



## References

- Acheson, D. (1989). "Clinical Update" in AIDS: A Global Perspective, Kapila M.(ed.), Health Education Authority, Hamilton House, Mabledon Place, London, 1989.
- Bloome, D.E. (1994). "Handout Distributed in the Health Economics Forum", Center for Health Economics, Chulalongkorn University.
- Broyles, R.W. (1982). Hospital Accounting Practice, Volume II, Managerial Accounting, An Aspen Publication, Aspen Systems Corporation, Rockville, Maryland, London.
- Chin, J. (1993). "Estimation/Projection of HIV/AIDS in South-East Asia", Assignment Report: SEA/AIDS/54, 23 March 1993.
- Chin, J. (1995). A Beginner's Guide for Understanding and Using EPIMODEL: Version 2.1, September 1995.
- Creese, A. and Parker, D. (1994). Cost Analysis in Primary Health Care: A Training Manual for the Program Managers. WHO, Geneva.
- Department of Health, Myanmar, HIV/AIDS Prevention and Control Program. Sentinel Surveillance of HIV Infection: Manual for Implementers. (1992).
- Department of Health, Myanmar, HIV/AIDS Prevention and Control Program. Annual Report (1993).
- Department of Health, Myanmar (1995). "Country Health Profile, Myanmar".

- Drummond, M.F. et al. (1982). Methods for the Economic Evaluation of Health Care Programmes, Oxford University Press, Walton Street, Oxford OX2 6DP.
- Hanson, K. (1992), The Economic Impact of AIDS: An Assessment of the Available Evidence, London School of Hygiene and Tropical Medicine.
- Johnson, A.M. (1986). "Economic Aspects of Care and Prevention of HIV Infection and AIDS", in Statistical Analysis and Mathematical Modeling of AIDS. Jager, J.C. and Ruitenberg, E.J. (ed.), Oxford University Press, 1988, pp. 150-159.
- Kaewsonthi, S. et al. (1983). Cost and Performance Appraisal of Malaria Surveillance and Monitoring Measures, Final Report, May 1983.
- Kamolratanakul, P. (1995). Clinical Economics (Summary), Application and Decision Analysis, November 10, 1995.
- Kongsin, S. et al. (1992). "Hospital Care Cost Analysis of Patients with AIDS and AIDS Related Complex"; Ministry of Public Health Hospitals", AIDS Division, MOPH.
- Ministry of National Planning and Economic Development (1995). Review of the Financial, Economic and Social Conditions, Union of Myanmar. 1994-95.
- Ngamsiriudom, B. and Satiensakpong, T. (1994). Unit Cost and Cost Recovery of Maternal and Child Hospital, Chiang Mai. Health Systems Institute, Ministry of Public Health, Thailand.
- NESDB (1994). "Projections for HIV/AIDS in Thailand: 1987-2020", Human Resources Planning Division, NESDB, November, 1994.
- The Panos Institute (1989). AIDS and the Third World, Philadelphia, New Society Publishers.

The Panos Institute (1992). The Hidden Cost of AIDS: The Challenge of HIV to Development. London.

Puntularp, M. and Paul, S.R. (1995). "Predicting the Economic Impact of AIDS in Thailand: A difficult Sum to Calculate", AIDS Analysis Asia, 1(6), November/December 1995.

Prommool, V. et al. (1995). "Forecasting the Medical Care Cost of AIDS in Bamrasnaradura Hospital", Journal of Health Science, 4:2, April-June 1995.

Reynolds, J. (1993). Cost Analysis, Aga Khan Foundation USA.

Tangcharoensathien, V. (1995). "Costing Methodology" Handout CU, November 8, 1995.

UNDP (1992). UNDP Report , "AIDS and Asia: A Development Crisis."

User's Manual, SIMULAIDS (8 February 1993).

Viravaidya, M., Obremskey, S.A. and Myers, C. (1991). "Economic Impact of AIDS on Thailand" in Economic Implications of AIDS in Asia, UNDP (1993).

WHO, Programme for Control of Diarrhoeal Diseases (1988).  
Estimating Costs for Cost - Effectiveness Analysis: Guidelines for Managers of Diarrhoeal Diseases Control Programmes.

WHO, Global Program on AIDS (1991). Progress Report.

WHO, Global Program on AIDS (1993). "The Costs of HIV/AIDS Prevention Strategies in Developing Countries", GPA/DIR/93.2.

WHO (1994). " Modelling the Costs of HIV Prevention: A Resource Requirement for Developing Countries", WHO/GPA/DIR/95.4, Report to the Global Programme on AIDS, WHO, Geneva.

WHO, Regional Office for South-East Asia (SEARO) "The HIV/AIDS Situation in the World," 15 May 1995.

Whiteside, A. and FitzSimons, D. (1992). The AIDS Epidemic: Economic, Political and Security Implications, Research Institute for the Study of Conflict and Terrorism, May 1992.

World Bank (1993). World Development Report.

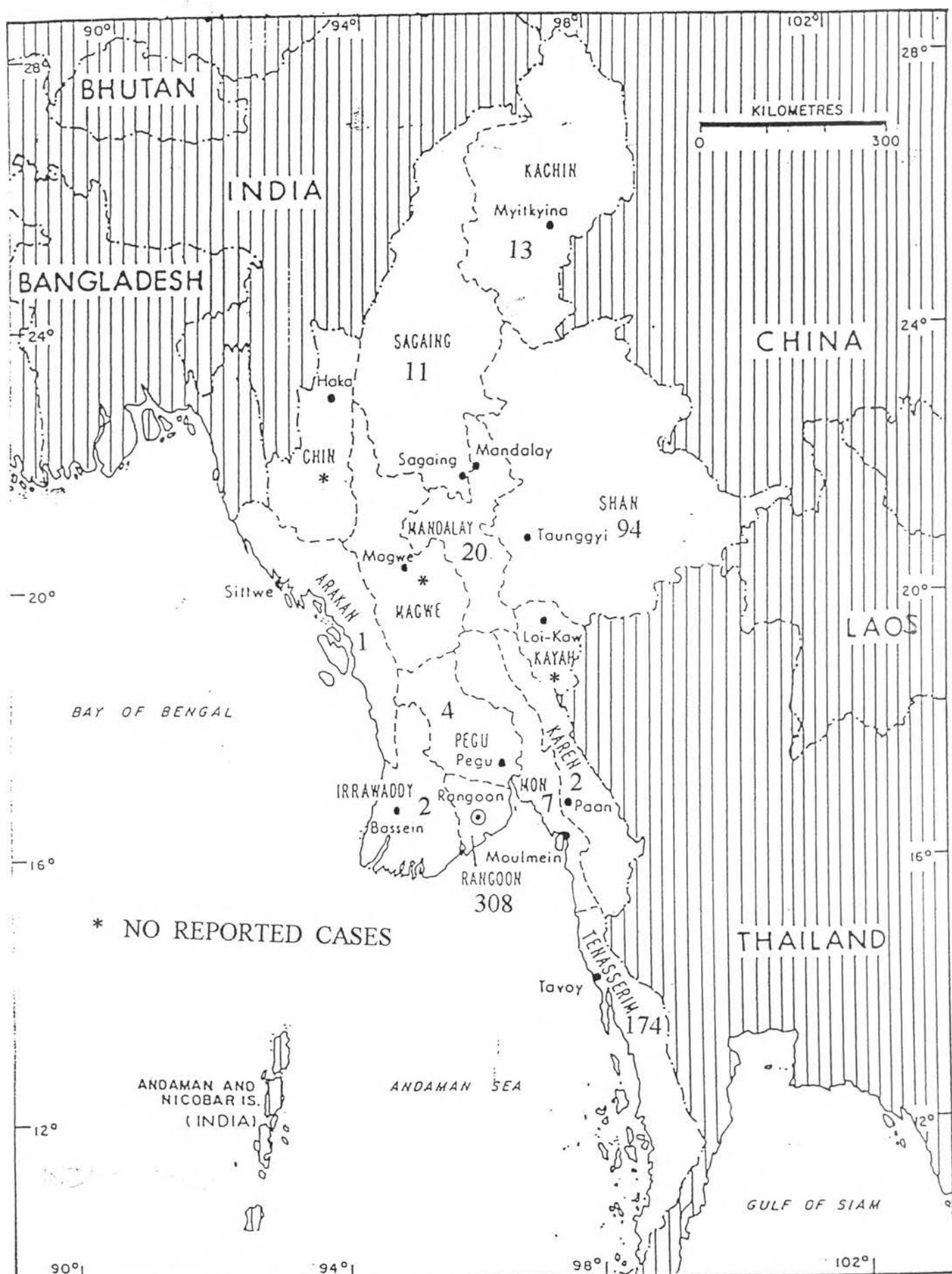
World Bank (1996). "HIV/AIDS in Asia", in Electronic Newsletter on Population, Health and Nutrition, Human Development Department, World Bank, PHNFLASH Issue 102, January 26 1996.

