

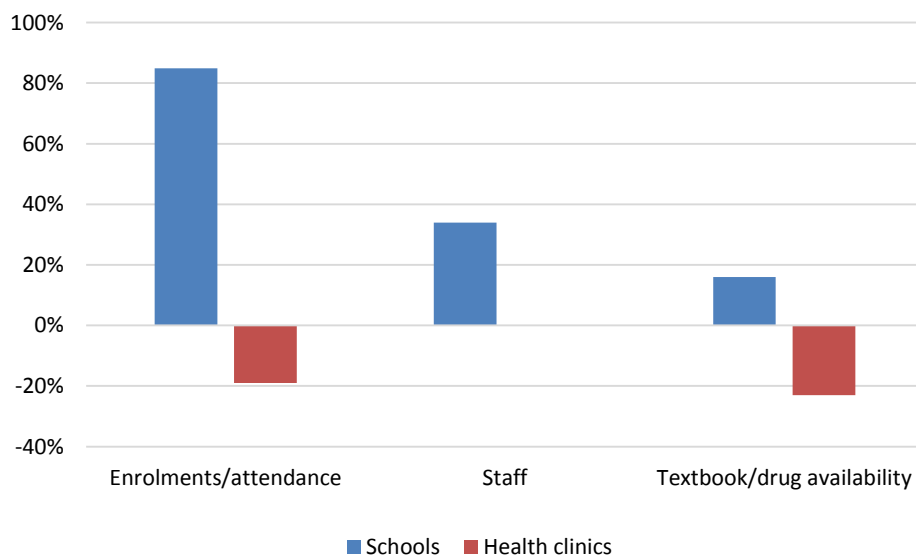
9 CONCLUSION

9.1 Introduction

The preceding chapters clearly show large differences in performance between PNG's primary schools and health clinics over the last decade. It was certainly not a lost decade for PNG's schools. Rather, education was in expansion mode. The expansion of facilities was not able to keep up with the increase in enrolments, but on average primary schools had substantially more teachers, classrooms and textbooks in 2012 than in 2002.

Primary health care, by contrast, was in retreat over the decade. The number of patients using health clinics may actually have fallen. Fewer drugs were available at surveyed clinics. There was no increase in the number of health workers. The contrasting fates of the two sectors are captured by the graph below.

Figure 9-1: Percentage changes in key indicators: the contrasting fates of PNG's schools and health clinics, 2001/2 to 2012



Notes: Growth in enrolments measured since 2001 due to large increase in enrolments in that year. Health clinic attendance is on a typical day. Staff growth based on numbers reported to be regularly working, and is zero for health clinics. Textbooks and drug availability figures are based on averages across the textbooks and drugs and supplies surveyed.

Many of the improvements in education indicators are statistically significant. Negative changes in the health indicators are not statistically significant, but the absence of growth in health service delivery indicators is itself a source of concern in the presence of rapid population growth. The fact that the indicators tend to go one way for health and another for education also suggests that the results obtained are not the results of sampling variability.

Of course, not all developments in education were positive. Absenteeism rates increased, and this partially offset the enrolment gains. And there was no improvement in the proportion of classrooms

and teachers' houses in a good condition. Generally, however, this analysis naturally leads to the question: why has education done so much better than health? Why has one sector experienced a decade of expansion, the other a decade of stagnation or contraction?

And why, for that matter, do some provinces do so much better than others in both education and health? Why is East New Britain a stand-out? And then, going beyond the sectoral and provincial level, why do some individual facilities do much better than others? Is it all all down to finance, or does governance also matter?

This chapter concludes the report by providing some answers to these questions based on the results presented in Chapters 3 to 7 and the facility-level regression analysis presented in Chapter 8. The next four sections seek explanations based on our analysis in relation to four dimensions: financing, governance, agency and the workforce. The final two sections conclude with a summary of key findings and recommendations.

