Pooling has two major functions: to allow risk cross-subsidies from low risk to high risk people, and to allow income cross-subsidies between high- and low-income people. Fragmentation of the pool occurs when too many small organisations are involved in revenue collection, pooling and purchasing of health services. Out-of-pocket financing and personal medical savings accounts represent the highest degree of fragmentation as each individual constitutes their own pool.

Large pools are preferred as they can increase resource availability, take advantage of economies of scale and reduce the contributions required to protect against uncertain needs, while still ensuring there are sufficient funds to pay for services. However, as the WHO explains, the argument for large pools is not an argument for single pools if multiple pools can exist without fragmentation, and if their size and financing mechanisms allow for adequate spreading of risk and subsidisation of the poor.

In a multiple pool system, the larger the pools the more stable the results over time. In South Africa, the Council for Medical Schemes uses 30,000 lives as the definition of a large medical scheme. In the USA, the minimum provider risk pool size to accept full healthcare risk is at least 20,000 lives.

Open medical schemes (that anyone can join) are generally larger than restricted schemes (typically employer- or union-based). It is important to encourage the formation of the largest possible pools, yet despite substantial merger activity there still remain many small schemes. Considerable fragmentation still exists due to the proliferation of options, the design of options and the lack of legislation assisting mergers within industries. For example, ring-fencing of assets in a merger would facilitate and encourage larger risk pools but is not feasible under existing medical scheme legislation.

Importantly, each option in a medical scheme is a separate risk pool as legislation requires each option to be financially self-sufficient and self-sustaining. This means that risk pooling occurs at option level resulting in even greater fragmentation. In the open scheme market in 2008, there were 191 distinct benefit packages. Implementation of more standardised benefit packages would assist consumers and providers of healthcare, and should significantly reduce administration complexity.

In competitive risk pool environments, the biggest danger is that funds compete on the basis of risk selection. The larger the predictable profits resulting from cream-skimming (selecting or attracting the lowest risk lives), the more likely that cream-skimming will be preferred to improving efficiency. Creating a risk-adjustment fund so that all plans face a more similar risk profile will make cream-skimming unprofitable or much less profitable.

The Medical Schemes Act of 1998, effective from January 2000, re-introduced open enrolment, community-rating and a minimum benefits package that must be offered by all schemes. South Africa is unusual in having implemented these three elements without risk equalisation. The Risk Equalisation Fund (REF) was designed to create effectively one risk pool across all medical schemes in respect of the common package, the Prescribed Minimum Benefits. Due to the extreme differences in age profile alone, the price for minimum benefits in open funds in 2002 ranged from 38% cheaper than the industry community rate to 142% more expensive.

The full implementation of REF was expected from 2007, but the legislative process has taken longer than envisaged. Without the central pooling mechanism of the REF, it is not possible to introduce industry-wide income cross-subsidies. The most critical element of reform that is needed in 2010 in medical schemes is to implement the long-awaited Risk Equalisation Fund.

Risk adjustment across different pools also applies within public systems. The public sector in South Africa is financed from tax revenue with amounts allocated to provinces using a needs-based formula. The nine provinces have very different age-gender profiles, arguing for payments to each province for healthcare based on health risk factors. The ANC proposals for NHI suggest that purchasing may be devolved to 52 health districts. These districts vary in size (ranging from 56,000 to 3,888,000 lives) but all are larger than the minimum risk pool size of 20,000. A risk adjustment mechanism (common in public systems) between provinces and perhaps health districts will be needed to ensure equity across the regions. South Africa requires further work on the design of a suitable formula.
There is currently no risk pooling between the tax-funded public sector and private medical schemes. A national risk adjustment fund (Figure 1) is a possible way to ensure equity between private competing funds and public sector purchasers. This would be a logical way to distribute the per capita subsidy envisaged to replace the current tax break given to medical scheme members.

**Figure 1: Possible Risk-Adjustment between Public and Private Purchasers**

- **Government**: Remove existing tax subsidy for medical schemes.
- **Mandatory Member**: Direct risk-rated contribution for packages above comprehensive minimum benefits.
- **Employer**: Mandatory membership all above tax threshold.
- **Public sector purchasers**: Tax (e.g. VAT), Direct subsidy per person (total population), Income-based social security contribution.
- **Other public**: Tax-adjusted transfers.
- **Competing private purchasers**: Risk-adjusted transfers.

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**Further resources on the IMSA NHI web-site**
http://www.innovativemedicines.co.za/national_health_insurance.html
- The full policy brief, as well as the slides and tables used.

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