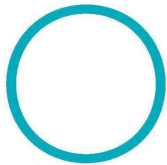


WATERBORNE DISEASE RISKS

Why some water service authorities perform well and others do poorly

The main differentiator of performance is the quality of governance, leadership and management

Sean Phillips



In December 5 2023 the department of water & sanitation released the results of its Blue Drop (drinking water), Green Drop (wastewater) and No Drop (nonrevenue water) assessments of the performance of municipal water and sanitation services.

The Blue and Green Drop reports are comprehensive audits covering a range of key performance areas. The No Drop assessment focuses on treated water that is bought or produced by a municipality, for which the municipality gets no revenue, as well as levels of physical water losses in the system (for example through leaks in pipes).

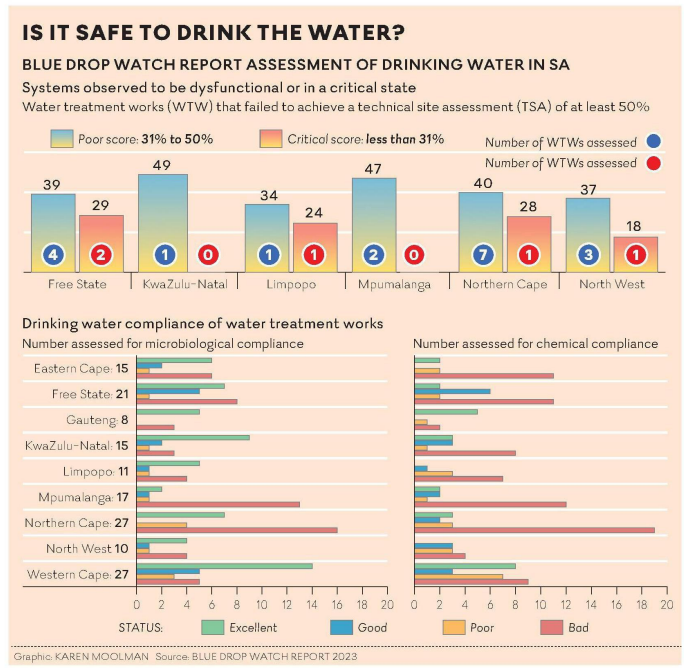
The percentage of water supply systems that achieved poor or bad microbiological water quality compliance increased from 5% in 2014 to 46% in 2023. It was therefore not microbiologically safe to drink the water in almost half of our drinking water systems at times during 2022 when the department conducted the Blue Drop audit, which resulted in increased risk of waterborne diseases.

The percentage of municipal wastewater systems in a critical state of performance rose from 30% in 2013 to 39% in 2022, and in that year 90 of the 144 water service authorities (the municipalities that are allocated the function of providing water and sanitation service) had at least one wastewater system in a critical state of performance.

These wastewater systems are discharging partially treated or untreated sewage into rivers and the environment, which has negative environmental implications and poses risks to human health (for example, cholera outbreaks are normally associated with wastewater pollution of water resources).

While the Blue Drop assessment indicated that 85% of municipal drinking water infrastructure is in an average or better infrastructure condition, the Green Drop assessment indicated that only 44% of municipal wastewater systems are in an average or better infrastructure condition.

This indicates that municipal councils are reluctant to budget for maintenance of wastewater infrastructure in particular. It also indicates that noninfrastructure factors such as a



lack of skilled staff or a lack of proper process controls are as important as infrastructure condition, if not more important, as contributors to poor drinking water quality.

This is supported by the Blue Drop finding that Gauteng has the highest percentage of drinking water systems with excellent or good performance and the lowest shortfall of qualified staff. In contrast, Northern Cape has the highest percentage of drinking water systems with poor or critical performance and the highest shortfall of qualified staff.

The 2023 No Drop report found that the national average for nonrevenue water increased from 37% in 2014 to 47% in 2023. The implications of this include that money spent to develop dams

and water treatment works is wasted if a large portion of the treated water is lost through leaks in municipal water distribution systems; and that municipalities with high nonrevenue water are unable to pay water boards for treated water supplied by them and cannot afford to properly maintain and operate their water distribution infrastructure.

On January 18 and 19 the departments of water & sanitation and co-operative governance & traditional affairs invited all 144 water service authorities to a summit on the Drop results. The aim was to discuss and agree on the causes of good performance and poor performance, and to identify the most important issues to be included in action plans to be developed by each water

service authority to address their Drop results. The inputs by municipalities to the summit were instructive. Some mayors and municipal officials argued that external factors beyond their control are the main cause of their poor results. These external factors include vandalism and theft of infrastructure, illegal connections, the poorly performing economy and people's inability to pay for water, high levels of indigent populations, and ageing infrastructure.

The City of Ekurhuleni made a presentation to the summit on its nonrevenue water reduction programme, through which it has reduced its nonrevenue water from over 40% in 2013 to less than 30% in 2023. In contrast, the nonrevenue water of eThekweni municipality increased from 37% in 2013 to 58% in 2023.

What are the key factors that differentiate the performance of Ekurhuleni from that of eThekweni with regard to non-revenue water? Both cities have similar external pressures, so external factors cannot be the main differentiator.

The answer is that Ekurhuleni has focused on addressing the factors within its control. It has implemented a nonrevenue water reduction programme, including improving its billing, revenue collection and debt management; introduced proactive leak detection and efficient leak repair; improved the measurement of its water flows to enable leaks to be detected and flows to be managed optimally to minimise leaks; replaced nonfunctioning water meters; improved water pressure management; engaged in public awareness initiatives; and entered into performance-based contracts with the private sector to reduce non-revenue water.

It was clear from the summit that the main differentiator of good or bad performance is the quality of the governance, leadership and management of the water service authority concerned, including the municipal council, the mayor and other political leaders, and the municipal manager and senior managers of the municipality's water & sanitation department.

To quote from Ekurhuleni's presentation to the summit, its good nonrevenue water performance is attributed to "buy-in from the executive, administration and political offices; water demand management being a priority within the municipal agenda; and appointment of competent, skilled and qualified people to manage water and sanitation infrastructure".

● Dr Phillips is director-general of the national department of water & sanitation.