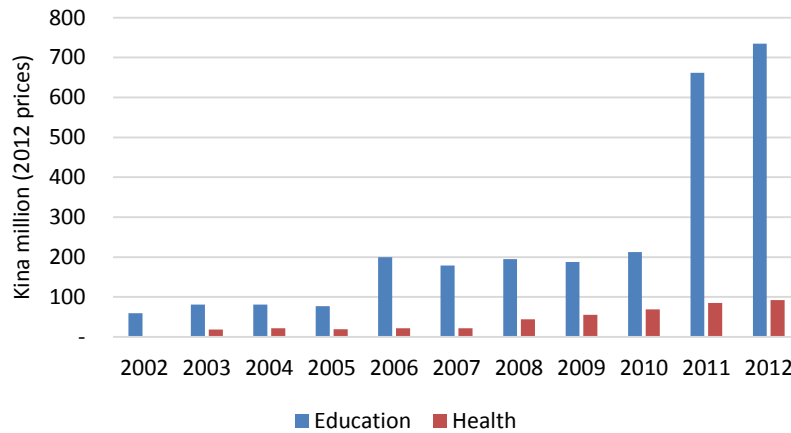
9.2 Finances

Whatever explains the differences between health and education performance, it is clear that it is not the reduction in user fees. Both primary schools and health clinics reduced their charges over the last decade, before abolishing them in 2012 and 2013 respectively. In education, enrolments have increased greatly, but in health, patient numbers have fallen. Why hasn't reducing fees had the same effect in health that it seems to have had in education?

The first answer is simply that the national government has been pumping a lot more money into education than health. Figure 9-2 compares, on the one hand, central government funding for the education function grant and school subsidy payments with, on the other, funding of the health function grant and of operational costs for church health services. That is, it shows the resources available for non-salary recurrent costs for PNG's schools and health clinics. There is no comparison, either of amounts, or of rate of increase. Even before the abolition of tuition fees in 2012, external funding to health clinics had been left way behind by external funding to schools.

Another difference between health clinics and schools when it comes to finances is the way they receive support. Only 44 per cent of clinics have a bank account, whereas nearly all schools do. Nearly all the support that schools receive is through external funding, whereas clinics are much more reliant on in-kind support and user fees: less than 20 per cent received external funding.

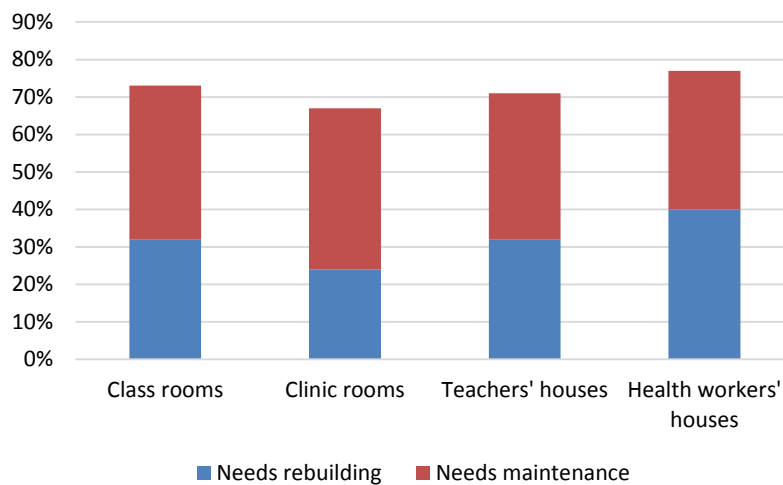
Figure 9-2: Central government funding for health facilities and school operational costs (Kina million, 2012 prices)



Notes: The health funding combines the provincial health function grant with operational costs for the Christian Health Services. We only have data for the latter from 2011, and we assume that before that it grows in line with the health function grant. The education funding combines school subsidy payments with the provincial education function grant. Consumer Price Index used to deflate the series. Sources: National budget documents and Piel (2013).

