

Module 3/ Session 2:

Application of GRB analysis in costing

UNITED NATIONS MDG COSTING

Costing sheet 1: COST PER CASE

		Supplies	Personnel	Total
Family Planning				
<i>Short-Term Methods</i>				
1	Oral Contraceptives (Pill)	\$5.09	\$1.12	\$6.21
2	Injectables	\$3.85	\$1.28	\$5.14
3	Condom - Male	\$2.85	\$1.12	\$3.97
4	Condom - Female	\$118.10	\$1.12	\$119.23
<i>Long-Term Methods</i>				
5	Intrauterine Device (IUD)	\$1.24	\$1.61	\$2.84
6	Implant	\$25.89	\$1.61	\$27.50
7	Sterilization - Female	\$4.73	\$5.25	\$9.99
8	Sterilization - Male	\$0.88	\$2.31	\$3.20
<i>Other Methods</i>				
9	Other Method	\$0.00	\$0.00	\$0.00
10	Emergency Contraceptives (EC)	\$0.29	\$0.64	\$0.93
ANC and Delivery Care				
11	Antenatal Care (ANC)	\$4.86	\$5.01	\$9.88
12	Malaria Prevention within ANC	\$5.64	\$0.32	\$5.96
13	Malaria Treatment within ANC	\$5.98	\$2.59	\$8.57
14	Delivery Care	\$3.74	\$7.29	\$11.03
15	Postpartum Care	\$0.23	\$0.96	\$1.19
Obstetric Complications				

16	Prolonged Labour (>18 hours)	\$1.61	\$3.85	\$5.46
17	Forceps or Vacuum-Assisted Delivery (AVD)	\$4.39	\$5.09	\$9.48
18	Cesarean Section (C-Section)	\$12.24	\$31.47	\$43.71
19	Postpartum Hemorrhage	\$29.24	\$27.33	\$56.58
20	Puerperal Sepsis	\$13.71	\$9.26	\$22.97
21	Hypertensive Disorders of Pregnancy (eclampsia & pre-ecl.)	\$7.01	\$10.85	\$17.86
22	Postabortion Complications (PAC)	\$6.03	\$6.46	\$12.49
Other Maternal Conditions				
23	Obstetric Fistula (OF)	\$12.58	\$28.58	\$41.16
24	Urinary Tract Infection (UTI)	\$0.30	\$0.32	\$0.62
25	Mastitis	\$1.07	\$3.61	\$4.68
Newborn Interventions				
26	Prevention of Ophtalmia Neonatorum	\$0.02	\$0.00	\$0.02
27	Treatment of Neonatal Complications (LBW, Sepsis, etc.)	\$5.05	\$35.94	\$40.99
28	Prevention of Mother-to-Child Transmission of HIV (PMTCT)	\$54.93	\$2.77	\$57.69
Sexually Transmitted Infections				
29	Chlamydia	\$0.97	\$1.07	\$2.04
30	Gonorrhea	\$0.56	\$1.07	\$1.63
31	Syphilis	\$1.17	\$1.07	\$2.24
32	Trichomonas	\$0.63	\$1.07	\$1.69
33	Pelvic Inflammatory Disease (PID)	\$1.66	\$1.07	\$2.73

Costing sheet 2: TOTAL COST

Main Input Data

Mozambique

Select desired country from drop-down list

POPULATION

	2005	2015	Source/Comments
Total Population	19,792,295	23,512,692	UN Population projections, 2004 Revision
Women of Reproductive Age (15-49)	4,758,853	5,732,491	UN Population projections, 2004 Revision
% Women Married	74%	70%	UN Population Division, assumption that rate will go down by 5% by 2015
HIV Prevalence	12.2%	12.2%	Report on global AIDS epidemic (UNAIDS 2004)

COVERAGE RATES

	2005	2015 Target	Source/Comments
Antenatal Care	85%	100%	DHS 2003 Final report, p. 132
Skilled Attendance at Delivery	48%	100%	DHS 2003 Final report, p. 140
Postpartum Care	44%	100%	No data available, assumed to be same as facility-based delivery (Source: DHS)
Emergency Obstetric Care	8%	100%	IJGO, 76 (2002)
STI Testing and Treatment	42%	100%	No data available, assumed to be 50% of ANC coverage

FAMILY PLANNING

Contraceptive Prevalence Rate and Method Mix

	2005	2015 Target	Source/Comments
<i>Note: Enter only current CPR and unmet need in cells B27 and B28, then press the blue button to enter family planning target</i>			
Contraceptive Prevalence Rate (all methods)	16.5%	35.1%	UN Population Division. "World Contraceptive Use 2003" Wall Chart.
Unmet Need	22.5%	3.9%	DHS, 1997

