

Thesis Title	Cost-effectiveness Analysis of Family Planning Services in Rural Yunnan Province of China
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Date of Graduation	30 April B.E 2540 (1997)

### ABSTRACT

Presently there are many patterns to deliver family planning services (FPS) at the township level in the poor, remote and mountainous areas of Western China. How to effectively use limited resources to deliver FPS is a major issue from the viewpoint of health economics and reproductive health. But few FP cost-effectiveness analyses have been conducted to help policy makers with informed decision.

This case study was aimed to evaluate the cost and effectiveness of FPS in separated pattern (Ejia Township) and integrated pattern (Dazhuang Township) in rural Yunnan. The above two townships have been selected as the study sites in one county with similar social-economic status and different FPS delivery patterns.

Based on the existing data, FP costs were measured from both government and clients' perspectives. The costs from government perspective covered recurrent costs (personnel, utilities, expenses for FP procedures, awards for FP, administration fee from upper level) and capital costs (land, building and equipment). The costs from clients' perspective included travel cost and time cost. The averted birth (quantity indicator) and abortion rate (quality indicator) were employed as effectiveness indicators. Sensitivity analysis has been conducted.

The study showed that: (see Table on next page)

1. From 1985 to 1995, there was a growing trend in total cost and cost per married reproductive aged woman (MRAW) of FP in the two townships, total cost and cost per MRAW were higher in Dazhuang than that in Ejia. From 1985 to 1989, total cost in Dazhuang was a bit higher than that in Ejia, but cost per MRAW was a little lower than that in Ejia. There was a peak of these costs in 1987 in Ejia, which was related to building a new family planning service station. However, from 1990 to 1995, with the increase of FP services provided by the mobile team and other county level facilities, these costs in Dazhuang became far higher than those in Ejia.

2) The proportion of capital cost in total of FP in Ejia was more than in Dazhuang, but the capital cost accounted for only a small part of total cost of FP in both townships.

3) The proportion of FP revenue in total revenue of hospital in Ejia was higher than in Dazhuang. It varied in the two township hospitals from about 1% to 18%. This implied that separated FP service from township hospital might not have a strong impact on revenue of township hospital.

4) In Dazhuang, cost per case of mobile FP service was less than that of the routine service, but in Ejia cost per case of mobile FP service was more than that of the routine service. This demonstrated that mobile service pattern was not appropriate for Ejia.

5) The number of FP acceptors in Dazhuang was more than that in Ejia, but the proportion of male and female sterilization in Dazhuang was smaller than in Ejia; the number of abortion and abortion rate in Dazhuang was higher than that in Ejia, which might be related to the unmet needs and quality of FP service in the two townships.

6) From 1985 to 1989, cost per averted birth in Ejia was higher than that in Dazhuang. From 1990 to 1995, cost per averted birth in Ejia was lower than that in Dazhuang. From 1985 to 1995, cost per averted birth in Ejia was lower than that in Dazhuang, which illustrated that Ejia had achieved more effective use of limited resources from the economic perspective in the long run.

7) Cost saved and sensitivity analysis make it more concrete to support that Ejia pattern was more cost-effective than Dazhuang pattern.

The issue of quality of family planning services should be taken into consideration from the reproductive health perspective. But the most important is how to adapt the practical indicator of quality of FP into Chinese context. Both townships should try their best to reduce unwanted pregnancy and abortion.

More practical cost-effectiveness analysis should be developed to apply in the reproductive health field, which will help policy makers and health personnel to make rational decisions based on effective use of resources.

#### Cost-effectiveness Analysis in Two Townships (1985-1995)

Township	Item	Unit	1985 - 1989	1990 - 1995	1985 - 1995
Dazhuang	Total FP cost	Yuan	54,231.89	124,687.65	92,662.30
	Cost per MRAW	Yuan	12.95	25.62	19.86
	Averted birth	Number	264.00	383.00	329.00
	Cost per averted birth	Yuan	207.21	324.37	271.12
	Abortion rate	(%)	9.21	12.42	11.09
Ejia	Total FP cost	Yuan	51,423.69	93,927.80	74,607.75
	Cost per MRAW	Yuan	13.44	20.04	17.04
	Averted birth	Number	242.00	352.00	302.00
	Cost per averted birth	Yuan	242.06	265.70	254.95
	Abortion rate	(%)	4.03	5.82	5.09