



**SYNTHESIS REPORT: PRE-INTERVENTION
ASSESSMENTS OF PRIMARY HEALTH CARE AND
PREVENTION SERVICES AT THE COMMUNE LEVEL IN
KHANH HOA AND DA NANG PROVINCES**

**Report Prepared for Atlantic Philanthropies
by the Population Council
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We are very grateful to the leaders and senior staff of Khanh Hoa and Da Nang Health Services for their close and effective collaboration in the assessments. We offer our sincere thanks to the staff of two provincial health services, including special mention of returned fellows of Population Council who served as active and enthusiastic members of the assessment team, especially in analysis of existing data.

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The authors

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Executive Summary

The government health system of the Socialist Republic of Viet Nam (GOVN) is well-respected outside Viet Nam, in particular for its achievements in preventive health and disease control. However there is evidence that the primary level of care, based at the commune health center (CHC), falls short in meeting the actual and perceived needs of many users and would-be users. This is more often the case for those who are poor, living in remote areas, or ethnic minorities. Current GOVN priorities and policies have begun to make conditions more favorable for intensified attention to primary health care (PHC) and public health at commune level. Therefore, it is timely to increase the levels of good evidence, data and analysis of primary health care and prevention services, in order to better diagnose issues and problems and to test feasible solutions.

In response to the present context for primary health care policies and services in Viet Nam, the Provincial Health Services of Da Nang and Khanh Hoa reached an agreement in 2004 with the Population Council to conduct coordinated assessments of primary health care services in each province. Since 1989, the Population Council, an international non-governmental organization, has worked with Vietnamese partners to assess and improve quality and access of health services at the grass roots level. This project, which is supported by Atlantic Philanthropies, aims to add new, practical knowledge about the specific opportunities and challenges that Khanh Hoa and Da Nang Provincial Health Services will face as they formulate plans for improving primary health care in the public health system.

This executive summary distills the methods, experience and findings of this joint project. In two of its sections (one on intervention ideas emerging from the assessments, and the other on recommended modifications in the assessment method for use in future provinces), this summary presents some emerging views and ideas that have not yet been fully discussed with the Khanh Hoa and Da Nang partners. Thus these sections should be read as more preliminary than the earlier sections.

Brief Overview of Da Nang and Khanh Hoa Provinces. In 2001: Da Nang has average GDP growth rate: 12.2% per annum, and GDP per head: VND 7.9 million and Khanh Hoa has average GDP growth rate: 9% per annum, and GDP per head: VND 6.1 million (source: MPI webiste), As profiled in the 2003 Statistical and Health Statistical Yearbooks, Khanh Hoa and Da Nang are quite different. Khanh Hoa is located in south-central Viet Nam, has a population of 1,110,000, of whom 80% live in rural areas. Its geography is large and varied, from mountains in the west to a long seacoast in the east. Nha Trang, the capital city, is a growing tourist and resort center. Health indicators for 2003 included 52 major obstetrical complications with 2 deaths; a malaria rate of 422 per 100,000, and a death rate of 0.27; TB cases totaled 1,159; and cumulative HIV/AIDS cases were 1,168 and 407 deaths. One in four children under the age of five was underweight. Road accidents numbered 355 including 247 deaths. Residents of Khanh Hoa's rural mountainous regions, many of poor or near-poor status, have difficult access to health services. The public health system in Khanh Hoa includes five Provincial hospitals, and 133 commune

health centers (CHCs) for 137 communes. 64% of CHCs have medical doctors, and 97% have midwives. Child immunization coverage was very high, at 98% of children under one year of age.

Da Nang, in central Viet Nam, is a city-province which ranks as the fourth largest urban area in the nation. Its expanding population stood at 747,000 in 2003. Only 12 % of the province is rural. In recent years, economic growth has shown a steady rise, while poverty has steadily declined. Indicators for some important health problems in 2003 included 24% of children under the age of five who were underweight; major obstetric complications numbered 69, including 2 deaths; and the malaria rate was 26 per 100,000 with no deaths. TB prevalence stood at 1,339 cases, and cumulative HIV/ AIDS cases were 747. Road accidents totaled 216 including 147 deaths. The public health system includes 8 provincial hospitals, and 47 CHCs, or one CHC in every commune. 75% of CHCs have doctors, and 100% have a midwife. Almost all children one year of age and under have been vaccinated for measles and other diseases.

Project approach

This study aimed to:

- Develop assessments in 2 provinces, in order to inform and guide Atlantic's support of a future Commune Health Services Initiative in a cross-section of strategic provinces.
- Use project team composition and methods that insure that strong local leadership and external experts work together at each stage of the project.
- Engage the Provincial Health Service in each selected province as the co-director of the assessment, along with Population Council Viet Nam Office.
- Document and assess preventive and primary health care services at commune level from three angles -
 - community, i.e. users, residents, and leaders
 - commune-based health providers and managers, and
 - health officials at province and district levels
- Develop and test an assessment methodology for each province that makes systematic use of existing databases and studies before doing limited collection of new data in each province.
- Aim for an efficient core methodology that can be used in other provinces if found useful in the initial two.

