

From Resource Boom to Development: Changes in service delivery over the last decade

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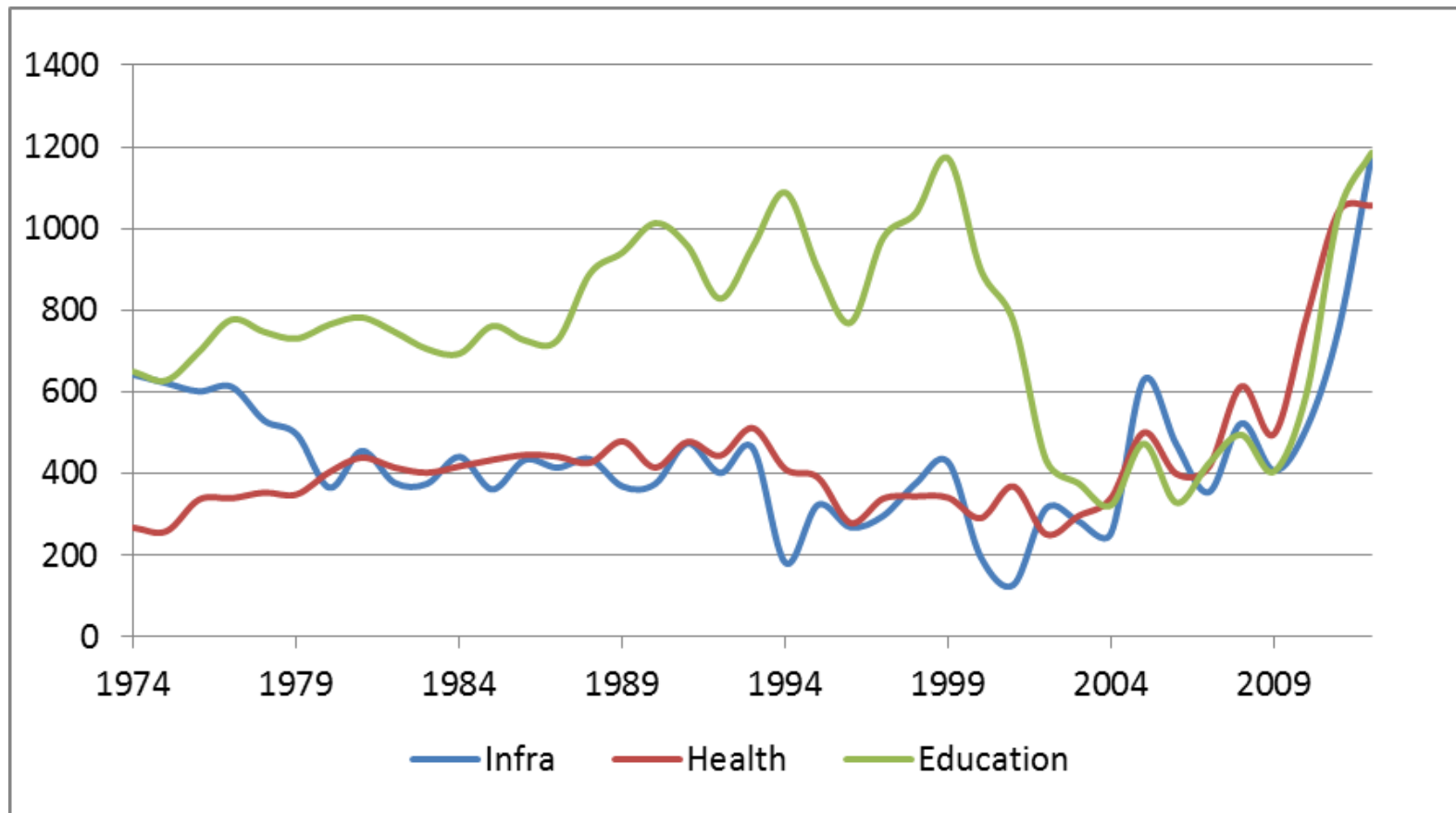
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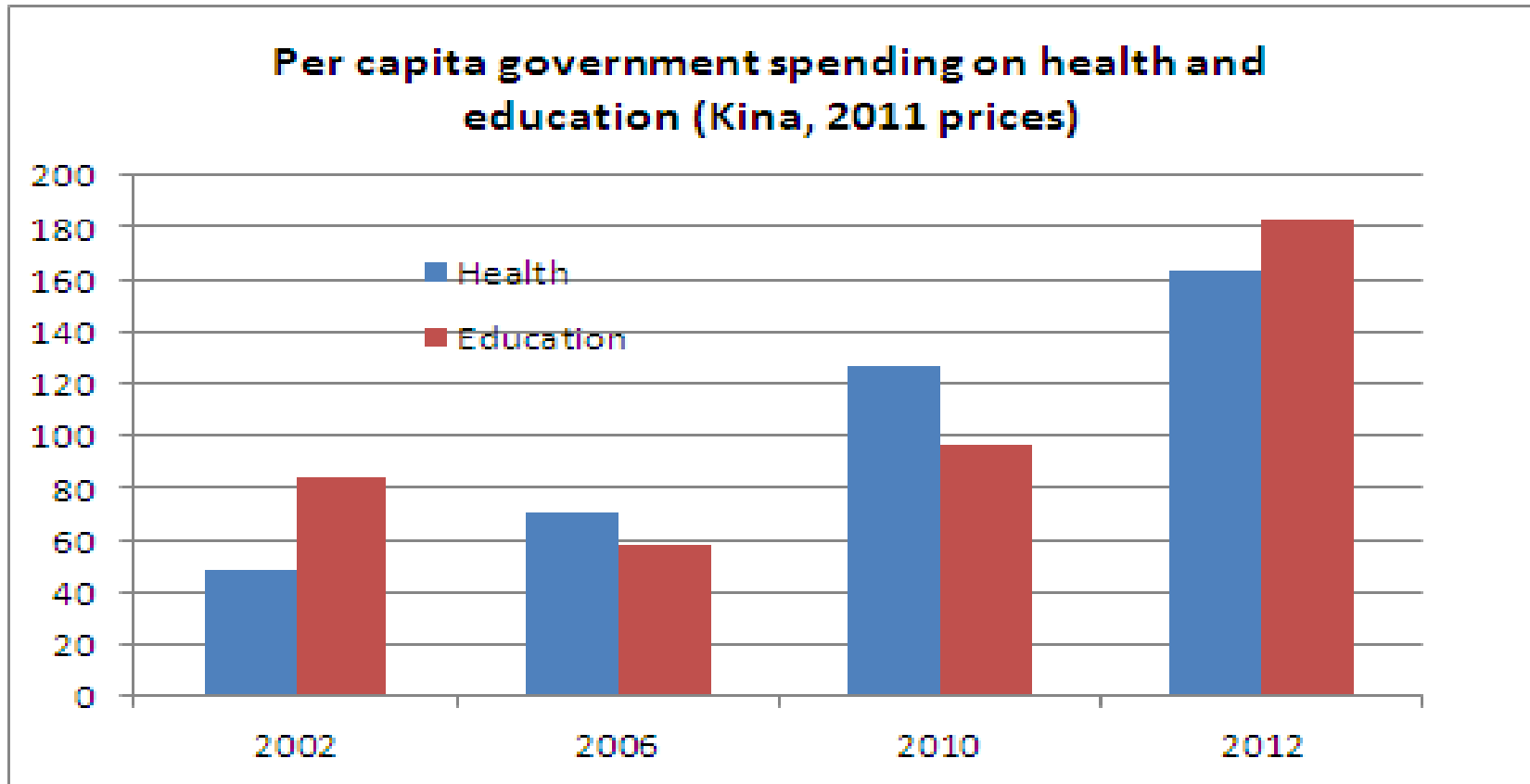
Questions:

- Has the PNG government used revenue from the resources boom to fund basic services spending?
- What is the impact of government spending on basic services on the condition of schools and health facilities?
- What factors explain good or poor performance in the primary education sector?

National Government expenditure on infrastructure, health and education (2011 prices, Kina)



Big increases in per capita spending in the last decade – and population has grown by 25-30%



But how have these increases in public expenditure been spent?

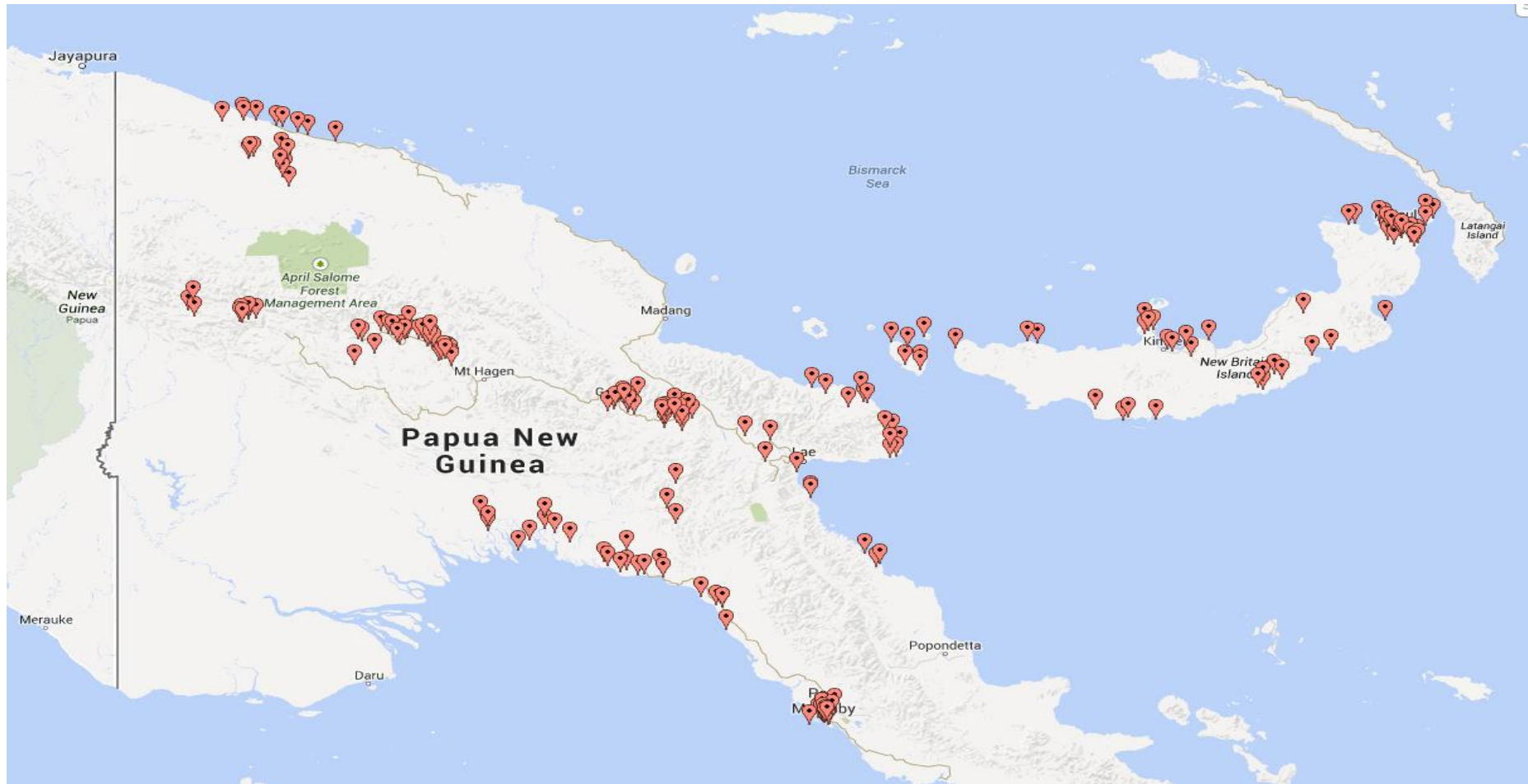
Promoting Effective Public Expenditure (PEPE) Project

There have been significant changes in service delivery financing over the past decade:

- Huge increases in revenue and changes to funding and delivery mechanisms:
 - Tuition Free Free policy
 - Growing health function grants, now linked to free primary health care
 - Medical supplies reform, linked to donors
 - District Services Improvement Program (LLG's + Provinces)
- **Have these changes made a difference for service delivery in PNG?**