Finally, one financial issue faced by both schools and health clinics is the neglect of spending on maintenance. This leads to buildings becoming unusable. As Figure 9-3 shows, 65 to 80 per cent of classrooms, clinic rooms and staff houses require rebuilding or maintenance. There is no sign of any improvement in this indicator in the education sector over the last decade, and, given the precarious financial position of the health sector, it is unlikely that the state of PNG’s health clinics is improving either.

Figure 9-3: Rebuilding and maintenance requirements in schools and clinics, 2012

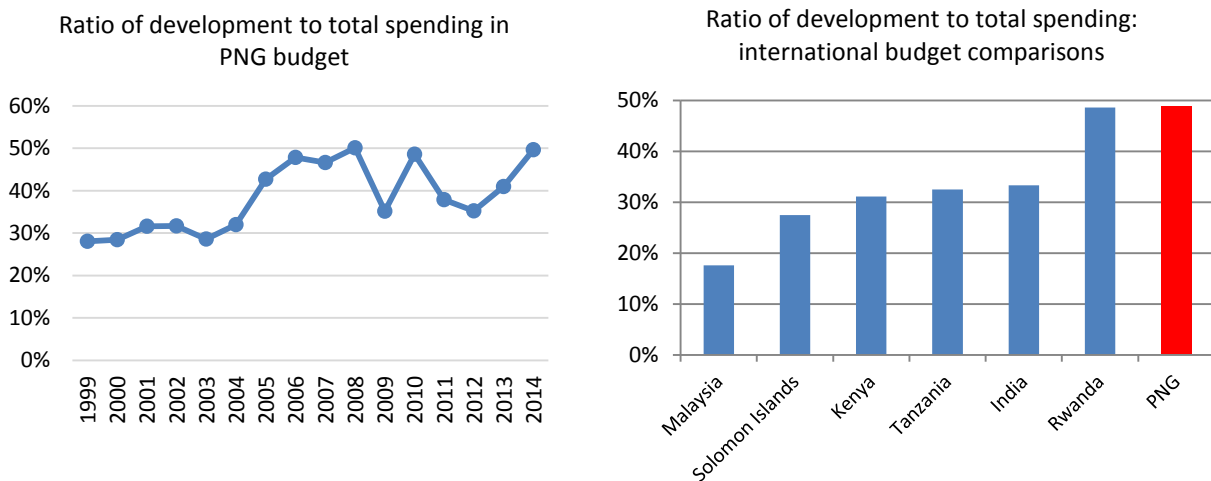


Schools are now spending more on maintenance, because they have more funds overall, but the priority for spending from new resources

is for infrastructure (Figure 3-13). Only a third of health clinics said that they had undertaken maintenance in 2012 (Table 4-7).

A bias against maintenance and in favour of construction can be seen in PNG's budget as a whole, where the share of the development budget in total government spending has risen over the last decade and has now reached 50 per cent, one of the highest in the world (Figure 9-4). The development budget does itself contain considerable recurrent funding, but it is all in the form of project funding. Because of this (and because projects change from year to year), the development budget does not provide a suitable mechanism for the financing of ongoing expenditure requirements such as maintenance. School subsidy payments are a good source for funding maintenance because they will be available year after year. Whether they will be used for maintenance, however, remains to be seen. The subsidy policy allows maintenance as an area of expenditure to be financed by school subsidy payments, but does not mandate it. Perhaps it should.

Figure 9-4: Development spending as a share of total government expenditure - PNG trends and international comparisons



Source: PNG budgets and budget documents of the other countries shown (most recent years available). For PNG, 2013 are actuals and 2014 budget estimates. Some earlier years include trust fund and supplementary spending in the development budget.

9.3 Governance

The differences in finance between the two sectors are striking, but far from the whole story. The governance arrangements around the two sets of facilities are very different as well. In summary, primary schools are more closely supervised and better connected to their communities.