## **Appendices**

# Appendix 1

## REPORTED AIDS CASES BY REGIONS

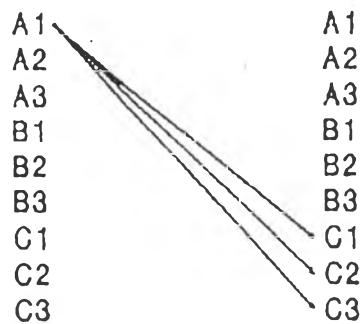
99



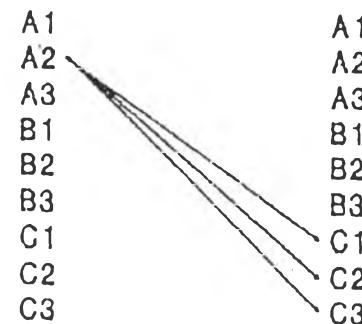
The boundaries shown on this map do not imply official endorsement or acceptance by the World Health Organization

## Appendix 2

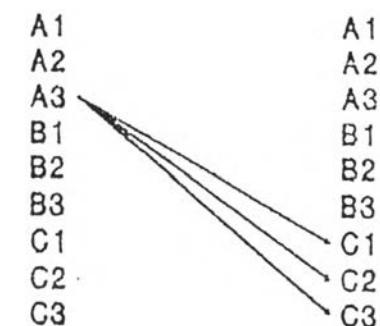
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A1 ALLOCATION



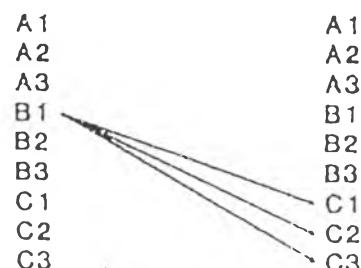
DIRECT ALLOCATION METHOD  
A2 ALLOCATION



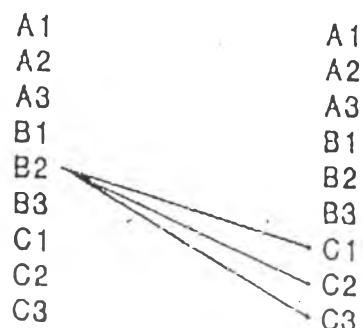
DIRECT ALLOCATION METHOD  
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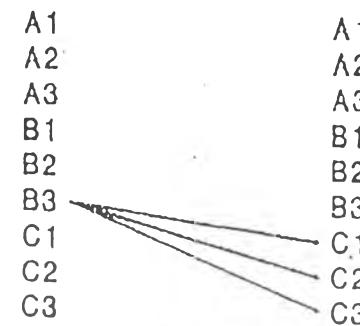
DIRECT ALLOCATION METHOD  
B1 ALLOCATION



DIRECT ALLOCATION METHOD  
B2 ALLOCATION



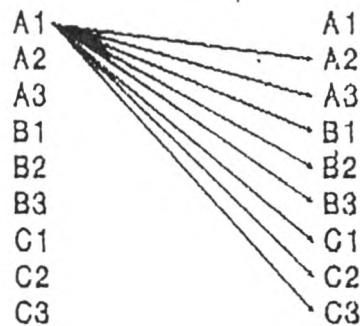
DIRECT ALLOCATION METHOD  
B3 ALLOCATION



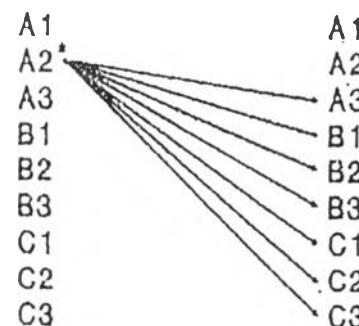
## Appendix 2 (Continued)

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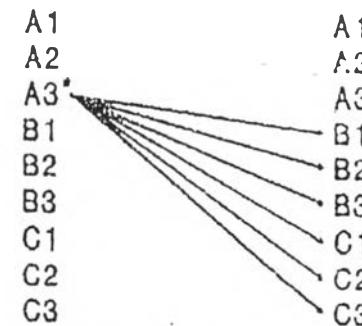
### STEP DOWN METHOD 1st STEP



### STEP DOWN METHOD 2nd STEP



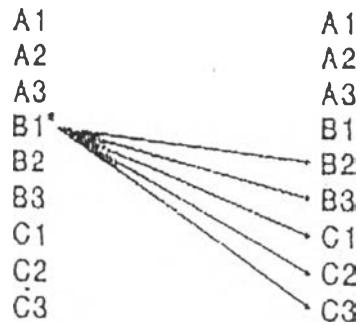
### STEP-DOWN METHOD 3rd STEP



$$(A_2^* \cdot A_2 + A_1 A_2)$$

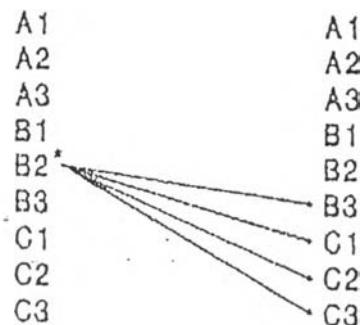
$$(A_3^* \cdot A_3 + A_1 A_3 + A_2^* A_3)$$

### STEP-DOWN METHOD 4th STEP



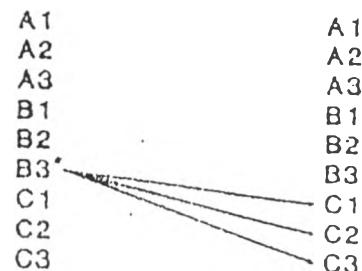
$$(B_1^* \cdot B_1 + A_1 B_1 + A_2^* B_1 + A_3^* B_1)$$

### STEP-DOWN METHOD 5th STEP



$$(B_2^* \cdot B_2 + A_1 B_2 + A_2^* B_2 + A_3^* B_2 + B_1^* B_2)$$

### STEP-DOWN METHOD 6th STEP

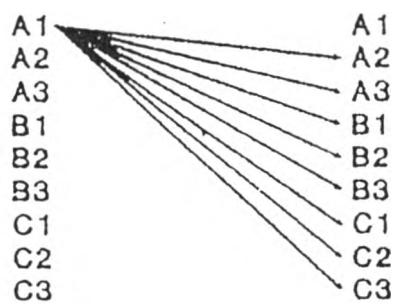


$$(B_3^* \cdot B_3 + A_1 B_3 + A_2^* B_3 + A_3^* B_3 + B_1^* B_3 + B_2^* B_3)$$

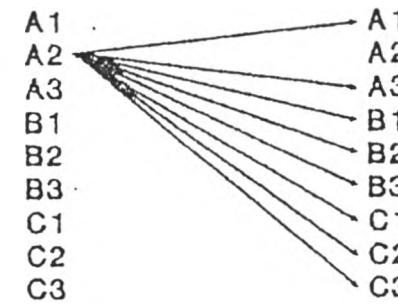
**Appendix 2 (Continued)**

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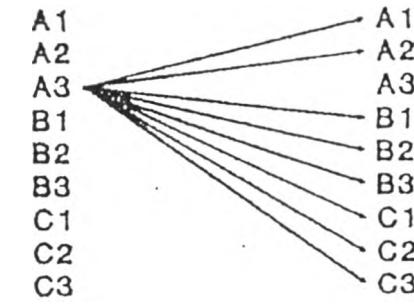
DOUBLE DISTRIBUTION METHOD  
FIRST DISTRIBUTION