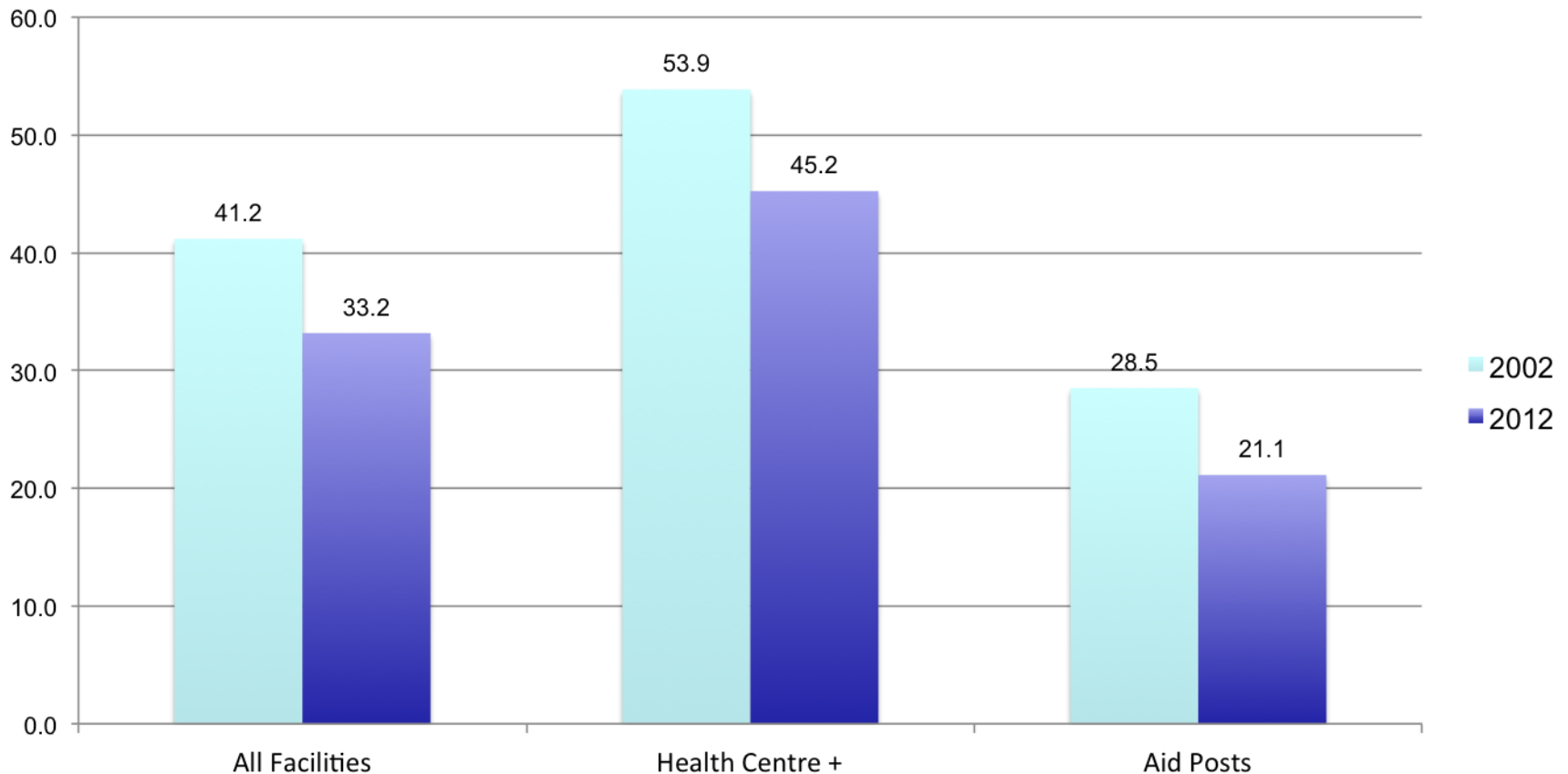
PEPE Survey location of schools / health facilities (357 facilities across 8 provinces)