On the supervision front, nearly all the schools, almost 80 per cent, received a visit from a supervisor in 2012 (Figure 3-10). This was true of only 40 per cent of health clinics (Table 4-13). Schools also have a lot of room for improvement, however. Only 39 per cent of schools received an inspection in relation to the subsidy payments they received in either 2011 and 2012 (Table 5-6). And 20 per cent of

schools did not receive a visit from a Standards Officer in either of these two years (Table 3-16). There would seem to be a clear need to increase supervisory resources. For example, the education budget for inspections and standards was K7.1 million in 2013 (in 2011 prices), less than its level of K8.8 million in 2003.

Nearly all schools have a Board of Management (BoM). As we saw in Chapters 3 and 5, BoMs do not just exist on paper. They are active, and they have real power. 95 per cent of BoM chairs say that they manage school assets (Figure 3-12) and they are viewed by two-thirds of Head Teachers as the decision maker in relation to school subsidy payments (Table 5-7).

There is no counterpart to the BoM in the health sector. Only 60 per cent of health clinics, mainly aid posts, have a Village Health Committee (VHC). The VHC is similar in function to the Parents and Citizens (P&C) Committee at a school. Neither has real power. Instead, they are vehicles for community engagement. But school P&C Committees are more widespread and active than VHCs. 96 per cent of schools had a P&C Committee in 2012, but only 64 per cent of health clinics had VHCs. And P&C Committees met on average 3.9 times a year in 2012, compared to 2.2 times for VHCs.²¹

In other words, it would seem that schools have a well-established, mature and functioning governance system. Health clinics do not.

Our regression analysis underlines the importance of governance for performance. The number of times the BoM met and its extent of influence emerge as key determinants of the extent to which schools have improved in terms of the quality of their classrooms, teachers' houses and infrastructure generally. For some performance outcomes, whether the Head Teacher mixes with the community, and the number of P&C meetings are also important. Whether or not a Standards Officer is active in inspecting a school also appears to be significant for school performance. Interestingly, whether or not the BoM is perceived by the community to manage the school effectively is influenced by the extent of formal oversight by Standards Officers and interaction between the school and the community.

9.4 Agency

Closely related to considerations of governance are those of agency: does it matter whether the school or clinic is managed by the government or by a church agency? Between one-third and 40 per cent of the sample of schools and clinics were in the latter category. In many regards, government and church-run facilities appear indistinguishable when summary statistics are compared, but not in all. Some of the most interesting differences between the two types are summarised below in Table 9-1.

21. See Table 3-17 and Table 4-14 for the numbers in this paragraph.

The gap between church and government schools seems to have opened up over the last decade. Church schools have had more success in increasing enrolments, and in getting their teachers to turn up and teach. In 2012, about three-quarters of community representatives said that their church school teachers normally turned up on time and most spent their time teaching, but only 50-57 per cent of community representatives said this about their government school teachers.

Likewise in health clinics, 83 per cent of health workers in church-run clinics were said to be always or often available, compared to 60 per cent for workers in government clinics. Church-run health clinics are no more likely to get external funding than government ones, but if they do, they get a lot more.

The importance of the differences between agency type is also suggested by the regression analysis. This shows that teachers are 14 percentage points more likely to be often or always teaching in church schools, and that schools, where it is the case that teachers are often or always teaching, are 13-23 percentage points more likely to be the ones that most or all students in the area attend. Church health clinics also perform better than government clinics and deliver more outputs. The regression analysis reveals that, controlling for other variables, church clinics are 17 per cent more likely to have water access, 13 per cent more likely to have more than 10 health patrols a year, 15 percentage points more likely to be able to transfer patients, and 16 percentage points less likely to have service quality problems. Health workers at church clinics are also 18 percentage points more likely to be at the clinic often or all of the time and 14 percentage points more likely to attend to patients on arrival. Church clinics are 14 percentage points less likely to have funding problems compared to government clinics.

More research is definitely required, but it would appear that church-run facilities, both schools and health clinics, are better able to discipline, motivate and/or incentivise their workers. Church-run health clinics also appear to be better funded, and therefore better equipped, and more likely to carry out basic services. These results make a strong case for shifting to greater reliance on church schools and health clinics.