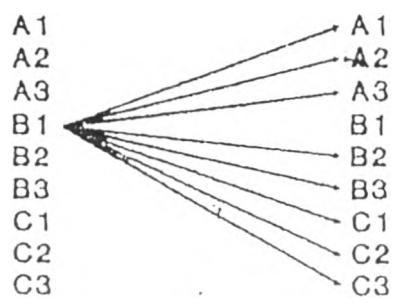
DOUBLE DISTRIBUTION METHOD  
FIRST DISTRIBUTION



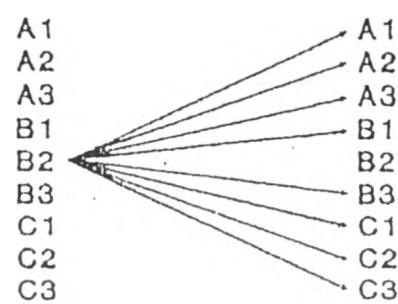
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FIRST DISTRIBUTION



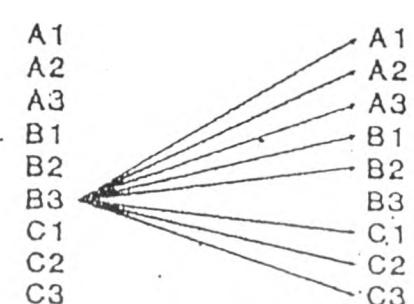
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FIRST DISTRIBUTION



DOUBLE DISTRIBUTION METHOD  
FIRST DISTRIBUTION



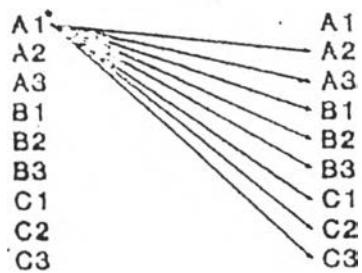
DOUBLE DISTRIBUTION METHOD  
FIRST DISTRIBUTION



## Appendix 2 (Continued)

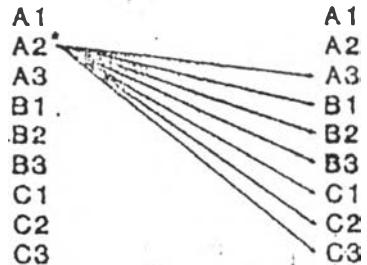
103

**DOUBLE DISTRIBUTION METHOD  
1st STEP OF 2nd DISTRIBUTION**



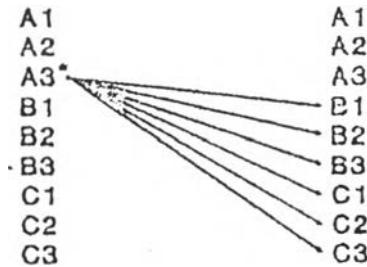
$$( A1^* \leftarrow A2A1 + A3A1 \\ \quad + B1A1 + B2A1 \\ \quad + B3A1 )$$

**DOUBLE DISTRIBUTION METHOD  
2nd STEP OF 2nd DISTRIBUTION**



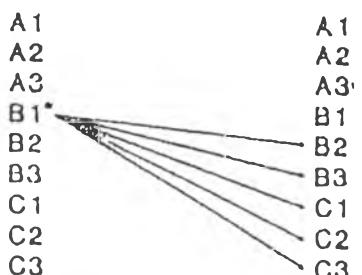
$$( A2^* \leftarrow A1A2 + A3A2 \\ \quad + B1A2 + B2A2 \\ \quad + B3A2 + A1^*A2 )$$

**DOUBLE DISTRIBUTION METHOD  
3rd STEP OF 2nd DISTRIBUTION**



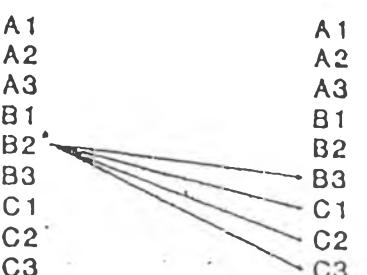
$$( A3^* \leftarrow A1A3 + A2A3 \\ \quad + B1A3 + B2A3 \\ \quad + B3A3 + A1^*A3 \\ \quad + A2^*A3 )$$

**DOUBLE DISTRIBUTION METHOD  
4th STEP OF 2nd DISTRIBUTION**



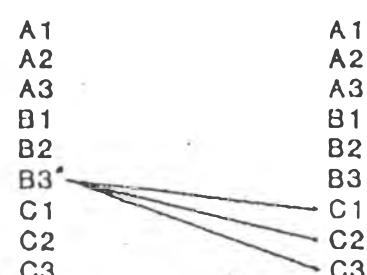
$$( B1^* \leftarrow A1B1 + A2B1 \\ \quad + A3B1 + B2B1 \\ \quad + B3B1 + A1^*B1 \\ \quad + A2^*B1 + A3^*B1 )$$

**DOUBLE DISTRIBUTION METHOD  
5th STEP OF 2nd DISTRIBUTION**



$$( B2^* \leftarrow A1B2 + A2B2 \\ \quad + A3B2 + B1B2 \\ \quad + B3B2 + A1^*B2 \\ \quad + A2^*B2 + A3^*B2 \\ \quad + B1^*B2 )$$

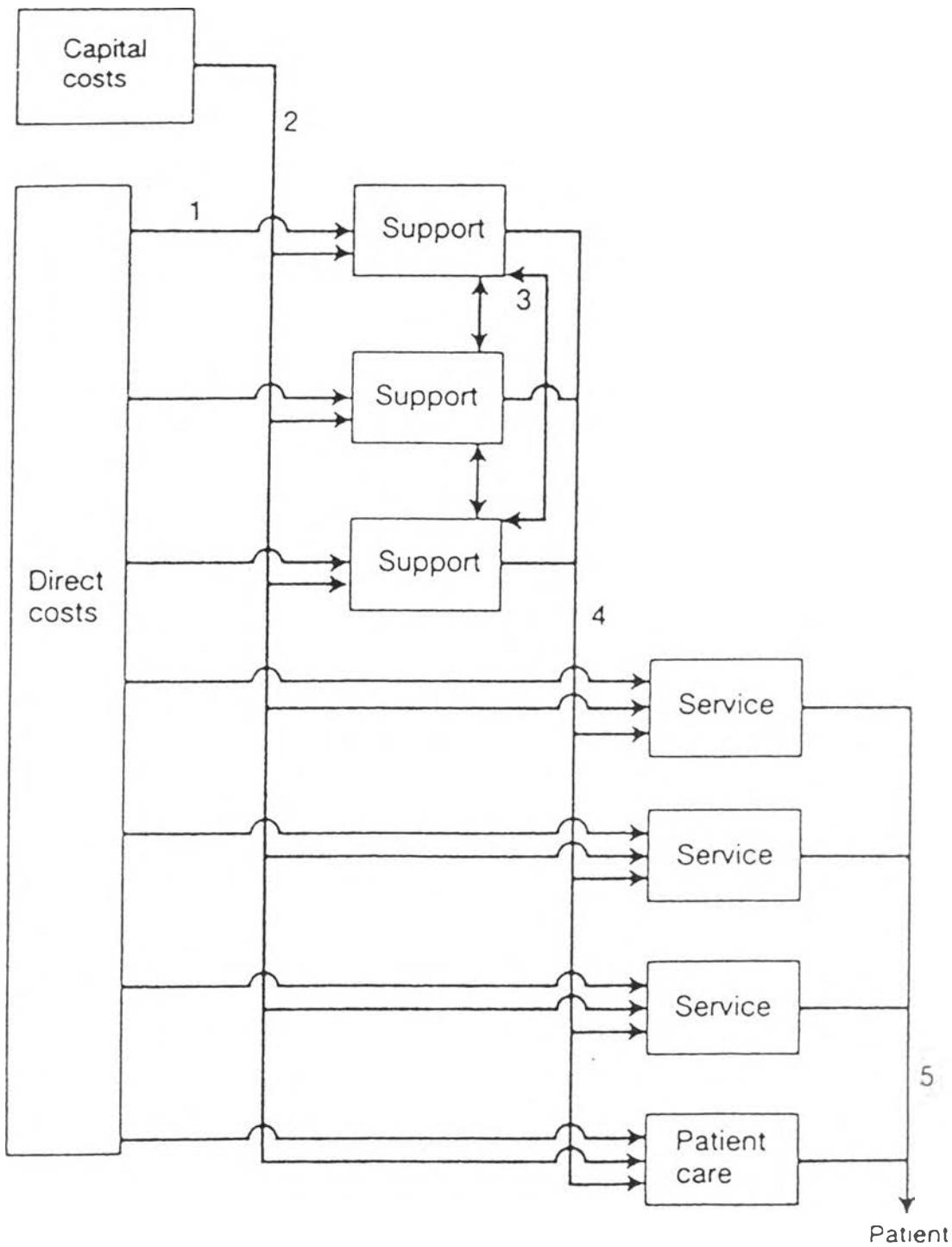
**DOUBLE DISTRIBUTION METHOD  
6th STEP OF 2nd DISTRIBUTION**