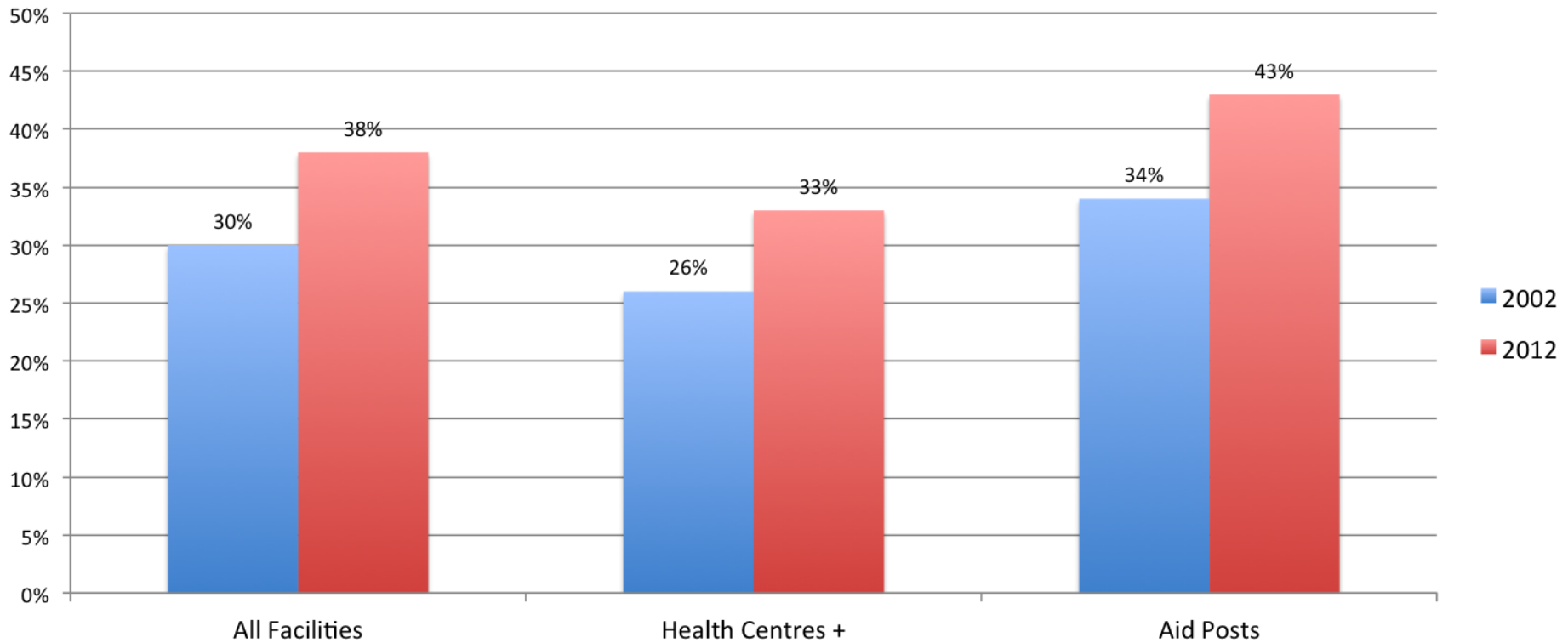
MAJOR HEALTH FINDINGS

Patients visits in a typical day: Directly matching health facilities surveyed in 2002 & 2012



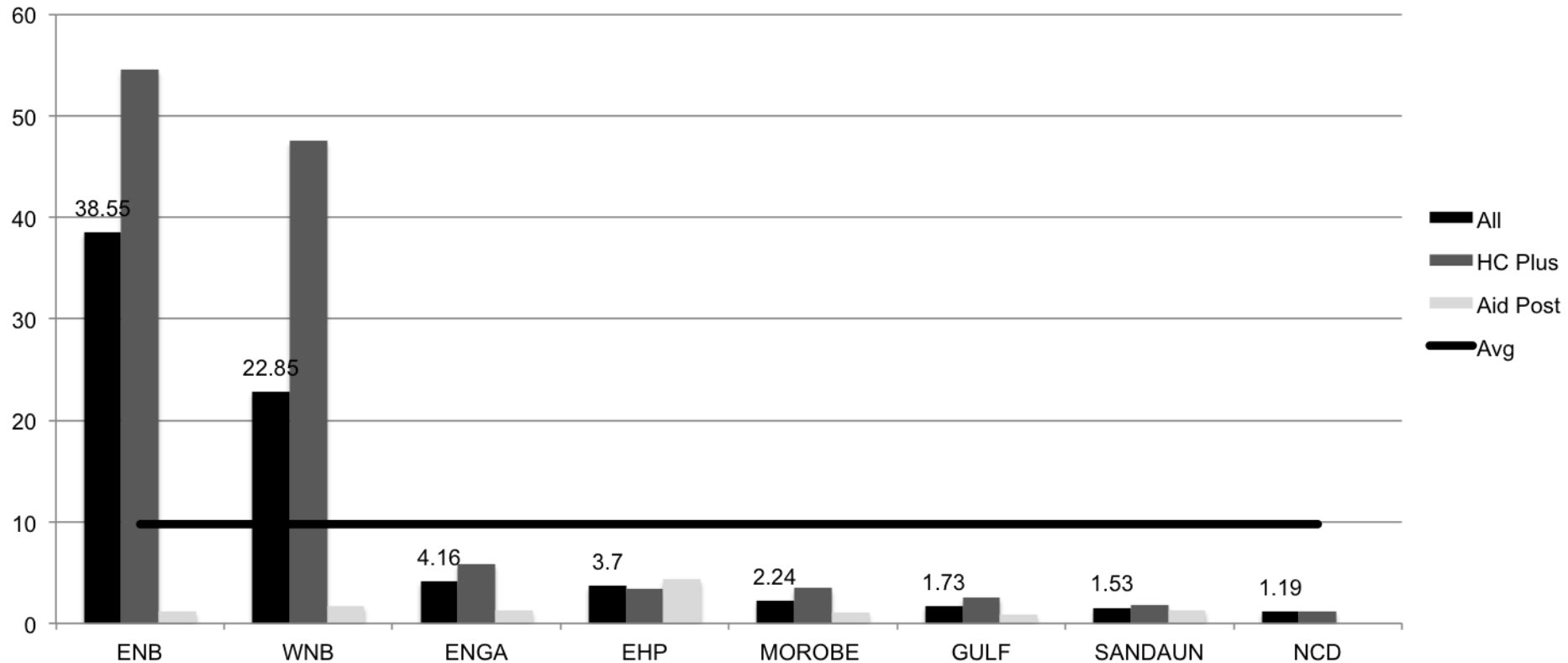
- Fewer people are visiting the same health facilities now than 10 years ago.

Percentage of health facilities that do not charge patients for consultations



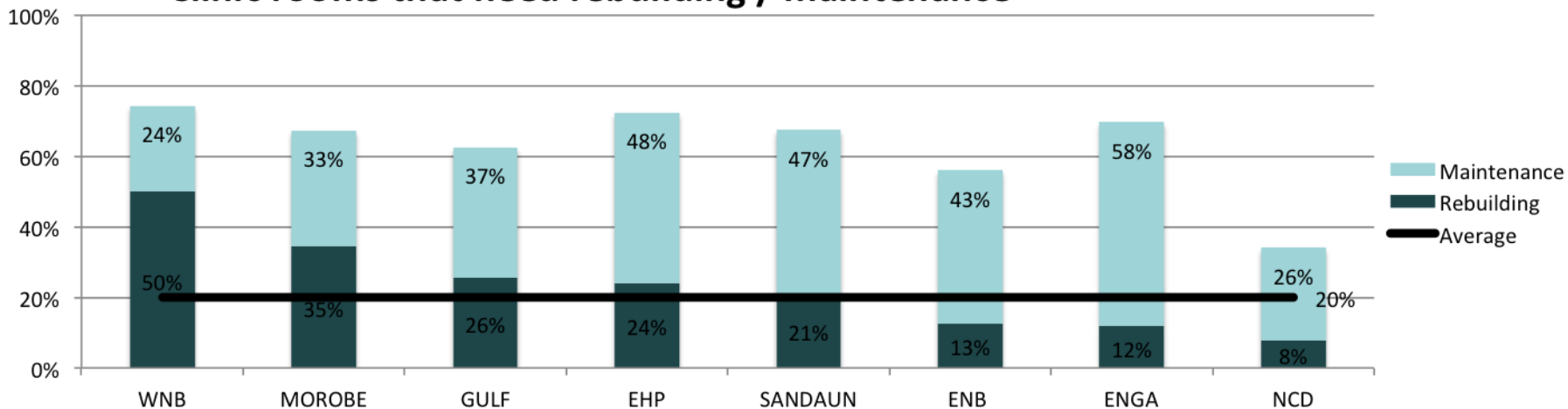
The percentage of facilities that offer free consultations has increased.