Table 9-1: Some comparisons between church and government schools and health clinics

		Government		Church	
		2002	2012	2002	2012
Schools					
Most or all children in the community attend school	%	65	66	59	76
Increase in enrolments (2002 to 2012)	%		50		64
Teachers always or often in class on time each day	%	76	50	60	74
Teachers always or often spend time teaching	%	66	57	72	77
Health clinics					
Health workers always or often available	%		60		83
Users rate health services as poor	%		20		6
Funding received from budget submission (% of all clinics)	%		11		12
Funding received from budget submission (if submitted)	K		9,567		77,254
In-kind support in the form of supplies or materials (% of all clinics)	%		36		36
In-kind support in the form of supplies or materials (if received)	K		20,200		78,600

Notes: Answers from community representatives, except for enrolments and for the funding questions. Ratings of health worker availability and quality of service provision are simple averages over health centres and aid posts.

9.5 Workforce issues

How workforce challenges are responded to is in part a function of sector financing and governance and agency arrangements, which have already been addressed. However, there are a few important workforce-specific issues facing primary schools and health clinics. These are addressed below.

One response to the stagnation in the number of health worker staff regularly working between 2002 and 2012 (Table 4-1) might be to call for a hiring expansion. But recall also the decline in the number of patients using the clinics. In fact, over this period, the patient/staff ratio *fell* from 11.8 to 8.7 (comparing patients on the day before the survey to staff present at the day of the survey). A 2010 study of PNG's health centres found that "there is in most areas capacity for increased service delivery using present staffing levels" (Inder et al. 2011, p. 4).

Hiring more staff should not therefore necessarily be the first priority for PNG's health clinics across the board. A more targeted approach is needed, finding more staff for clinics that are delivering services and facing strong demand, and replacement staff for those who have retired. The Head Teachers we talked to had been in their position for three years. The average Officer in Charge has been there for nine. There is no-one to replace him or her, just as there is no one to replace retired health workers, many of whom remain in their position.

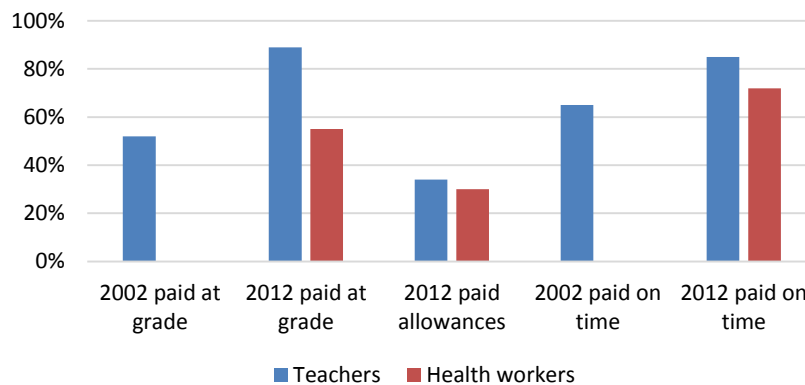
Replenishing the health sector workforce will not be easy. The World Bank (2013) documents that training institutions are not able to produce enough staff even to meet attrition rates.

There are also indicators that suggest problems with staff morale at health clinics. In fact, there are a number of important contrasts

between teachers and health workers when it comes to pay (Table 9-5). Almost half the Grade 5 teachers interviewed in 2002 said they were not paid at grade, a similar fraction to health workers today, but, by 2012, only 11 per cent of teachers made this complaint. Only a minority of both teachers and health workers say that they are paid the allowances they are entitled to. But 85 per cent of teachers say that they receive their pay on time, up from 65 per cent in 2002, and compared to 72 per cent of health workers.

The health sector has to find a way to address these problems. Clearly, it will require greater recurrent funding, but the education sector shows that it can be done.