$$( B3^* \leftarrow A1B3 + A2B3 \\ \quad + A3B3 + B1B3 \\ \quad + B2B3 + A1^*B3 \\ \quad + A2^*B3 + A3^*B3 \\ \quad + B1^*B3 + B2^*B3 )$$

## Appendix 2 (Continued)

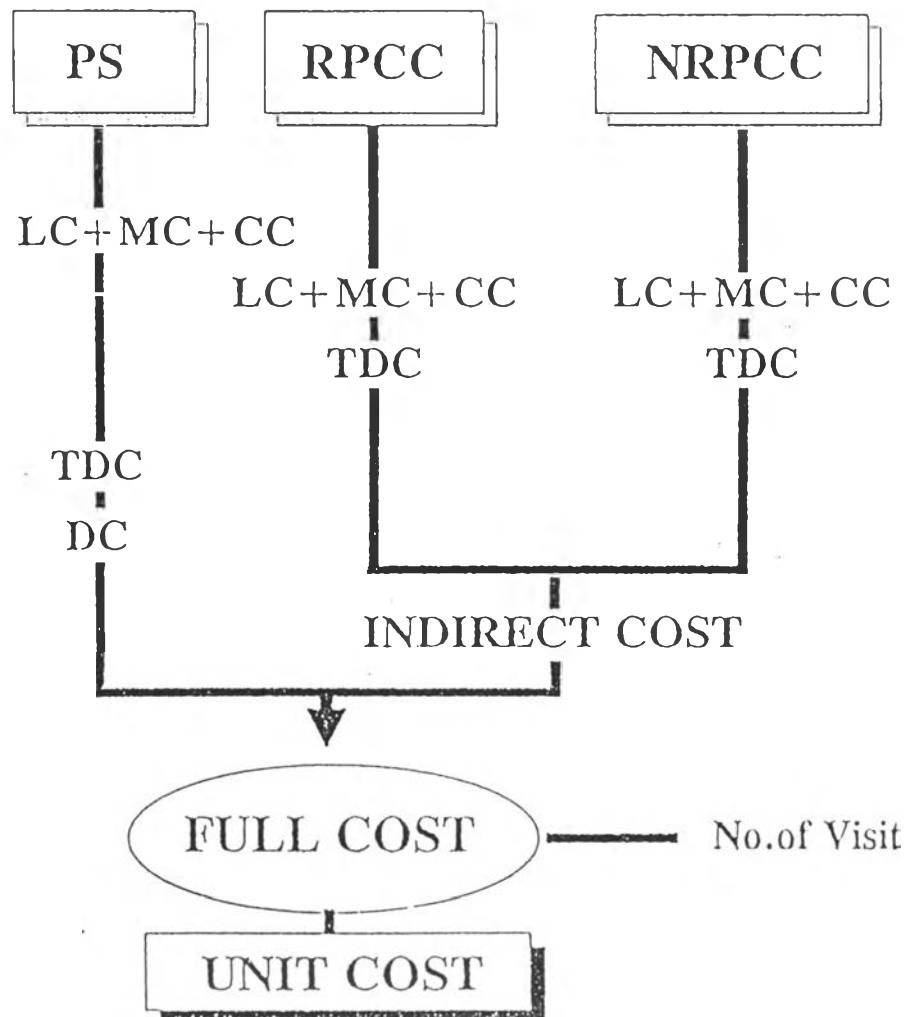
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- (1) Direct costs assigned directly to cost centres. (2) Capital costs assigned to cost centres. (3) Support cost centres simultaneously allocated to each other. (4) Support cost centres allocated to other cost centres. (5) Costs assigned to each patient based on services used.

Source : Drummond, 1982

# UNIT COST CALCULATION



1.COST CENTRE  
IDENTIFICATION  
&  
GROUPING

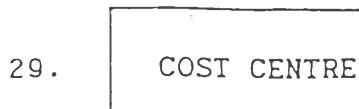
2.DIRECT COST  
DETERMINATION

3.ALLOCATION  
CRITERIA  
DETERMINATION

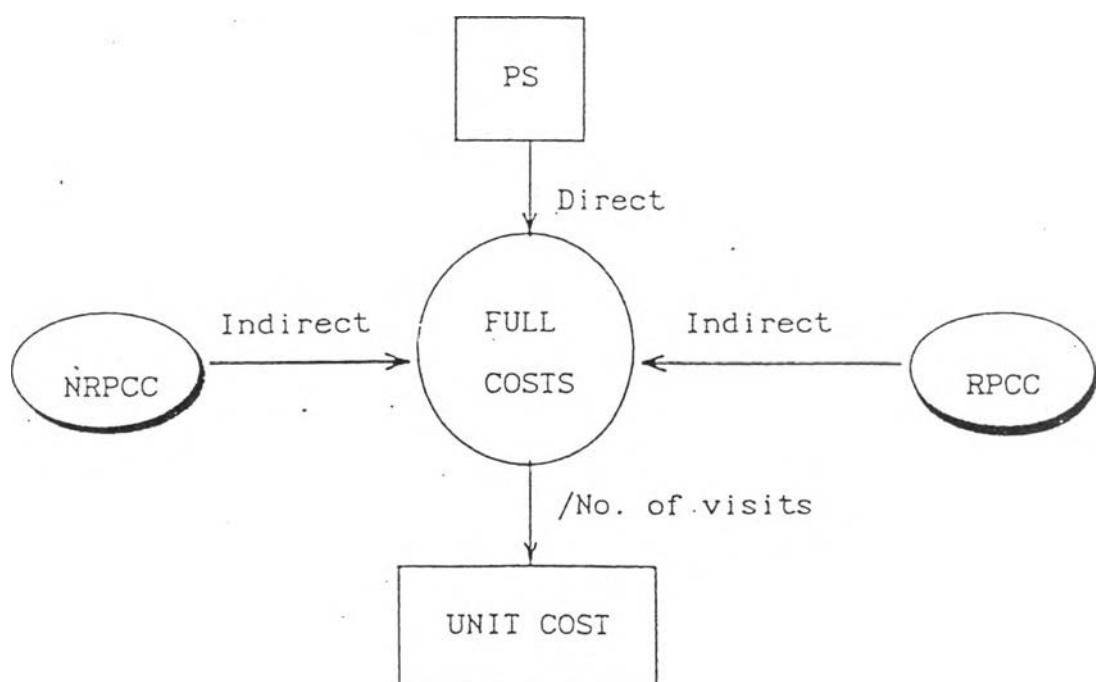
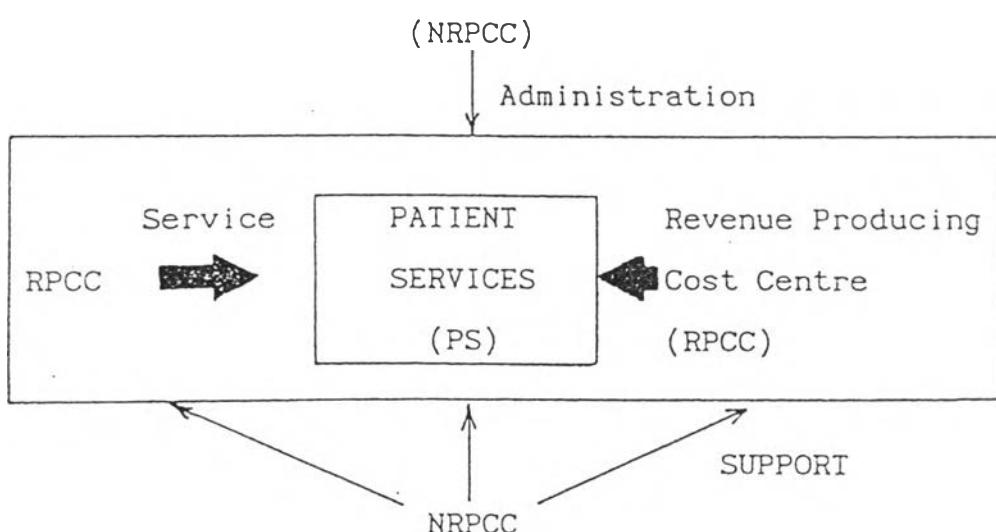
4.FULL COST  
DETERMINATION