% of Demand Satisfied	42.3%	90.0%	Calculated based on CPR and Unmet Need
<i>Press the button to define FP Target</i>			
Method Mix:			
a) Short-term Methods			
Oral Contraceptives (Pill)	29.7%	29.7%	For 2005:
Injectables	29.1%	29.1%	UN Population Division. "World Contraceptive Use 2003" Wall Chart.
Condom - Male	6.7%	6.7%	For 2015:
Condom - Female	0.0%	0.0%	Assumed to stay constant
Traditional Methods	28.5%	28.5%	
b) Long-term Methods			
Intrauterine Device (IUD)	0.6%	0.6%	
Implant	0.0%	0.0%	
Sterilization - Female	5.5%	5.5%	
Sterilization - Male	0.0%	0.0%	
c) Other			
Other	0.0%	0.0%	
TOTAL	100.0%	100.0%	<i>Note: Methods mix needs to add up to 100%</i>
Emergency Contraceptives	0.0%	0.0%	

Method Effectiveness

	Method Effectiveness	Units per CYP/CYP per	Source/Comments
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		Method	
a) Short-term Methods			
Oral Contraceptives (Pill)	92%	15	15 cycles per CYP, information entered in Cost per Case model
Injectables	100%	3.5	3-4 injections per CYP, information entered in Cost per Case model
Condom - Male	81%	120	120 condoms per CYP, information entered in Cost per Case model
Condom - Female	81%	120	120 condoms per CYP, information entered in Cost per Case model
Traditional Methods	50%		
b) Long-term Methods			
Intrauterine Device (IUD)	96%	3	Avg. length of use (in years)
Implant	100%	3	Avg. length of use (in years)
Sterilization - Female	100%	35.4	Avg. age at time of sterilization (CYP = 45 - age at sterilization)
Sterilization - Male	100%	35.8	Avg. age at time of sterilization (CYP = 45 - age at sterilization)
c) Other			
Other	81%		

Other Proximate Determinants of Fertility

	2005	2015	Source/Comments
Percent of WRA in union	74%	70%	UN Population Division
Postpartum Infecundability (in months)	18.3	18.3	DHS, 1997
Total Abortion Rate (per 1,000 WRA)	0.0	0.0	No data available
Involuntary Sterility	5.7	5.7	DHS, 1997

MATERNAL AND NEWBORN HEALTH

Incidence/Prevalence of Pregnancy and Delivery Complications

	2005	2015	Source/Comments
Obstetric Complications - % of deliveries requiring management of			
Prolonged labor (>18 hours)	7.9%	7.9%	Assumed to be about 1.2x incidence of obstructed labor
Forceps or vacuum-assisted delivery	4.0%	4.0%	Assumption that 50% of prolonged labor cases require AVD
Cesarean Section	6.6%	6.6%	WHO, Global Burden of Disease, 2000
Postpartum Hemorrhage	5.1%	5.1%	WHO, Global Burden of Disease, 2000
Puerperal Sepsis	6.5%	5.0%	WHO, Global Burden of Disease, 2000
Hypertensive Disorders (eclampsia & pre-ecl.)	6.4%	6.4%	WHO, Global Burden of Disease, 2000
Postabortion Complications	3.0%	3.0%	WHO, 2004, Unsafe Abortion estimates, assumption of 20% complications
Obstetric Fistula			
Annual Number of new Fistula Cases	1,932	0	Assumed incidence 2.5 cases per 1,000 deliveries
Backlog of Fistula Cases that require Repair	38,941	0	Goal to eliminate backlog by 2015
Other Maternal Conditions - % of pregnant women requiring treatment			
Malaria Prevention	100%	100%	High malaria prevalence region
Malaria Treatment	18%	18%	WHO, 2000
Urinary Tract Infection	25%	25%	Global Estimate
Mastitis	15%	15%	Global Estimate

Incidence of Newborn Complications

	2005	2015	Source/Comments
% of Newborns requiring			
Prevention of Ophthalmia Neonatorum	100%	100%	Should be 100%

Treatment of Neonatal Complications (LBW, sepsis, etc.)	10%	5%	With increased in skilled attendance, incidence should decline
% of Mother and Newborns requiring PMTCT	12.2%	12.2%	Prevalence rate among women 15-49

SEXUALLY TRANSMITTED INFECTIONS

Assumption that with increase in treatment coverage incidence will decrease to North American or Western European levels by 2015 (if not already lower)

Prevalence of STIs

	2005	2015	Source/Comments
% of Women between 15-49 with			
Chlamydia	1.2%	1.7%	WHO, 2001
Gonorrhea	6.3%	0.8%	WHO, 2001
Syphilis	5.9%	0.1%	WHO, 2001
Trichomoniasis	11.3%	3.0%	WHO, 2001
Pelvic Inflammatory Disease	2.5%	0.6%	WHO, 2001

HEALTH PERSONNEL AND SALARIES

Important note: If personnel costs are included elsewhere (e.g., in the health systems model), the salaries below should be set to \$0.

	Gross Annual Salary	Hours worked per week	Weeks worked per Year
Auxiliary/Attendant	\$1,943	30	48
Nurse/Midwife	\$2,774	30	48
General Physician	\$7,355	30	48
Obstetrician	\$12,801	30	48
Paediatrician	\$12,801	30	48
Anaesthetist	\$12,801	30	48

Lab Technician	\$2,774	30	48
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Adjustment Factors Drug and Supply Prices

Note: The first two adjustments will affect the drug prices in the Cost per Case model

Adjustment for Distribution	15.0%
Adjustment for Wastage	15.0%
Annual Inflation Rate	0.0%