6. STERILE LANCETTES
7. TREATMENT GIVEN AFTER DRUG FAILURE
8. ADEQUATE CHLOROQUINE STOCK

MINISTERE DE LA SANTE PUBLIQUE
ET DES AFFAIRES SOCIALES

CCCD/PEV

REGION SANITAIRE _____

ANNEE _____

MOIS _____

PALUDISME CHEZ LES ENFANTS DE MOINS DE 5 ANS

RAPPORT MENSUEL

GROUPE D'AGE	CAS	TRAITEMENTS										DECES	TRANSFERT	
		CHLOROQUINE				AMODIAQUINE				FANSIDAR	QUININAX QUININE			OBSERVAT
		C1	C2	C3	TOTAL	A1	A2	A3	TOTAL					
0-1 AN														
1-2 ANS														
2-3 ANS														
3-4 ANS														
4-5 ANS														
TOTAL														

CHIMIOPROPHYLAXIE ANTIPALUSTRE CHEZ LES FEMMES ENCEINTES

NOMBRE DE FEMMES ENCEINTES _____

NOMBRE DE SEMAINES _____

NOMBRE DE COMPRIMES DE CHLOROQUINE DISTRIBUES _____

MINISTERE DE LA SANTE PUBLIQUE
ET DES AFFAIRES SOCIALES
CCCD/PEV

REGION SANITAIRE _____
ANNEEE _____
MOIS _____

CHIMIOPROPHYLAXIE ANTIPALUSTRE CHEZ
LES FEMMES ENCEINTES

RAPPORT MENSUEL

		NOUVEAUX CAS	ANCIENS CAS	TOTAL
	NOMBRE DE FEMMES ENCEINTES :			
I.	NOMBRE DE SEMAINES :			
	NOMBRE DE COMPRIMES CHLORO :			
	NBRE DE NAISSANCES VIV.A TERME:			
II.	NOMBRE D'AVORTEMENTS :			
	NOMBRE DE PREMATURES: Nés vivants:			
	morts-nés :			
	POIDS MOYEN A LA NAISSANCE :			

ET DES AFFAIRES SOCIALES
PROJET CCCD/PEV
REGION SANITAIRE:
ANNEE:
MOIS:

FICHE DE STOCK DE CHLOROQUINE

POPULATION CIBLE								
ENFANTS < 5 ANS	FEMMES ENCEINTES	QUANTITE REQUISE	STOCK AU 1ERE JOUR DU MOIS	QUANTITE RECU	QUANTITE DISTRIBUE	QUANTITE AU DERNIER JOUR	% CHLOROQUINE UTILISE	OBSERVATIONS

ETAT DU STOCK DE SACHETS REHYDRATANTS

POPULATION CIBLE								
ENFANTS < 5 ANS	FEMMES ENCEINTES	QUANTITE REQUISE	STOCK AU 1ERE JOUR DU MOIS	QUANTITE RECU	QUANTITE DISTRIBUE	QUANTITE AU DERNIER JOUR	% SACHETS UTILISE	OBSERVATIONS

MINISTERE DE LA SANTE PUBLIQUE
ET DES AFFAIRES SOCIALES

CCCD/PEV

DIARRHEE CHEZ LES ENFANTS DE MOINS DE 5 ANS
RAPPORT MENSUEL

REGION SANITAIRE_____

ANNEE_____

MOIS_____

GROUPES D'AGES	CAS				TRAITEMENTS					DECES		TRANSFERT	OBSERVATION
	TOTAL	PLAN A	PLAN B	PLAN C	SRO	IV	SSS	AB	TOTAL	DIARRHEE	AUTRE		
0-1 AN													
1-2 ANS													
2-3 ANS													
3-4 ANS													
4-5 ANS													
TOTAL													

HEALTH EDUCATION

The MOHSA Health Education division is located in the directorate general for Social Affairs and has an experienced Chief of Health Education. KAP surveys concerning the attitudes of mothers concerning diarrhea, malaria, vaccination (particularly measles) have been carried out by the Health Education Division under the CCCD project. The results are being used by the Health Education Division.