Average number health patrols conducted in 2012 per health facility

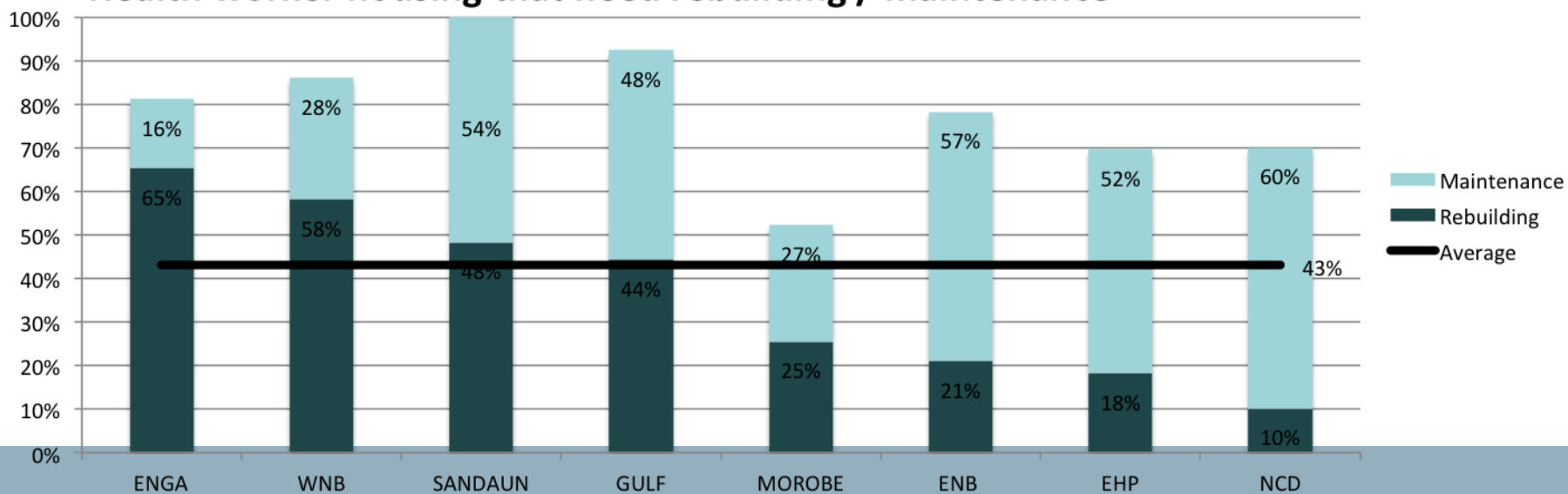


Funding and support has significant implications for providing basic health services.

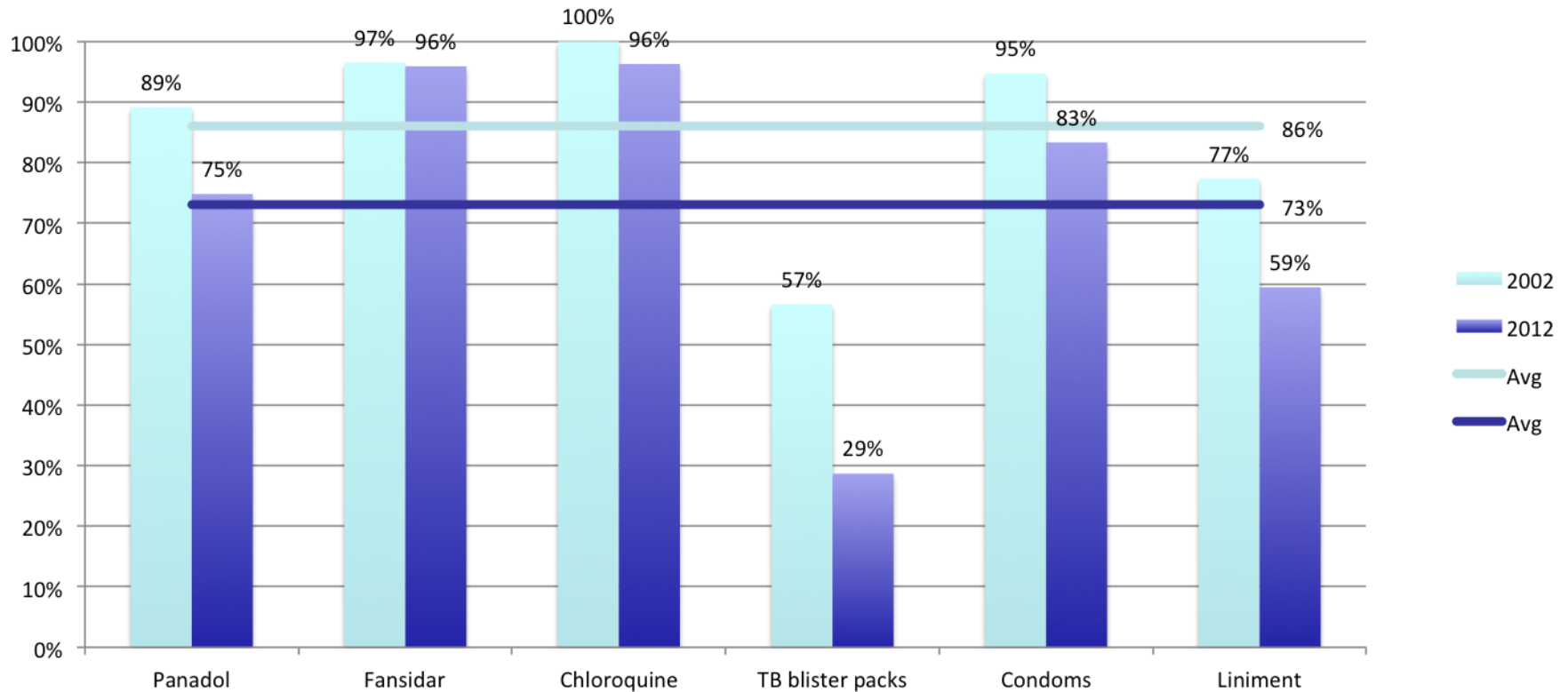
Clinic rooms that need rebuilding / maintenance



Health worker housing that need rebuilding / maintenance



Availability of six comparable drugs/medical supplies: Matching Facilities 2002 - 2012



- The availability of all the following drugs and medical supplies have declined in the last 10 years.