5.UNIT COST  
CALCULATION

### Appendix 3 (Continued)



Non-Revenue Producing Cost Centre



Source : Kamolratanakul, 1995

# Annualization Factors

| EXPECTED USEFUL LIFE IN YEARS | DISCOUNT RATE |        |        |        |        |        |        |        |        |       |       |       |       |       |       |       |       |       |       |       |
|-------------------------------|---------------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                               | 1%            | 2%     | 3%     | 4%     | 5%     | 6%     | 7%     | 8%     | 9%     | 10%   | 11%   | 12%   | 13%   | 14%   | 15%   | 16%   | 17%   | 18%   | 19%   | 20%   |
| 1                             | 0.990         | 0.980  | 0.971  | 0.962  | 0.952  | 0.943  | 0.935  | 0.926  | 0.917  | 0.909 | 0.901 | 0.893 | 0.885 | 0.877 | 0.870 | 0.862 | 0.855 | 0.847 | 0.840 | 0.833 |
| 2                             | 1.970         | 1.942  | 1.913  | 1.886  | 1.859  | 1.831  | 1.808  | 1.783  | 1.759  | 1.736 | 1.713 | 1.690 | 1.668 | 1.647 | 1.626 | 1.605 | 1.585 | 1.566 | 1.547 | 1.528 |
| 3                             | 2.941         | 2.884  | 2.829  | 2.775  | 2.723  | 2.673  | 2.624  | 2.577  | 2.531  | 2.487 | 2.444 | 2.402 | 2.361 | 2.322 | 2.283 | 2.246 | 2.210 | 2.174 | 2.140 | 2.106 |
| 4                             | 3.902         | 3.808  | 3.717  | 3.630  | 3.546  | 3.465  | 3.387  | 3.312  | 3.240  | 3.170 | 3.102 | 3.037 | 2.974 | 2.914 | 2.855 | 2.798 | 2.743 | 2.690 | 2.639 | 2.589 |
| 5                             | 4.853         | 4.713  | 4.580  | 4.452  | 4.329  | 4.212  | 4.100  | 3.993  | 3.890  | 3.791 | 3.696 | 3.605 | 3.517 | 3.433 | 3.352 | 3.274 | 3.199 | 3.127 | 3.058 | 2.991 |
| 6                             | 5.795         | 5.601  | 5.417  | 5.242  | 5.076  | 4.917  | 4.767  | 4.623  | 4.486  | 4.355 | 4.231 | 4.111 | 3.998 | 3.889 | 3.784 | 3.685 | 3.589 | 3.498 | 3.410 | 3.326 |
| 7                             | 6.728         | 6.472  | 6.230  | 6.002  | 5.786  | 5.582  | 5.389  | 5.206  | 5.033  | 4.858 | 4.712 | 4.564 | 4.423 | 4.288 | 4.150 | 4.039 | 3.922 | 3.812 | 3.706 | 3.605 |
| 8                             | 7.652         | 7.325  | 7.020  | 6.733  | 6.463  | 6.210  | 5.971  | 5.747  | 5.535  | 5.335 | 5.146 | 4.968 | 4.799 | 4.639 | 4.487 | 4.344 | 4.207 | 4.078 | 3.954 | 3.837 |
| 9                             | 8.566         | 8.162  | 7.876  | 7.435  | 7.108  | 6.802  | 6.515  | 6.247  | 5.995  | 5.759 | 5.537 | 5.328 | 5.132 | 4.946 | 4.772 | 4.607 | 4.451 | 4.303 | 4.163 | 4.031 |
| 10                            | 9.471         | 8.983  | 8.530  | 8.111  | 7.722  | 7.360  | 7.024  | 6.710  | 6.418  | 6.145 | 5.889 | 5.650 | 5.426 | 5.215 | 5.019 | 4.833 | 4.659 | 4.494 | 4.339 | 4.192 |
| 11                            | 10.368        | 9.787  | 9.253  | 8.760  | 8.306  | 7.887  | 7.499  | 7.139  | 6.805  | 6.495 | 6.207 | 5.938 | 5.667 | 5.453 | 5.234 | 5.029 | 4.836 | 4.656 | 4.486 | 4.327 |
| 12                            | 11.255        | 10.575 | 9.954  | 9.385  | 8.863  | 8.384  | 7.943  | 7.536  | 7.161  | 6.814 | 6.492 | 6.194 | 5.918 | 5.660 | 5.421 | 5.197 | 4.988 | 4.793 | 4.611 | 4.439 |
| 13                            | 12.134        | 11.348 | 10.635 | 9.986  | 9.394  | 8.853  | 8.358  | 7.904  | 7.487  | 7.103 | 6.750 | 6.424 | 6.122 | 5.842 | 5.583 | 5.342 | 5.118 | 4.910 | 4.715 | 4.533 |
| 14                            | 13.004        | 12.106 | 11.296 | 10.563 | 9.899  | 9.295  | 8.745  | 8.244  | 7.786  | 7.367 | 6.982 | 6.628 | 6.302 | 6.002 | 5.724 | 5.468 | 5.229 | 5.008 | 4.802 | 4.611 |
| 15                            | 13.865        | 12.849 | 11.938 | 11.118 | 10.380 | 9.712  | 9.108  | 8.559  | 8.061  | 7.605 | 7.191 | 6.811 | 6.462 | 6.142 | 5.847 | 5.575 | 5.324 | 5.092 | 4.876 | 4.675 |
| 16                            | 14.718        | 13.578 | 12.561 | 11.652 | 10.838 | 10.106 | 9.447  | 8.851  | 8.313  | 7.824 | 7.379 | 6.974 | 6.604 | 6.255 | 5.954 | 5.688 | 5.405 | 5.162 | 4.938 | 4.730 |
| 17                            | 15.562        | 14.292 | 13.166 | 12.166 | 11.274 | 10.477 | 9.763  | 9.122  | 8.544  | 8.022 | 7.549 | 7.120 | 6.729 | 6.373 | 6.047 | 5.749 | 5.475 | 5.222 | 4.990 | 4.775 |
| 18                            | 16.398        | 14.992 | 13.754 | 12.659 | 11.690 | 10.828 | 10.059 | 9.372  | 8.756  | 8.201 | 7.702 | 7.250 | 6.840 | 6.467 | 6.129 | 5.818 | 5.534 | 5.273 | 5.033 | 4.812 |
| 19                            | 17.226        | 15.678 | 14.324 | 13.134 | 12.085 | 11.158 | 10.336 | 9.604  | 8.950  | 8.365 | 7.839 | 7.366 | 6.938 | 6.550 | 6.198 | 5.877 | 5.584 | 5.316 | 5.070 | 4.843 |
| 20                            | 18.046        | 16.351 | 14.877 | 13.590 | 12.462 | 11.470 | 10.594 | 9.818  | 9.129  | 8.514 | 7.963 | 7.469 | 7.025 | 6.623 | 6.259 | 5.929 | 5.628 | 5.353 | 5.101 | 4.870 |
| 21                            | 18.857        | 17.011 | 15.415 | 14.029 | 12.821 | 11.764 | 10.836 | 10.017 | 9.292  | 8.649 | 8.075 | 7.562 | 7.102 | 6.687 | 6.312 | 5.973 | 5.665 | 5.384 | 5.127 | 4.891 |
| 22                            | 19.660        | 17.658 | 15.937 | 14.451 | 13.153 | 12.042 | 11.061 | 10.201 | 9.442  | 8.772 | 8.176 | 7.645 | 7.170 | 6.743 | 5.539 | 6.011 | 5.696 | 5.410 | 5.149 | 4.909 |
| 23                            | 20.458        | 18.292 | 16.444 | 14.857 | 13.489 | 12.303 | 11.272 | 10.371 | 9.580  | 8.883 | 8.266 | 7.718 | 7.230 | 6.792 | 6.399 | 6.044 | 5.723 | 5.432 | 5.167 | 4.925 |
| 24                            | 21.243        | 18.914 | 16.936 | 15.247 | 13.799 | 12.550 | 11.469 | 10.529 | 9.707  | 8.985 | 8.348 | 7.784 | 7.283 | 6.835 | 6.434 | 6.073 | 5.746 | 5.451 | 5.182 | 4.937 |
| 25                            | 22.023        | 19.523 | 17.413 | 15.622 | 14.094 | 12.783 | 11.654 | 10.675 | 9.823  | 9.077 | 8.422 | 7.843 | 7.330 | 6.873 | 6.464 | 6.097 | 5.766 | 5.467 | 5.195 | 4.948 |
| 26                            | 22.795        | 20.121 | 17.877 | 15.983 | 14.375 | 13.003 | 11.826 | 10.810 | 9.929  | 9.161 | 8.488 | 7.896 | 7.372 | 6.906 | 6.491 | 6.118 | 5.783 | 5.420 | 5.206 | 4.956 |
| 27                            | 23.560        | 20.707 | 18.327 | 16.330 | 14.643 | 13.211 | 11.987 | 10.935 | 10.027 | 9.237 | 8.548 | 7.943 | 7.409 | 6.935 | 6.514 | 6.136 | 5.798 | 5.492 | 5.215 | 4.954 |
| 28                            | 24.316        | 21.281 | 18.764 | 16.663 | 14.898 | 13.406 | 12.137 | 11.051 | 10.116 | 9.307 | 8.602 | 7.984 | 7.441 | 6.961 | 6.534 | 6.152 | 5.810 | 5.502 | 5.223 | 4.970 |
| 29                            | 25.066        | 21.844 | 19.188 | 16.984 | 15.141 | 13.591 | 12.273 | 11.153 | 10.198 | 9.370 | 8.650 | 8.022 | 7.470 | 6.983 | 6.551 | 6.166 | 5.820 | 5.510 | 5.229 | 4.975 |
| 30                            | 25.808        | 22.396 | 19.600 | 17.292 | 15.372 | 13.765 | 12.409 | 11.258 | 10.274 | 9.427 | 8.694 | 8.065 | 7.496 | 7.003 | 6.566 | 6.177 | 5.829 | 5.517 | 5.235 | 4.979 |