In 1986, a mini campaign for measles vaccinations was conducted using the three pronged strategy of radio broadcasts, 500,000 flyers distributed to mothers and 3000 large vaccination posters, and eight lay messages on vaccinations as the subject for health center talks during six months. Eight newspapers supported the campaign with two articles each week for three months. Also, all radio broadcasts reserved for the MOHSA were devoted to the subject of vaccinations.

PRELIMINARY RESULTS OF MINI MEASLES VACCINATION CAMPAIGN

-80% OF THE WOMEN INTERVIEWED KNEW OF THE FLYER
-39% OF ABOVE WOMEN ACTUALLY RECIEVED THE FLYER
-66% OF ABOVE GROUP CAN EXPLAIN WHAT IT MEANS

-32% OF THE WOMEN HEARD MESSAGES ON THE RADIO
68% OF THE WOMEN DO NOT OWN RADIOS

65% HAVE SEEN THE LARGE POSTER AT THE HEALTH CENTER
-48% KNEW WHAT THE MESSAGE WAS ON THE POSTER

-80% OF THE WOMEN WERE TOLD WHEN TO RETURN FOR VACCINATIONS BY THE HEALTH WORKER
-50% HEARD HEALTH CENTER TALKS
-VERY FEW WOMEN KNEW THE AGE FOR VACCINATIONS

The above results are only preliminary. The final evaluation report will be essential in planning for the public awareness campaign to promote ORT in 1987.

Health Education

Type of Activity	Dates		Target Type	Population	CCCD Inputs	Remarks/Results
				0		
ASSMT/STRAT DEV	05	85	CCCD	0	TECH ASSISTANCE	PRELIMINARY PLANS MADE FOR KAP SURVEYS AND DEVELOPMENT OF PUBLIC EDUCATION MATERIALS.
ASSMT/STRAT DEV	11	85	CDD,MALARIA	225	TECH ASSISTANCE	NATIONAL KAP SURVEY ON BEHAVIOR AND ATTITUDES TOWARDS DIARRHEA AND MALARIA
MASS MEDIA	07,08	86	MEASLES	350000	TECH ASSISTANCE	PLANNED,IMPLEMENTED, EVALUATED FOR MINI-CAMPAIGN FOR 6 MONTH PERIOD. CONDUCTED FORMATIVE RESEARCH RELATED TO EPI DISEASES FOR FORMULATION OF MASS MEDIA INTERVENTIONS INCLUDING DEVELOPMENT OF POSTERS, FLYERS AND RADIO PROGRAMS.

TRAINING

The Mid-Level Manager's training course was completed for the three pilot regions in 1985, and a similar course was carried out for the four new regions in 1986. CCCD Supervisors (previously EPI supervisiors) have been trainined for all 7 regions, as well as other health personnel. Job Aids materials were revised in 1986 and have been made availhalbe.

Regional workshops have been held in the original 3 pilot regions. Six participants have been trained at the ORT unit at the Kigali hospital. 16 particpants recieved training at a two-day workshop on malaria and in-vivo techniques. EPI gave a 3 week course for the Directors of Hospitals and retraining for the EPI supervisors.

CCCD has established a "Training Room" with all materials to conduct the various courses. This is located at the National Pharmacy along with all other CCCD materials.

A session on Sterilization Practices and good Injection Practices has been included in all courses. Supervision activities are in the form of "on-the-job" training for each individual health center. This measures the progress towards CCCD objectives and tailors the project to each center's resources. It is also a means for measuring the effectiveness of training already received and alerts the CCCD office to the weakenesses of the courses given. In November, a CCCD staff member was named Chief of Training. He organizes all training activities.

Listing of Training Courses

Date		Course Title	Personnel	Number of Participants	Course length Days
06	85	NATIONAL MLM CCCD COURSE	MID-LEVEL MANAGERS	29	16
11	86	EPI NATIONAL TRAINING	MID-LEVEL MANAGERS	33	12
12	86	REGIONAL TRAINING CYANGUGU	PERIPHERAL HEALTH STAFF	21	4
01	86	REGIONAL TRAINING GIKONGORO	PERIPHERAL HEALTH STAFF	20	4
03	86	REGIONAL TRAINING KIBUNGO	PERIPHERAL HEALTH STAFF	23	4
06	86	NATIONAL MLM CCCD COURSE	MID-LEVEL MANAGERS	49	12
08	86	MALARIA IN-VIVO WORKSHOP	MID-LEVEL MANAGERS	16	2

