

Appendix to Bottlenecks in the Functioning of the Supply Chain of Drugs

A.1. Schematic overview of the drug supply chain in Madagascar

See Figure 1.

A.2. Sampling of the budget tracking survey in the health and education sector of Madagascar

The results in this study are based on primary data collected in the first round of a nation-wide budget tracking survey at the end of 2006.¹ The stratified sample was set up in such a way to be representative at the national level. Madagascar counts 22 regions and 111 districts and at least one district was visited in each region. Two districts were selected in the six largest regions. Hence, 28 districts were visited in total. The selected districts were obtained through random selection, giving greater (less) weight to districts with more (less) public primary schools and health centers within the district. The education and health sector were given equal weight in the latter selection (World Bank, 2006). In each district, three communes were randomly selected.

Two types of health centers provide basic health care. In the selected communes all the public basic health centers of type 2 (CSB2) were visited. If public basic health centers of type 1 (CSB1) were present in the commune, one was visited based on random selection. Table 1 illustrates that in total 113 basic health centers were visited of which 65% are CBS2.

Table 1: Structure of the sample

| Province | Nr. of CSB2 | Nr. of CSB1 |
|--------------|-------------|-------------|
| Antananarivo | 16 | 7 |
| Fianarantsoa | 19 | 8 |
| Toamasina | 12 | 7 |
| Mahajanga | 13 | 11 |
| Toliara | 10 | 2 |
| Antsiranana | 4 | 4 |
| Total | 74 | 39 |

Source: Budget Tracking Survey, 2006

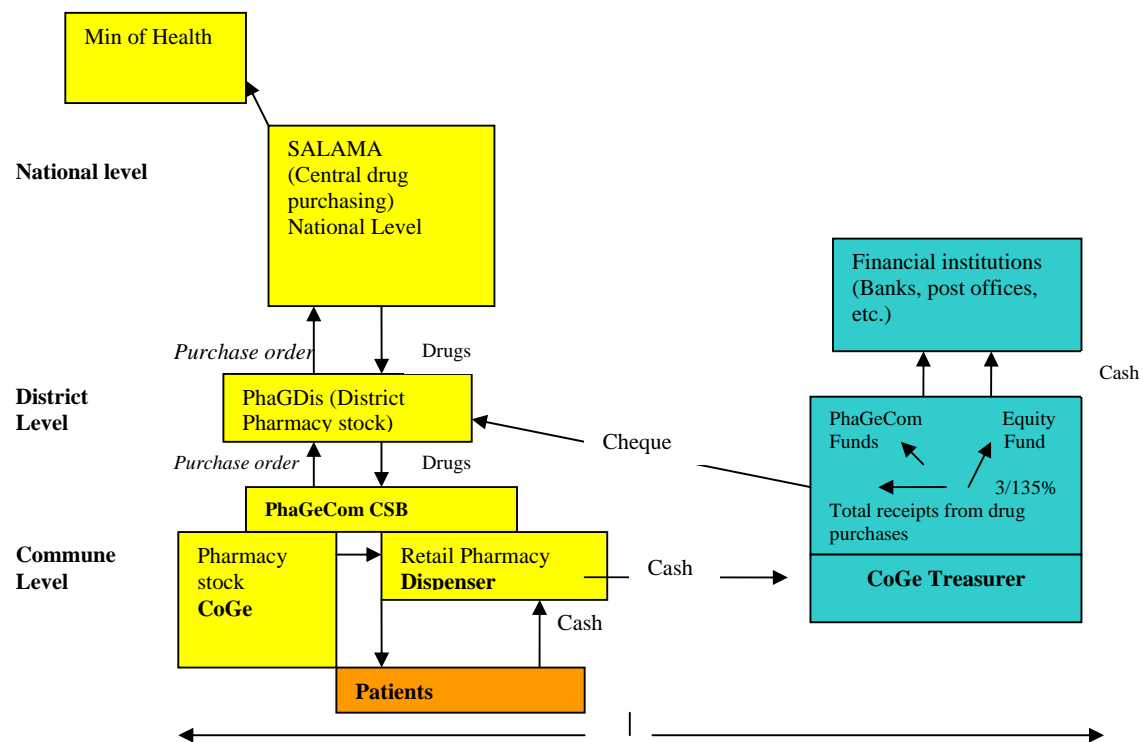
In order to accurately investigate the resource flows through the different decentralized facility levels, surveys were organized at PhaGDis and CSB level. At CSB level, the director was interviewed independently from the rest of the staff. To ensure compatibility, the surveys were organized at the same time.