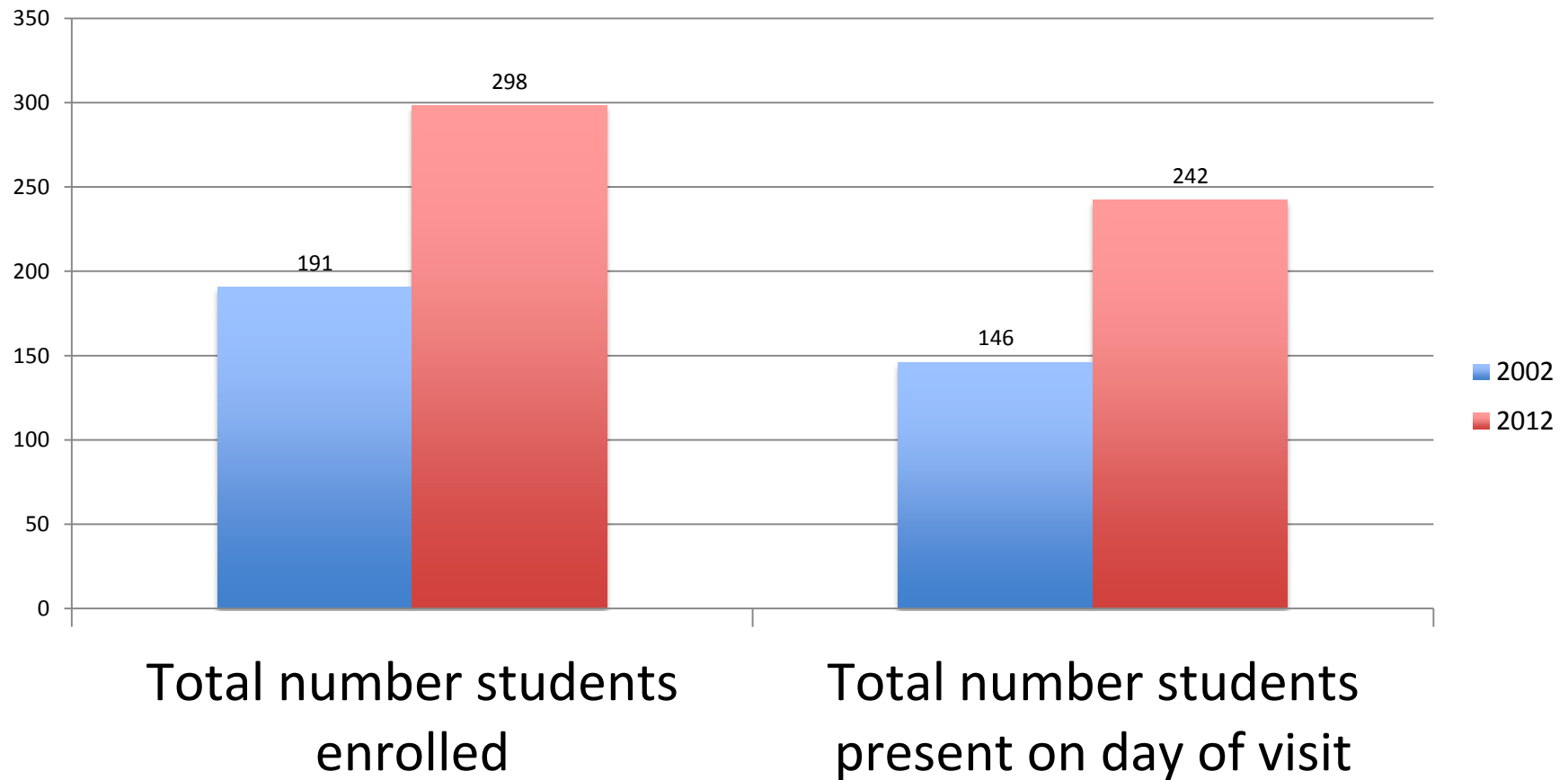
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MAJOR EDUCATION FINDINGS