## Appendix 5

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### Progression Rate 6 years (Without Any Other Rates)

| Year | HIV<br>New | HIV<br>Cum | HIV<br>Curr | AIDS<br>New | AIDS<br>Cum | AIDS<br>Curr | DEATH<br>New | DEATH<br>Cum |
|------|------------|------------|-------------|-------------|-------------|--------------|--------------|--------------|
| 1989 | 0          | 0          | 0           | 0           | 0           | 0            | 0            | 0            |
| 1990 | 236        | 236        | 236         | 0           | 0           | 0            | 0            | 0            |
| 1991 | 8847       | 9083       | 9069        | 14          | 14          | 7            | 7            | 7            |
| 1992 | 20914      | 29997      | 29419       | 564         | 578         | 282          | 289          | 296          |
| 1993 | 34724      | 64721      | 61626       | 2517        | 3095        | 1259         | 1540         | 1837         |
| 1994 | 47505      | 112226     | 103211      | 5920        | 9015        | 2960         | 4218         | 6055         |
| 1995 | 57500      | 169726     | 150000      | 10711       | 19726       | 5356         | 8316         | 14370        |
| 1996 | 63956      | 233682     | 197385      | 16570       | 36297       | 8285         | 13641        | 28011        |
| 1997 | 66871      | 300553     | 241237      | 23019       | 59316       | 11510        | 19795        | 47806        |
| 1998 | 66692      | 367245     | 278291      | 29639       | 88954       | 14819        | 26329        | 74135        |
| 1999 | 64080      | 431325     | 306286      | 36084       | 125039      | 18042        | 32862        | 106997       |
| 2000 | 59742      | 491067     | 323925      | 42103       | 167142      | 21051        | 39094        | 146090       |

### Progression Rate 8 years (Without Any Other Rates)

| Year | HIV<br>New | HIV<br>Cum | HIV<br>Curr | AIDS<br>New | AIDS<br>Cum | AIDS<br>Curr | DEATH<br>New | DEATH<br>Cum |
|------|------------|------------|-------------|-------------|-------------|--------------|--------------|--------------|
| 1989 | 0          | 0          | 0           | 0           | 0           | 0            | 0            | 0            |
| 1990 | 236        | 236        | 236         | 0           | 0           | 0            | 0            | 0            |
| 1991 | 8847       | 9083       | 9069        | 14          | 14          | 7            | 7            | 7            |
| 1992 | 20914      | 29997      | 29419       | 564         | 578         | 282          | 289          | 296          |
| 1993 | 34724      | 64721      | 61626       | 2517        | 3095        | 1259         | 1540         | 1837         |
| 1994 | 47505      | 112226     | 103211      | 5920        | 9015        | 2960         | 4218         | 6055         |
| 1995 | 57500      | 169726     | 150000      | 10711       | 19726       | 5356         | 8316         | 14370        |
| 1996 | 63956      | 233682     | 197385      | 16570       | 36297       | 8285         | 13641        | 28011        |
| 1997 | 66871      | 300553     | 241237      | 23019       | 59316       | 11510        | 19795        | 47806        |
| 1998 | 66692      | 367245     | 278291      | 29639       | 88954       | 14819        | 26329        | 74135        |