A.3. Availability of drugs and leakages in the drug supply chain in greater detail

See Table 2.

¹ The survey was conducted in September/October/November

Figure 1: Circuit of drugs and money in the FANOME



Source: World Bank, 2006

Table 2: Availability of drugs in PhaGeCom/CBS and leakages in drug supply chain (in greater detail)

| | Available Oct/Nov 2006 | Not available due to delivery failure | Inventory shortage* | Inventory shortage Nr. of days | | If available, price paid by patients | Leakage i.e. PhaGDis stated to have sent more than CSB reported as arrived – sum of last two deliveries |
|--|---------------------------|--|------------------------|-----------------------------------|--------|---|--|
| | (in % of CSB) | (in % of CSB) | (in % of CSB) | Mean | Median | (Median - in Ariary) | (in % of CSB who ordered product) |
| Acetylsalicylique acide 100mg – CP | 25 | 9 | 9 | 71 | 75 | 8 | 6 |
| Acetylsalicylique acide 500mg – CP | 60 | 9 | 10 | 78 | 90 | 10 | 8 |
| Chloroquine 150 mg – CP | 89 | 6 | 6 | 63 | 90 | 25 | 13 |
| Cotrimoxazole 100-20 mg – CP | 37 | 16 | 17 | 72 | 90 | 20 | 9 |
| Cotrimoxazole 200-40 mg/5 ml – SUSP BUV | 34 | 25 | 31 | 72 | 90 | 1,175 | 20 |
| Cotrimoxazole 400-80 mg – CP | 94 | 3 | 4 | 45 | 45 | 33 | 15 |
| Amoxicilline 250 mg – GEL | 42 | 19 | 21 | 59 | 80 | 67 | 30 |
| Amoxicilline 250 mg – 5 ML SUSP BUV | 27 | 28 | 31 | 74 | 90 | 1,684 | 25 |
| Amoxicilline 500 mg – GEL | 83 | 10 | 15 | 43 | 35 | 115 | 16 |
| Fer acide folique 200mg – 0,25mg – CP | 83 | 8 | 13 | 45 | 47 | 8 | 14 |
| Ibuprofene 200 mg – CP | 72 | 16 | 18 | 64 | 85 | 17 | 26 |
| Mébendazole 100 mg – CP | 79 | 7 | 8 | 67 | 81 | 19 | 10 |
| Paracétamol 100 mg – CP | 35 | 10 | 12 | 83 | 90 | 8 | 0 |
| Paracétamol 500 mg – CP | 92 | 5 | 7 | 45 | 30 | 11 | 17 |
| Quinine 100 mg/ML injectable – AMP 1ML | 18 | 14 | 15 | 74 | 90 | 483 | 8 |
| Quinine 300 mg/ML injectable – AMP 2 ML | 63 | 14 | 15 | 62 | 90 | 517 | 18 |
| Retinol (Vitamine A) 60 mg/100 000 UI – CAPS | 53 | 6 | 8 | 81 | 90 | 71 | 25 |
| Retinol (Vitamine A) 60 mg/200 000 UI – CAPS | 67 | 3 | 5 | 78 | 90 | 81 | 25 |
| SRO (Sels de hydratation orale) sachet | 68 | 18 | 20 | 73 | 90 | 216 | 12 |
| Tetracycline 1% pommade OPHT–Tube 5g | 57 | 24 | 27 | 69 | 85 | 470 | 22 |
| Tetracycline 250 mg – CP | 17 | 31 | 31 | 81 | 90 | 29 | 14 |

Source: Budget Tracking Survey, 2006; *Rupture de stock – now or during last 3 months