Figure 9-5: Pay issues for teachers and health workers



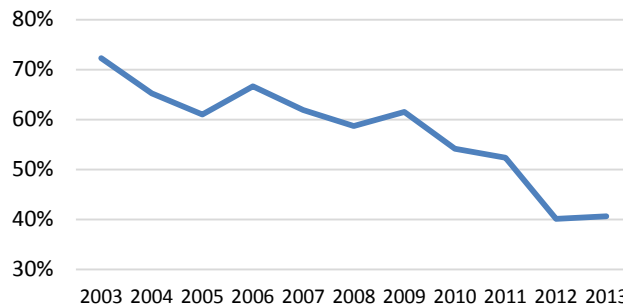
The challenges faced by the education sector are quite different to those faced by health. Over the last 10 years, the number of working teachers has gone up by 30 per cent. The teacher salary budget (including secondary school teachers) has gone up by about 25 per cent (after inflation). This is consistent with the sharp reduction in the extent of ghost teachers which we observe (Table 3-10) as the growth in working teachers exceeds that of the salary bill.

But now PNG needs to hire more teachers. Average class sizes have risen, as has the proportion of classes above the official maximum size of 45. And in some provinces and grades, class sizes are as high as 80 (Figure 5-5). Unfortunately, funds for more hiring have not been allocated in the 2014 budget. It shows the nominal salary bill staying flat in the coming years, despite a 3-year pay deal struck with teachers in 2013, which will see salaries increase by 10 per cent every year. Paying existing teachers will not be possible within this tight budget, and there will certainly be no space for hiring new teachers.

Normally, developing countries face the problem that the cost of hiring sufficient teachers crowds out non-teaching inputs. Nordstrum (2013) finds that salary costs “constitute the lion’s share of education budget spending in the vast majority of countries.” In PNG, the ratio of teacher salaries to education spending has fallen dramatically over time. As

Figure 9-6 shows, it has fallen from over 70 per cent in 2003 to 40 per cent currently. This adds to the case for spending more on teachers.

Figure 9-6: Share of teachers' salaries in government school spending in PNG



Note: Some minor items estimated before 2006. Source: PNG national budget documents.

Finally, one positive development in both primary schools and health clinics is the rise of female participation in the two respective workforces. There are now more female than male teachers and health workers, and a growing number of women in facility management positions. The box on the next page provides details.

In summary, all four issues of funding, governance, agency, and the workforce emerge from the analysis as important in explaining why schools have done better than health clinics, and why some individual facilities do better than others.

9.6 Ten key findings

The analysis presented above does not cover all aspects of education and health sector performance. Our survey results do not provide direct measures of learning or the quality of health care received. Nevertheless, the information collected and analysis undertaken is directly relevant to questions about service delivery quantity and quality. In this concluding section, we distill our research results into ten key findings.

First, development progress in PNG is neither inevitable nor impossible. The last decade was by no means completely lost. Important progress was made by PNG's schools, but not by its health clinics. Recognising this, and understanding why, is critical.

Second, financing matters. PNG's schools have been assisted by their much greater access to government resources over the last decade. By contrast, health clinics have been starved of resources.

Third, supporting schools and health clinics is about more than increasing budgets. Ways have to be found to deliver this support at the facility level. Schools have worked out a way to do this (through bank accounts, under BoM supervision); health clinics have not. One of the key findings of the report is that 41 per cent of health clinics did not receive external support in 2012.

Good news on the gender staffing front

The last decade has seen a transformation in the gender composition of PNG's educational workforce. In 2002, only 13 per cent of primary school Head Teachers were female. In 2012, it was 27 per cent, more than double. The number of female teachers also increased sharply: from 27 to 55 per cent. (Note that we only surveyed the gender of the Grade 5 teachers we interviewed (one per school), but we can use this to generalise about primary school teachers.) In other words, whereas a decade ago only one-quarter of PNG's primary school teachers were female, now more than half are.

The increase in the representation of women in the ranks of managers of PNG's health clinics is much less dramatic. The share of female clinic Officers in Charge rose between 2002 and 2012, but only from 36 to 41 per cent. This is consistent with the fact that we find no growth in the total number of workers at these health clinics over the last decade. We also find that health workers and managers have normally been in position for a very long time: 9 to 10 years. With no growth in aggregate numbers and little turnover, it is not surprising that there has been little expansion in the number of female OICs. A promising indicator, however, is that just over half of health workers (other than OICs) were female in 2012. (These results are not available for 2002, and are based in 2012 on the gender of the non-OIC health worker we interviewed.) PNG's future OICs and Head Teachers are today's health workers and teachers, and they are mainly female.

