5. *Report of evaluation of Reaching Every District approach in five countries*. Brazzaville: WHO Regional Office for Africa, 2005 [unpublished document].
6. WHO vaccine-preventable diseases: monitoring system: 2006 global summary. Geneva: WHO; 2006 (WHO/IVB/2006). Available from: http://www.who.int/immunization_monitoring/data/en/

Health insurance in sub-Saharan Africa: a call for subsidies

De Allegri et al.[1] rightly describe low enrolment as a principal problem related to the functioning of community health insurance (CHI) in sub-Saharan Africa. Furthermore, they identify a set of important factors affecting the decision to enrol. Nonetheless, on reflection about the evidence established by this paper and related research, I would like to suggest some additional considerations.

First of all, the described (and not too surprising) fact that the educational and, importantly, the socioeconomic status of a household play predominant roles in the decision of whether to enrol in health insurance is depicted by a series of articles[2] as well as several systematic article reviews.[3] Some of them are quoted by the authors themselves.[4,5]

Second, the consistency of this observation and the clear-cut cause–effect relationship between socioeconomic well being and the readiness to embark on an expenditure (be it for health insurance or anything else) allow the conclusion that wealth is a fundamental predictive factor for enrolment into health insurance.

Third, if then poverty can be understood as a risk factor for *not* embarking into health insurance, the discussion around an insurance approach for the poor should focus very much on the following three questions: What percentage of the population targeted by the envisaged or existing insurance scheme are too poor to enrol on their own? By which kind of corrective measures can they be included? What consequences do these measures have for the financial viability of the scheme?

Two recent analyses from Ghana[6] and Rwanda[7] suggest that the capacity of households to contribute financially is so weak that the dual objectives of mobilizing significant resources for health on one side, and of covering a large percentage of the targeted rural population on the other, are mutually exclusive. That is to say that insurance schemes requiring a contribution of little more than a few US dollars per year are beyond the reach of the majority, but they still do not allow the financing of reasonable (and thus attractive) health services! Furthermore, schemes charging about ten times such an amount are still affordable by a considerable minority of the population and maximize resource mobilization in absolute terms. This phenomenon is explained largely by the highly skewed distribution of wealth in the settings studied (as expressed equally by a high Gini coefficient). This finding seems to be one of the main reasons underlying the aforementioned low enrolment rate scrutinized by De Allegri et al. In many countries in sub-Saharan Africa, health insurance schemes might find themselves in a tragic situation: Depending on the design, people are either unable to pay for the schemes, or the schemes are unable to pay for the envisaged services.

Therefore, it is suggested that future research go beyond the identification of additional predictive factors for health insurance enrolment. If health insurance is to cover broader population strata in sub-Saharan Africa and to assure satisfactory health services, schemes will require continuous and long-term subsidies to bridge the gap between household capacity to contribute financially and the real costs of health care. The development of approaches addressing this dilemma should be considered as a research priority. They might include initiatives of north–south risk pooling as between the Netherlands and Ghana.[8] This necessity is underpinned by the capacity of health insurance to formalize social protection and to create a market between health service providers and their "customers", simultaneously alleviating poverty and empowering communities. Yet, available evidence points out that to play these roles, health insurance needs subsidies. ■

Andreas Kalk[a]

References

1. De Allegri M, Kouyaté B, Becher H, Gbangou A, Pokhrel S, Sanon M. et al. Understanding enrolment in community health insurance in sub-Saharan Africa: a population-based case-control study in rural Burkina Faso. *Bull World Health Organ* 2006;11:852-8.
2. Musango L, Dujardin B, Dramaix M, Criel B. Les profils des membres et non membres des mutuelles de santé au Rwanda: le cas du district sanitaire de Kabutare. *Trop Med Int Health* 2004;9:1222-7. PMID:15548320 doi:10.1111/j.1365-3156.2004.01318.x
3. Preker AS, Carrin G, Dror D, Jakab M, Hsiao W, Arhin-Tenkorang D. Effectiveness of community health financing in meeting the cost of illness. *Bull World Health Organ* 2002;80:143-50. PMID:11953793
4. Ekman B. Community-based health insurance in low-income countries: a systematic review of the evidence. Health Policy Plan 2004;19:249-71. PMID:15310661 doi:10.1093/heapol/czh031
5. Walkens MP, Criel B. *Les mutuelles de santé en Afrique sub-Saharienne – Etat de lieu et réflexion sur un agenda de recherche*. Washington, DC: World Bank; 2004 [Health, Nutrition and Population Discussion Paper].
6. Arhin-Tenkorang D. Experience of community health financing in the African region. In: *Health financing for poor people: resource mobilization and risk sharing*. Washington, DC: World Bank; 2004.
7. Schmidt JO, Mayindo JK, Kalk A. Thresholds for health insurance in Rwanda: who should pay how much? *Trop Med Int Health* 2006;11:1327-33. PMID:16903895 doi:10.1111/j.1365-3156.2006.01661.x
8. Improving social protection for the poor: *health insurance in Ghana – The Ghana social trust pre-pilot project*. Geneva: International Labour Organization; 2005.

Anti-tuberculosis medication side-effects constitute major factor for poor adherence to tuberculosis treatment

Two significant issues that require further clarification in Garner et al.'s stimulating paper (*Promoting adherence to tuberculosis treatment*[1]) are the impact of medication side-effects on treatment adherence as well as how adherence to tuberculosis (TB) chemotherapy should be defined and monitored. The treatment regimen recommended

[a] Health Sector Coordinator, German Cooperation, GTZ, BP 59, Kigali, Rwanda.
Correspondence to Andreas Kalk (e-mail: andreas.kalk@gtz.de).