These objectives have all proved to be appropriate and achievable, as is documented in three detailed written final products: individual reports for each province, and a synthesis report for which this is the executive summary.

Both provinces chose to design their individual assessments according to the same basic structure and methods. Each assessment was organized to assess current services in terms of four sets of factors that are key determinants of access and quality of services. Three sets of factors are on the supply side: 1. policies and human resources, 2. infrastructure, equipment and medicines, and 3. Functions and practice of preventive and curative services, and management practice. The fourth set of factors is on the demand

side: perceptions of local residents and community leaders/officials, and health seeking behaviors of residents.

The framework and scope of the assessment both warrant comment in terms of their relative novelty. The incorporation of in-depth collection of demand-side, community-level data is rare in pre-intervention baseline studies designed or commissioned by governments. More distinctive still is the scope, which is the whole span of primary health care and prevention services. The norm is still to use the single issue or single problem organizing principle for health reform initiatives – what is usually called the ‘vertical program’ approach.

Methods and data

In all, twenty CHCs from each province were selected for the appraisal, following a purposeful sampling strategy designed to balance the need for statistically representative quantitative data with the need for a wide range of qualitative data from community residents and leaders, as well as from CHC managers and staff, and their district and province level supervisors.

Use of existing data. Qualitative analysis was supplemented with statistical analysis of existing health information system (HMIS) data extracted from the routine monthly and other periodic reports that each CHC is required to prepare using standard forms issued by the national Ministry of Health (MOH). These data from the 40 study CHCs spanned the 22-month period beginning in April, 2002. All HMIS data were computerized and analyzed for consistency and data quality. Six caseload indicators were found to be consistently reported. Although it turned out that the small sample size, reporting gaps, and wide monthly variations combined to prevent cross-sectional analyses, the project team found that time trends were robust, which provided the basis for an exploratory analysis of the determinants of caseload trends.

Collection of limited new data in the field. In December 2004, the field researchers visited 40 CHCs in Khanh Hoa and Da Nang, to compile more detailed data on equipment and supplies available at CHCs, and on worker and user perceptions of the system of care. In a sub-set of 12 communes, 8 in Khanh Hoa and 4 in Da Nang, quantitative and qualitative data were compiled through focus group discussions (FGDs) and in-depth interviews (IDIs) with community residents and leaders, and village health workers. Research teams also conducted FGDs and IDIs with health leaders and managers, and a small sample of private health workers.

Key findings

1) Policies and human resources

In the two provinces, primary health services are respected social assets that local residents view as bringing multiple benefits to every commune and most villages.

When focus groups were convened, discussion of curative health services predominated, despite the agreed importance of preventive care to the success of the Viet Nam health program.

- Access to physicians. Most CHCs now have physicians on staff, which is highly appreciated by residents and commune leaders. Where physicians are not part of the regular CHC staff, the local population views this as a major deficiency in the quality of care.
- Access to paramedics. Other types and numbers of staff at CHCs are generally considered sufficient by local residents, and are consistent with MOH national guidelines. While physicians are often discussed, local residents were less interested to discuss paramedical staff.
- Access to village health workers (VHWs) at community level. VHW networks were established in most rural and mountainous communes as an important network to support CHCs at community level -- in primary care, health education, and detection and response to new health problems. However, the VHW system is available in rural areas only. In urban areas, such as Da Nang city, VHWs are not used. Instead, there are "health collaborators", individuals who do some of the same work. In Da Nang many said the collaborators needed more training, and viewed VHWs as better-trained and thus more effective. For their part, VHWs said they had little or no technical training, and lack essential equipment, instruments, and pharmaceuticals. Low or no compensation for their work is the rule, and provincial authorities state that budget funds from the center for support of these workers is lacking.
- Health insurance and equity. Since 2001, all CHCs have been required to provide services for patients at the commune/ward level under the health insurance policy. This policy has been expanded to the poor since 2002, to create a "health care fund for the poor," which is viewed very positively, especially by poor residents of the two provinces.

Health insurance for people in general and for the poor in particular is important in helping reduce their health expenses. However the proportion of the population covered by insurance in most communes is still quite modest. This, combined with the rapid growth of wealth in the middle class in Viet Nam, creates documented increases in disparities in access. This issue was not a special focus for the two provinces' assessments, but growing disparities is a widely recognized trend in Viet Nam, and is acknowledged with concern by the government.