Government facilities led church ones on female representation for most of the four occupational categories.

There are some clear provincial variations. In 2012, about two-thirds of Head Teachers and Grade 5 teachers in the National Capital District (Port Moresby) were female. 70 per cent or more of teachers were female in West New Britain and Morobe as well. At the other end, in Enga, only 3 per cent of Head Teachers were female and only 30 per cent of teachers.

Of course, primary school teachers and health workers (or nurses) are predominantly female in many countries. From that perspective, these results are not surprising. What is interesting though is how quickly PNG is catching up. The increasing number of professional women in the country will no doubt drive social change, and contribute to greater gender equality more broadly.

Percentage of females in school and health facility leadership and working roles

	Head Teachers		Grade 5 teachers		Officers in Charge		Health workers
	2002	2012	2002	2012	2002	2012	2012
Overall	13	27	27	55	36	41	52
Government	15	31	27	59	49	57	40
Church	10	19	26	49	29	36	73

Notes: Based on respondents interviewed. See notes to Tables 3-12 and 4-4.

Fourth, local oversight and official supervision matter. PNG's schools now have a mature, sustainable local governance structure, and a set of supervisory arrangements that are at least functioning, even if they could be improved upon. This is an achievement brought about by a decade or more of reform and effort. This report provides evidence that

these governance arrangements do make a difference, and that schools that have more active BoMs and P&C Committees are of a higher quality. There is also evidence that supervision matters, with schools that have more visits from a Standards Officer performing better.

Fifth, there does seem to be a difference between the performance of church and government schools and health clinics, with the former outperforming the latter on a range of levels.

Sixth, there are large new funding sources available through constituency funds controlled by MPs, but little is reaching schools and health clinics, and whatever is reaching them is often not well managed.

Seventh, the neglect of maintenance is still a significant problem.

Eighth, there are significant provincial differences. The quality of provincial governance clearly matters, and there are many lessons to be learnt from what the better performing provinces do.

Ninth, both the health and the education sectors face significant, but quite different, workforce challenges. For education, it is a matter of hiring more teachers to keep up with growing enrolments; for health it is a matter of revitalising an aging workforce, and addressing worker grievance.

Tenth, we see an encouraging gender transformation in these two sectors at both the working level (teachers and health workers) and the management level (Head Teachers and OICs). There are now more female teachers and health workers than male. Also, while there are still more boys than girls enrolled in school, this gap has been significantly reduced.

9.7 Recommendations

We will be following up on this survey with a series of case studies. Once those findings are in, we will be in a better position to develop detailed policy recommendations. Nevertheless, some clear messages already emerge from our findings.

Implications for primary health

Turning around the performance of the health sector will not be easy. But it is not all doom and gloom. Much can be learnt from the better performing provinces.

The first challenge is to get more external support to clinics, so that they become viable centres of support rather than ghost clinics unable to deliver even basic services. This will require greater budget allocations, but also new ways to get funds to clinics. Chapter 6 discussed several options for this.

A direct funding pilot is underway in Bougainville, and has been evaluated positively (WHO and NDoH 2013), though it is still early

days. Local committees have been established to oversee use of the funds, as they do at schools.

A second option is the model that East New Britain uses, where operational funding for health clinics is channelled to the Local Level Government (LLG) health office. LLG health manager positions, which appear to be unique to East New Britain, have been established to ensure that clinics are well supported and have access to the resources they need to deliver services. Given East New Britain's health delivery performance (46 per cent of clinics in East New Britain conduct regular patrols compared to only 18 per cent across all eight provinces), this model also warrants further investigation.