Training

Type of Personnel	Training Activities: Number of Participants Trained	Training Activities: Number of Person-Days of Training	Life-of-Project Training Activities: Cumulative Number of Participants Trained	Life-of-Project Training Activities: Percent Life-of-Project Target Realized
Peripheral Health Staff	64	256	64	10
Mid-Level Managers	127	1400	127	127
Senior Level Officials	0	0	0	0
OTHERS: (specified)				

OPERATIONAL RESEARCH

A National Review Board was established to approve the research protocols and budgets as they are submitted. The Committee consists of four physicians. Guidelines for operational research proposal review is as follows:

--The Technical Officer reviews subject appropriateness with the CCCD Director

--The Committee is called to review proposals as they come in.

--criteria for judgement is based on the following areas:

-appropriateness

-feasibility

-cost effectiveness of budget

-timeliness; how well the study will fit into CCCD's objectives and plan of operations

-how well the results can be integrated into the project

-if the study topic keeps within the needs and priorities of the MOHSA/Rwanda

After review, the proposal will undergo necessary revisions and then be reviewed by the two epidemiologists in the country. The Technical Officer will then send the proposal to CDC/Atlanta with estimated funding needs. Upon final approval the contract will be issued and initial start-up funds will be requested.

Funds for Research and Evaluation allocated to the CCCD bilateral funds total 180,000. No operational research projects have been funded bilaterally to date, yet one project has been completed by regional funding. Because of the In-vivo research, and the health education evaluation there are approximately 154,000 left in this line item.

Operations Research

Title of Protocol	Principal Investigator and Institution	Date First Submit	Date & Place Action Taken	Status	Date Started	Completion Date	Date of Final Report	Source of Funding	Level of Funding	Number of Public.
TRANSMISSION HT LV-3 IN EPI	NDIKUYEZE,A. JO HNS HOPKINS SPH	09/30/85	/ / RWANDA	APPROVED	/ /	/ /	/ /	BILATERAL	10	0
IMMUNOGENICITY OF MEASLES VACC	NDIKUYEZE,A. JO HNS HOPKINS SPH	06/30/83	12/30/83 RWANDA	COMPLETED	01/30/85	06/30/86	06/30/86	REGIONAL	10	1

Special Studies

Date		Area	Title of Survey	Age Assessed	Method	Sample Size	Remarks/Results
05	86	2 REGIONS	SELF-FINANCING HEALTH CARE RWANDA	NOT APPLICABLE	400 HOUSEHOLD SURVEY	403	SELECTION OF HOUSEHOLDS IN FOUR AREAS BY CLUSTER SAMPLING TO DETERMINE POPULATION-BASED UTILIZATION OF HEALTH SERVICE EXPENDITURES, AND WILLINGNESS TO PAY TO HELP DETERMINE A SYSTEM OF FEE-FOR-SERVICE FOR CCCD PROJECT'S SUSTAINABILITY.
06	86	NATIONAL	FORMATIVE RESEARCH FOCUS GROUPS	MOTHERS/5 YR CHILDRE	INTERVIEW WOMENS GROUPS	18	MULTI-STAGE CLUSTER SAMPLE SURVEY,USING FOCUS GROUPS WITH INTERVIEW METHOD WHICH YEILDED 8 HEALTH EDUCATION INTERVENTION POINTS, SPECIFIC RADIO TIME SLOTS FOR TARGET GROUP FOR CAMPAIGN AND COMMUNICATION ACCESS POINTS FOR GRAPHICS DISTRIB.
09	86	MALARIA	MALARIA DRUG SENSITIVITY STUDY	< FIVE YEAR OLDS	SCREENINGS	159	EVALUATION OF EFFICACY OF CHLOROQUINE, FANSIDAR, AND AMODIAQUINE FOR TREATMENT OF MALARIA. COMPARISON OF DIFFERENT TREATMENT SCHEDULES AND DRUG FAILURES. NATIONAL TREATMENT POLICY ADOPTED USING STUDY RESULTS.