## Appendix 5 (Continued)

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### Progression Rate 10 years (Without Any Other Rates)

| Year | HIV<br>New | HIV<br>Cum | HIV<br>Curr | AIDS<br>New | AIDS<br>Cum | AIDS<br>Curr | DEATH<br>New | DEATH<br>Cum |
|------|------------|------------|-------------|-------------|-------------|--------------|--------------|--------------|
| 1989 | 0          | 0          | 0           | 0           | 0           | 0            | 0            | 0            |
| 1990 | 214        | 214        | 214         | 0           | 0           | 0            | 0            | 0            |
| 1991 | 8034       | 8248       | 8247        | 1           | 1           | 1            | 1            | 1            |
| 1992 | 18992      | 27240      | 27193       | 46          | 47          | 23           | 23           | 24           |
| 1993 | 31532      | 58772      | 58417       | 309         | 355         | 154          | 177          | 201          |
| 1994 | 43138      | 101910     | 100427      | 1127        | 1483        | 564          | 718          | 919          |
| 1995 | 52214      | 154124     | 150001      | 2641        | 4123        | 1320         | 1884         | 2803         |
| 1996 | 58077      | 212201     | 203130      | 4948        | 9071        | 2474         | 3794         | 6597         |
| 1997 | 60724      | 272925     | 255871      | 7983        | 17054       | 3991         | 6466         | 13063        |
| 1998 | 60561      | 333486     | 304841      | 11591       | 28645       | 5795         | 9787         | 22850        |
| 1999 | 58189      | 391675     | 347458      | 15572       | 44217       | 7786         | 13581        | 36431        |
| 2000 | 54250      | 445925     | 381993      | 19715       | 63932       | 9858         | 17644        | 54075        |

### Progression Rate (PR) 12 Years (Without Any Other Rates)

| Year | HIV<br>New | HIV<br>Cum | HIV<br>Curr | AIDS<br>New | AIDS<br>Cum | AIDS<br>Curr | DEATH<br>New | DEATH<br>Cum |
|------|------------|------------|-------------|-------------|-------------|--------------|--------------|--------------|
| 1989 | 0          | 0          | 0           | 0           | 0           | 0            | 0            | 0            |
| 1990 | 213        | 213        | 213         | 0           | 0           | 0            | 0            | 0            |
| 1991 | 8004       | 8217       | 8216        | 1           | 1           | 0            | 0            | 0            |
| 1992 | 18921      | 27138      | 27101       | 36          | 37          | 18           | 19           | 19           |
| 1993 | 31415      | 58553      | 58260       | 255         | 293         | 128          | 146          | 165          |
| 1994 | 42978      | 101531     | 100264      | 974         | 1267        | 48           | 615          | 780          |
| 1995 | 52020      | 153551     | 149999      | 2285        | 3552        | 1143         | 1630         | 2409         |
| 1996 | 57861      | 211412     | 203583      | 4278        | 7829        | 2139         | 3281         | 5691         |
| 1997 | 60498      | 271910     | 257194      | 6887        | 14716       | 3443         | 5582         | 11273        |
| 1998 | 60336      | 332246     | 307550      | 9980        | 24696       | 4990         | 8433         | 19706        |
| 1999 | 57973      | 390219     | 352136      | 13387       | 38083       | 6694         | 11684        | 31390        |
| 2000 | 54049      | 444268     | 389256      | 16928       | 55012       | 8464         | 15158        | 46548        |

## Appendix 5 (Continued)

| Baseline Intervention Scenario |            |            |            |             |             |             |             |              |              |              |
|--------------------------------|------------|------------|------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|
| Year                           | HIV<br>New | HIV<br>Inc | HIV<br>Cum | HIV<br>Curr | HIV<br>Prev | AIDS<br>New | AIDS<br>Cum | AIDS<br>Curr | DEATH<br>New | DEATH<br>Cum |
| 1989                           | 0          | 0.00%      | 0          | 0           | 0.00%       | 0           | 0           | 0            | 0            | 0            |
| 1990                           | 214        | 0.00%      | 214        | 214         | 0.00%       | 0           | 0           | 0            | 0            | 0            |
| 1991                           | 8034       | 0.02%      | 8248       | 8247        | 0.02%       | 1           | 1           | 1            | 1            | 1            |
| 1992                           | 18992      | 0.05%      | 27240      | 27193       | 0.07%       | 46          | 47          | 23           | 23           | 24           |
| 1993                           | 31532      | 0.07%      | 58772      | 58417       | 0.14%       | 309         | 355         | 154          | 177          | 201          |
| 1994                           | 43138      | 0.10%      | 101910     | 100427      | 0.23%       | 1127        | 1483        | 564          | 718          | 919          |
| 1995                           | 52214      | 0.12%      | 154124     | 150001      | 0.34%       | 2641        | 4123        | 1320         | 1884         | 2803         |
| 1996                           | 47937      | 0.11%      | 202061     | 192990      | 0.43%       | 4948        | 9071        | 2474         | 3794         | 6597         |
| 1997                           | 44516      | 0.10%      | 246577     | 229574      | 0.50%       | 7932        | 17003       | 3966         | 6440         | 13037        |
| 1998                           | 41993      | 0.09%      | 288570     | 260310      | 0.56%       | 11256       | 28260       | 5628         | 9594         | 22632        |
| 1999                           | 40238      | 0.09%      | 328808     | 286083      | 0.60%       | 14466       | 42725       | 7233         | 12861        | 35492        |
| 2000                           | 39188      | 0.08%      | 367997     | 307691      | 0.64%       | 17580       | 60306       | 8790         | 16023        | 51516        |

## Appendix 5 (Continued)

Medium Intervention Scenario

| Year | HIV<br>New | HIV<br>Inc | HIV<br>Cum | HIV<br>Curr | HIV<br>Prev | AIDS<br>New | AIDS<br>Cum | AIDS<br>Curr | DEATH<br>New | DEATH<br>Cum |
|------|------------|------------|------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|
| 1989 | 0          | 0.00%      | 0          | 0           | 0.00%       | 0           | 0           | 0            | 0            | 0            |
| 1990 | 214        | 0.00%      | 214        | 214         | 0.00%       | 0           | 0           | 0            | 0            | 0            |
| 1991 | 8034       | 0.02%      | 8248       | 8247        | 0.02%       | 1           | 1           | 1            | 1            | 1            |
| 1992 | 18992      | 0.05%      | 27240      | 27193       | 0.07%       | 46          | 47          | 23           | 23           | 24           |
| 1993 | 31532      | 0.07%      | 58772      | 58417       | 0.14%       | 309         | 355         | 154          | 177          | 201          |
| 1994 | 43138      | 0.10%      | 101910     | 100427      | 0.23%       | 1127        | 1483        | 564          | 718          | 919          |
| 1995 | 52214      | 0.12%      | 154124     | 150001      | 0.34%       | 2641        | 4123        | 1320         | 1884         | 2803         |
| 1996 | 45890      | 0.10%      | 200014     | 190943      | 0.43%       | 4948        | 9071        | 2474         | 3794         | 6597         |
| 1997 | 40650      | 0.09%      | 240665     | 223671      | 0.49%       | 7922        | 16993       | 3961         | 6435         | 13032        |
| 1998 | 36548      | 0.08%      | 277212     | 249033      | 0.54%       | 11186       | 28179       | 5593         | 9554         | 22586        |
| 1999 | 33349      | 0.07%      | 310561     | 268163      | 0.57%       | 14219       | 42398       | 7109         | 12702        | 35288        |
| 2000 | 30931      | 0.06%      | 341492     | 282039      | 0.59%       | 17055       | 59453       | 8528         | 15637        | 50925        |