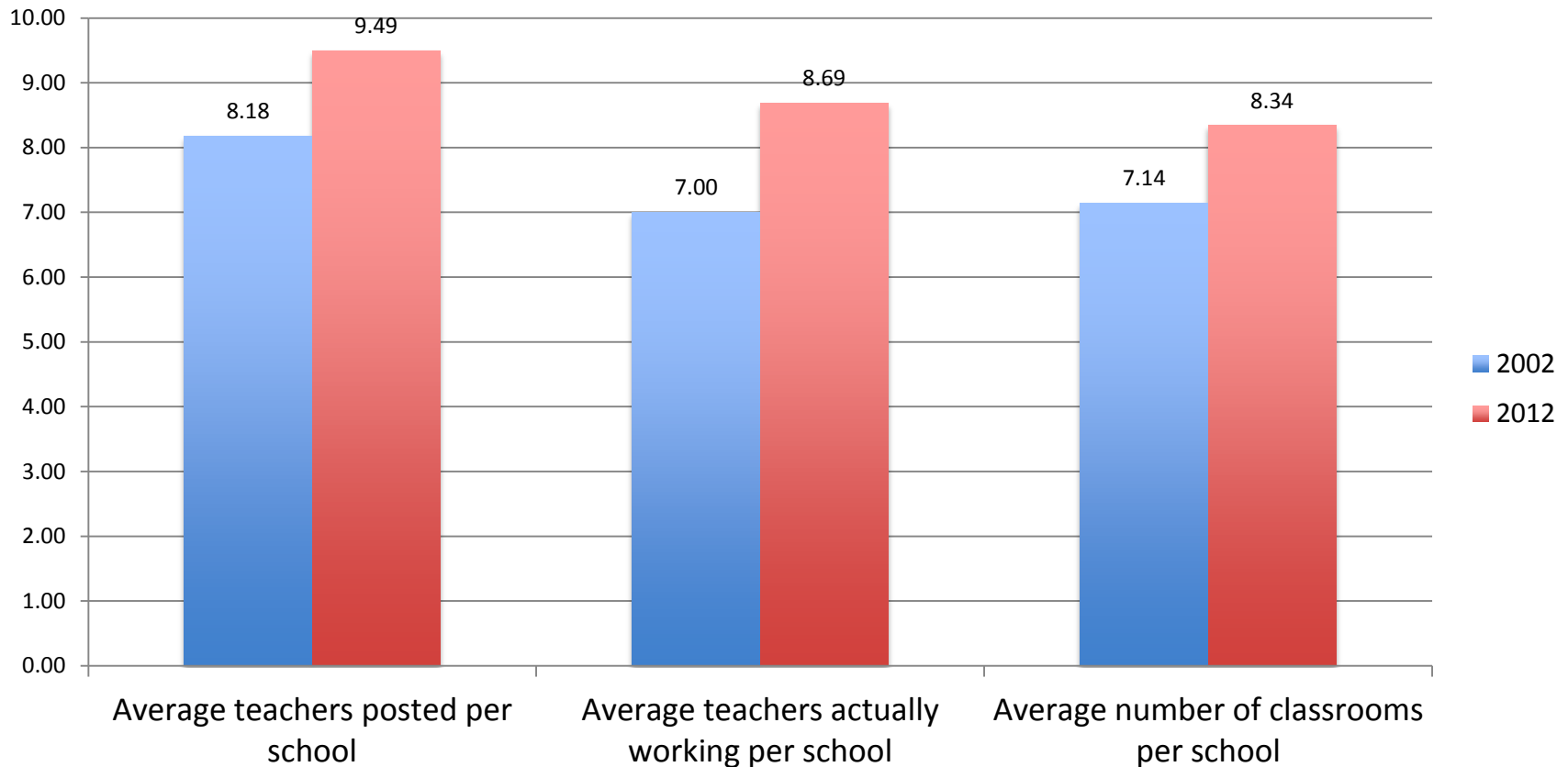
Students enrolled and present (at the time of survey) have increased by much more than the student age population

10 year comparison of average student numbers per primary school



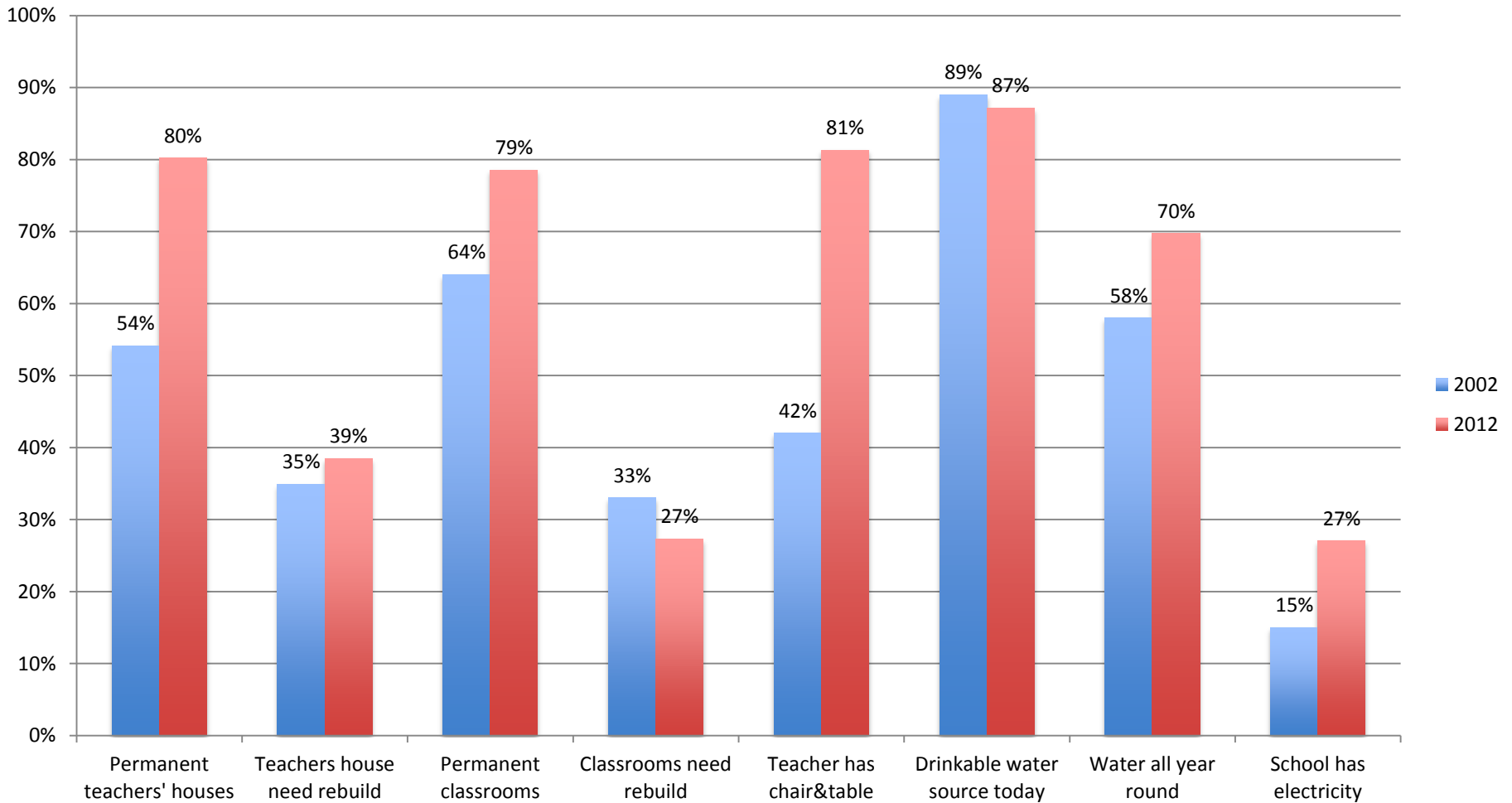
The availability of teachers and number of classrooms per school has also increased, but not by as much as the increase in students

10 year comparison of available teachers and classrooms





Conditions within schools have improved, or at least not got worse





EXPLAINING PERFORMANCE

What explains these changes?