There has been no suggestion yet that funds in lieu of user fees will be sent to clinics directly from the central government, as they are in the case of schools. But as long as funds pass through provincial governments, there is a real risk of diversion. This transmittal of funds directly from the national government to health clinics, or at least health centres, should also be considered.

Further investigation of all these options is required before a final recommendation can be made. This will be undertaken as part of the second phase of this research project. What is clear at this stage is that there needs to be a shift to ensure that greater funding reaches clinics, putting flexible resources at their disposal.

The second challenge is to strengthen local governance and supervision. The school BoM model is an obvious candidate for adoption by the health sector. It could be introduced through a pilot scheme. A sensible approach would be to introduce a single BoM for each health centre and the aid posts that the centre supervises. More resources for supervision are also required. One option would be to give school BoMs responsibility for their local health clinics. This would save time, and build on institutions that are already functioning. However, BoMs do have a legislative basis, and how additional health duties would be grafted on to them requires careful consideration.

The third challenge for the health sector is the range of workforce challenges it faces, from resolving pay disputes to regenerating an aging workforce. Addressing these issues will require expanding the health salary bill, and expanding the capacity of training institutions.

Finally, given the severity and multi-dimensionality of the problems faced by PNG's health sector, a phased approach is required. The initial reform focus should be on the larger, district-level facilities, such as rural hospitals. There is no point fitting up aid posts if they have no one to transfer patients to. Indeed, some aid posts may need to be closed so that resources can be focused on larger clinics, with greater reliance being placed on health patrols.

Implications for primary education

PNG's schools have expanded greatly over the last decade, but now need to focus on quality. One of the key findings of this report is that the more effort teachers put into teaching the more likely communities are to send their children to school.

Supervision and local oversight are better in education than in health, but can certainly be improved. More resources are needed for supervision: the budget for this has actually fallen over the last decade, despite the sector's massive expansion. Smarter deployment of supervisory resources will also help, with more rotation to ensure that all schools are visited. Supervisors must also inspect school finances and spending when they arrive at schools. While most, though not all, schools do receive a supervisory visit, only a third get their subsidy payments checked annually, and it tends to be the same schools in successive years. Supervisory visits will need to increase over time, but in the meantime it is important that supervisors are carefully checking school books while at schools. Local oversight can also be strengthened by, for example, making sure BoMs have access to financial records.

More teachers are needed. Bearing in mind the large increase in revenues schools have experienced in recent years, hiring more teachers could, if necessary, be paid for by freezing, and perhaps reducing to better-off schools, subsidy payments.

The school subsidy bill is inflated by the link to enrolments. We have seen that the absenteeism rate has increased over the last decade. One likely reason for this is that Head Teachers have an incentive to inflate enrolment rates to maximize their subsidy payments. It may not be practical to link subsidy payments to actual attendance rates (although this could be a longer-term goal of the policy). But if inspections reveal a high level of absenteeism, school enrolment figures should be challenged.

Implications for service delivery

We end with five recommendations that apply equally to both health and education, and to service delivery more generally.

First, MP constituency funds need to be made to work better, in particular to reduce the number of projects that are never finished. For example, school DSIP projects could be given to school BoMs to manage.

Second, underfunding of maintenance remains a serious problem. All funding provided to facilities could include a minimum maintenance spending requirement to address this.

Third, given the importance of local oversight, empowering the local community is clearly an important challenge. Information is critical for

empowerment. We noticed through our surveys that little use is made in PNG of transparency mechanisms at the local level. Schools and clinics could be required to post on notice boards statements of the funds that they have received, and how these are being spent. The same should apply to DSIP-funded projects.

Fourth, the better performance of church-run schools and clinics make a strong case for shifting to greater reliance on church schools and health clinics through expanding existing partnerships, improving these partnerships, and learning from their relative success.

Fifth, and finally, monitoring matters. There is dearth of high-quality, trusted data in PNG. This survey fills a huge gap. Having two surveys that can “talk” to each other is a valuable asset, and the series should be further developed. Ten years is too long to wait for surveys such as this. Five years would be a better interval.