## Appendix 5 (Continued)

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### High Intervention Scenario

| Year | HIV<br>New | HIV<br>Inc | HIV<br>Cum | HIV<br>Curr | HIV<br>Prev | AIDS<br>New | AIDS<br>Cum | AIDS<br>Curr | DEATH<br>New | DEATH<br>Cum |
|------|------------|------------|------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|
| 1989 | 0          | 0.00%      | 0          | 0           | 0.00%       | 0           | 0           | 0            | 0            | 0            |
| 1990 | 214        | 0.00%      | 214        | 214         | 0.00%       | 0           | 0           | 0            | 0            | 0            |
| 1991 | 8034       | 0.02%      | 8248       | 8247        | 0.02%       | 1           | 1           | 1            | 1            | 1            |
| 1992 | 18992      | 0.05%      | 27240      | 27193       | 0.07%       | 46          | 47          | 23           | 23           | 24           |
| 1993 | 31532      | 0.07%      | 58772      | 58417       | 0.14%       | 309         | 355         | 154          | 177          | 201          |
| 1994 | 43138      | 0.10%      | 101910     | 100427      | 0.23%       | 1127        | 1483        | 564          | 718          | 919          |
| 1995 | 52214      | 0.12%      | 154124     | 150001      | 0.34%       | 2641        | 4123        | 1320         | 1884         | 2803         |
| 1996 | 43061      | 0.10%      | 197185     | 188113      | 0.42%       | 4948        | 9071        | 2474         | 3794         | 6597         |
| 1997 | 35244      | 0.08%      | 232429     | 215450      | 0.47%       | 7908        | 16979       | 3954         | 6428         | 13025        |
| 1998 | 28831      | 0.06%      | 261260     | 233193      | 0.50%       | 11088       | 28067       | 5544         | 9498         | 22523        |
| 1999 | 23409      | 0.05%      | 284669     | 242726      | 0.51%       | 13875       | 41942       | 6938         | 12482        | 35005        |
| 2000 | 18746      | 0.04%      | 303414     | 245153      | 0.51%       | 16318       | 58261       | 8159         | 15097        | 50102        |

## Appendix 5 (Continued)

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### Total Provider Cost of HIV/AIDS (High Intervention Scenario)

|                         |       | 1995   | 1996   | 1997   | 1998   | 1999    | 2000    |  |
|-------------------------|-------|--------|--------|--------|--------|---------|---------|--|
| Prevention (screening+) | Users | 53     | 43     | 36     | 29     | 24      | 19      |  |
|                         | Units | 53     | 43     | 36     | 29     | 24      | 19      |  |
|                         | Cost  | 22870k | 18861k | 15437k | 12628k | 10253k  | 8211k   |  |
| Prevention (screening-) | Users | 53     | 43     | 36     | 29     | 24      | 19      |  |
|                         | Units | 53     | 43     | 36     | 29     | 24      | 19      |  |
|                         | Cost  | 2350k  | 1938k  | 1586k  | 1298k  | 1054k   | 844k    |  |
| Hospital care (IP)      | Users | 3      | 5      | 8      | 11     | 14      | 17      |  |
|                         | Units | 4      | 8      | 12     | 17     | 21      | 25      |  |
|                         | Cost  | 22387k | 41952k | 67041k | 94004k | 117636k | 138347k |  |
| Hospital care (OP)      | Users | 3      | 5      | 8      | 11     | 14      | 17      |  |
|                         | Units | 21     | 40     | 64     | 89     | 111     | 131     |  |
|                         | Cost  | 3486k  | 6532k  | 10438k | 14636k | 18316k  | 21541k  |  |

### Total Provider Cost of HIV/AIDS (Medium Intervention Scenario)

|                         |       | 1995   | 1996   | 1997   | 1998   | 1999    | 2000    |  |
|-------------------------|-------|--------|--------|--------|--------|---------|---------|--|
| Prevention (screening+) | Users | 53     | 46     | 41     | 37     | 34      | 31      |  |
|                         | Units | 53     | 46     | 41     | 37     | 34      | 31      |  |
|                         | Cost  | 22870k | 20100k | 17805k | 16008k | 14607k  | 13548k  |  |
| Prevention (screening-) | Users | 53     | 46     | 41     | 37     | 34      | 31      |  |
|                         | Units | 53     | 46     | 41     | 37     | 34      | 31      |  |
|                         | Cost  | 2350k  | 2065k  | 1830k  | 1645k  | 1501k   | 1392k   |  |
| Hospital care (IP)      | Users | 3      | 5      | 8      | 12     | 15      | 17      |  |
|                         | Units | 4      | 8      | 12     | 17     | 22      | 26      |  |
|                         | Cost  | 22387k | 41952k | 67161k | 94832k | 120549k | 144594k |  |
| Hospital care (OP)      | Users | 3      | 5      | 8      | 12     | 15      | 17      |  |
|                         | Units | 21     | 40     | 64     | 90     | 114     | 137     |  |
|                         | Cost  | 3486k  | 6532k  | 10457k | 14765k | 18769k  | 22513k  |  |

### Total Provider Cost of HIV/AIDS (Baseline Intervention Scenario)

|                              |       | 1996   | 1997   | 1998   | 1999    | 2000    |  |
|------------------------------|-------|--------|--------|--------|---------|---------|--|
| Prevention with screening    | Users | 48     | 45     | 42     | 41      | 40      |  |
|                              | Units | 48     | 45     | 42     | 41      | 40      |  |
|                              | Cost  | 20497k | 19498k | 18393k | 17625k  | 17165k  |  |
| Prevention without screening | Users | 48     | 45     | 42     | 41      | 40      |  |
|                              | Units | 48     | 45     | 42     | 41      | 40      |  |
|                              | Cost  | 2158k  | 2004k  | 1890k  | 1811k   | 1764k   |  |
| Hospital care (IP)           | Users | 5      | 8      | 12     | 15      | 18      |  |
|                              | Units | 8      | 12     | 17     | 22      | 27      |  |
|                              | Cost  | 41952k | 67248k | 95430k | 122640k | 149047k |  |
| Hospital care (OP)           | Users | 5      | 8      | 12     | 15      | 18      |  |
|                              | Units | 40     | 64     | 90     | 114     | 141     |  |
|                              | Cost  | 6532k  | 10471k | 14856k | 19095k  | 23207k  |  |

## **Medical Care Cost of HIV/AIDS In-patients at IDH (1994-95)**

## **Appendix 6 (Continued)**

## **Medical Care Cost of HIV/AIDS In-patients at IDH (1994-95) (Cont:)**

## **Appendix 6 (Continued)**

## **Medical Care Cost of HIV/AIDS In-patients at IDH (1994-95) (Cont:)**

## **Appendix 6 (Continued)**

## **Medical Care Cost of HIV/AIDS In-patients at IDH (1994-95) (Cont:)**

**Norbastin:** BHC lotion; Norwax! Clifent Inj; dil pi inj; dil QDrip set; IV Offeren; Pyrimet; N; mannum; Tegetol; Ryle's tube; Gan/viol; Catheter; inj; C; clinic; K tab; inj Adonis; Lamott; Eurozone;

## **Appendix 6 (Continued)**

## **Medical Care Cost of HIV/AIDS In-patients at IDH (1994-95) (Cont:)**

## **Appendix 6 (Continued)**

## **Medical Care Cost of HIV/AIDS In-patients at IDH (1994-95) (Cont:)**

## CURRICULUM VITAE

1. Name : Tin Min
2. Sex : Male
3. Date of Birth : 14 April 1951
4. Nationality : Myanmar
5. Marital Status : Married
6. Education Qualifications :

- (a) Matriculation (1968)
- (b) M.B.,B.S. (1975), Institute of Medicine (1), Yangon, Myanmar
- (c) M. Med. Sc. (Preventive and Tropical Medicine), Institute of Medicine (1), Yangon, Myanmar

7. Employment Record :
- 1977 to 1981 : General Practitioner, and Medical Officer in Co-operative Clinic
  - 1981 to 1982 : Medical Officer, Yangon General Hospital
  - 1982 to 1988 : Medical Officer, Hospital for Drug Dependents, Thayet, Magwe Division
  - 1988 to 1991 : Township Medical Officer, Sittwe, Rakhine State
  - 1991 to 1993 : Medical Officer, Department of Health
  - 1993 to 1994 : Medical Officer, Ministry of Health
  - 1994 to (at present) : Deputy Assistant Director, Ministry of Health

8. Thesis Done :

A Study of Risk Factors for Developing Protein Energy Malnutrition among 6 Month to 5 Year Old Children Residing in Ahlone Township, Yangon (1992)

9. Paper Published :

A Study of Effectiveness of Conversion of Bucket Latrine to Sanitary Latrine in Tamwe Township, Yangon (1992)