- Here I just focus on the primary (and community) school sector.
- Use regression analysis to look at relationships at the individual school level.
- Regressions (OLS) are on pooled time-series cross-sectional data, controlling for year.

Choose regressors from important categories of school characteristics (mean in parentheses):

- School type / agency
 - Primary (67%) vs Community (33%)
 - Government (44%) vs Church (Catholic 23%, Lutheran 15%, other 17%)
- Head teacher (HT) characteristics
 - Female HT (18%), Number of years at school (6.25 years), Born in province (66%), Applied to be posted to school (67%)
 - Does the HT want to stay at the school (81%)

Choose regressors from important categories of school characteristics (continued):

- **Location**
 - Hours to provincial capital (4.8) and district capital / town travel time (2.6)
 - Travel time to the nearest bank (4.4)
- **Board of Management (BOM)**
 - Number of BOM meetings (4), BOM Chair is a parent of a student at the school (36%)
 - Share of BOM members: Female (23%), Parents (36%)
 - BOM has most say on: Building classrooms (71%), Undertaking maintenance

Choose regressors from important categories of school characteristics (continued):

- P&C and Community engagement
 - Number of P&C meetings (3.9)
 - Half or more of parents attend P&C meetings (40%), HT or BOM called a meeting with parents to discuss issues (90%)
- Formal school oversight
 - Standards officer visits (1.6)
- Funding
 - Total school revenue per enrolled student (k143)

Dependent variable: Share of permanent classrooms (mean = 72%)

Regression results – selected variables (marginal impact in parentheses):

- Primary school*** (14%)
- Hours to bank* (-0.4%)
- Hours to provincial capital* (-0.5%)
- Number Standards Officer visits* (3%)
- Total revenue / student* (3.8% per k100)

R-squared = 0.23, N=253

Notes: ***, **, and * indicates significant at 1%, 5% and 10% level, respectively.

Dependent variable:

Share of effective classrooms (mean = 28%)

Regression results – selected variables
(marginal impact in parentheses):

- BOM most say (classrooms)^{***}(13.4%)
- Share of parents on BOM^{*} (15.3%)
- Hours to provincial capital^{*} (-0.5%)
- Number Standards Officer visits^{*} (2.8%)
- Half + parents attend P&C^{**} (10.5%)
- Total revenue / student^{*} (4.3% per k100)

R-squared = 0.14, N=235

Dependent variable:
Share of perm. teacher houses (mean = 28%)

Regression results – selected variables (marginal impact in parentheses):

- Primary school***(27%)
- Female HT* (14.5%)
- Hours to bank* (-0.6%)
- School calls meeting with parents* (-15%)
- Share of females on BOM* (27%)

R-squared = 0.27, N=244

Dependent variable:
Share of effective teacher houses
(mean = 19%)

Regression results – selected variables (marginal impact in parentheses):

- Number Standards Officer visits** (3%)

R-squared = 0.07, N=269

Dependent variable:
Share of classrooms that leak (mean = 33%)

Regression results – selected variables (marginal impact in parentheses):

- BOM most say (building classrooms)** (-12%)
- Hours to bank** (5.4%)
- Half + parents attend P&C** (-9.5%)

R-squared = 0.13, N=211

Dependent variable: Drinking water available all year (mean = 67%)

Regression results – selected variables (marginal impact in parentheses):

- Primary school*** (-33%)
- Catholic school* (-14%)
- HT applied to be posted*(12%)
- BOM most say (building classrooms)*(14%)
- School calls meeting with parents* (23%)
- 2002 dummy***(-51%)

R-squared = 0.24, N=209

Dependent variable:
Enough toilets (mean = 55%)

Regression results – selected variables (marginal impact in parentheses):

- BOM most say (classrooms)^{***}(30%)

R-squared = 0.10, N=213

Dependent variable:

Other infrastructure index

(provision of library, staffroom, admin block, vehicle, agriculture land, land for expansion, sports area and equipment) (mean = 60%)

Regression results – selected variables (marginal impact in parentheses):

- Primary school** (8%)
- Female HT* (5%)
- Hours to bank** (-3%)
- Number of P&C meetings* (3%)
- Total revenue / student* (2.3% per k100)

R-squared = 0.165, N=241

Dependent variable:

Number of students per teacher (mean = 37)

Regression results – selected variables (marginal impact in parentheses):

- Hours to bank*** (1.4)
- Half + parents attend P&C*** (-10%)
- Number Standards Officer visits** (2.4%)
- Total revenue / student* (-5 per k100)
- 2002 dummy*(-9%)

R-squared = 0.40, N=209

Conclusion

- PNG has used the revenues from the resources boom to fund large increases in funding of basic services (on a per capita basis, adjusting for inflation).
- Over the last 10 years there have been solid improvements in education but little in health. Nonetheless, the condition of most schools is still at a low level.
- What is the recipe for successful implementation?

Conclusion: recipe for success?

- More funding at the facility level is good but is not the only answer.
- It depends on how that money is used and that in turn depends on incentives and the quality of institutions, particularly at the facility level.
- For education, there need to be a focus on the quality of education and not just how many students are enrolled in school.

Conclusion: recipe for success?

For education, more specifically, focus on:

- Improved access to banking services
 - Facilitates building & maintenance
 - Improves utility of teachers
- Strong BOM
 - More females, more meetings
- More Standards Officer visits
- Strong parent participation
- More, and better incentivised, teachers.

The problem in a PEPE picture.



The picture shows a newly constructed health centre in Gulf Province funded through the District Services Improvement Program. It is not operating due to a lack of recurrent funding and staff.