- The range and quality of curative services. Interviews with health managers indicated that some types of career advancement are well developed for CHC staff. This was corroborated by reviewing records, which showed that a substantial number of CHC staff have participated in advanced training in curative care. Most notable is that assistant physicians can be sent for one-year training that qualifies them to become physicians. One province has more than 60 assistant physicians who are nearing completion of such training. Also, general

assistant physicians can take an advanced course that qualifies them to add a specialty in obstetric and gynecological care.

- Despite these advances in extending the range of services, the assessment teams' review of data, probing and further discussion identified various problems:
 - Equipment gaps and shortcomings. None of the CHCs visited in this appraisal fully conformed to national benchmarks for equipment in primary health care facilities. In addition, existing equipment too often is not in proper working order.

In general, CHCs are equipped for paramedical services rather than medical services, which often prevent physicians from performing diagnostic and treatment duties that are commensurate with their training and skills.

- In-service training. While the staffing patterns and qualifications of staff meet basic needs, in-service training is not always well organized or designed for ensuring that staff can meet increasing or changing health care needs. Health staff reported attending short term training courses as available in such topics as health program management, reproductive health, child health care, TB control, leprosy, and HIV/AIDS.
- Rising demand for other curative services. Community residents and leaders expressed considerable demand for additional types of specialist services. The cost of adding a second physician to CHC staff is unlikely to be affordable. Other models, for example visiting specialists, may merit review.

2) *Infrastructure, equipment and pharmaceutical supplies*

- Facility layout. In general, there are adequate essential conditions available for examination and treatment at most CHCs.
- Basic equipment and supplies. Most CHCs have basic equipment and medicines that are needed for essential services. However emergency equipment and supplies were not adequate even at a basic level.
- Construction and major renovation. Quantitative analysis of HMIS data showed that construction or major renovation of a CHC has a slight, but significant, positive effect on how much commune residents use CHC services. If this small effect is projected over time, and assumed to continue, the long-term effect can be substantial. Thus, small effects on monthly caseloads may be important in the long run. Qualitative research results corroborate this conclusion, suggesting that user perceptions of the quality of care are affected by the quality of the facility. Nonetheless, although construction and major renovation showed an impact, other factors explained most of the variation in statistical models.

- Construction and distance. In general, CHCs are located near roads and the mean distance from the CHC to the district and provincial level health providers was not great –ranging from 2km in the cities to 35 km in Khanh Hoa rural and mountainous districts. However, evidence from this appraisal demonstrates that construction has a greater impact on caseloads as distance increases. This suggests that investment in construction or major renovation in remote CHCs will have a greater impact than construction in CHCs that are relatively close to referral points.
- Utilities. Most CHCs had adequate electrical supply for the operation of machines, for treatment and emergency treatment, and for daily activities. Nearly all CHCs in this appraisal had a telephone or other communication capabilities.
- Land area. Land areas of CHCs were large enough for construction and implementation of primary health care and prevention services and expansion in the future.

3) *Functions and practice of preventive and curative services, and management practice.*

Preventive health services. While the preventive health service system was less commonly discussed by focus group participants than curative care, preventive service activities are a major, and often dominant, component of CHC staff work routines. This focus is widely appreciated for its achievements in such areas as near-universal child immunization coverage, compliance with safe delivery practice guidelines, and high levels of contraceptive use. However, organizational problems were often noted in discussions, especially by CHC managers and workers. In particular, vertical programs typically have their own independent targets and goals, and reporting requirements and forms. CHC staff must coordinate the requirements of an average of about 20 national health programs, each with unique reporting and task requirements. Programs are sometimes promulgated in top-down, target-driven directives that are inconsistent with local priorities, needs, and capabilities. There is a need for further investigation of work routines required for an integrated regimen of primary health care services that addresses general needs and priorities, yet also provides flexibility for CHC staff to adapt strategies and activities to local circumstances.

Curative health services. CHC managers and staff reported that there were not enough physicians and health staff to adequately meet the demand for CHC services. Administrative matters and meetings occupy a major component of medical staff time. This is viewed by CHC staff and clientele as a factor constraining access to medical services.

Discussants often praised the quality of CHC staff, indicating respect for their dedication to quality health services. Nonetheless, perceptions of shortcomings in quality often detract from demand for CHC services: In particular, discussants noted inadequacies in counseling, privacy and referrals; infection control; and deficient equipment repair and

maintenance. Discussions suggest that perceptions of the quality of CHC care are a dominant factor constraining demand for CHC services.

More and better management information. There is a pressing need to simplify HMIS operations and improve data feedback and use so that data management operations can serve the monitoring needs of frontline workers and clientele. This project designed a set of tools for this purpose which proved feasible for regular use by existing staff. If these tools were instituted by provincial health service teams, findings could be integrated into management decision-making processes rather than standing apart in a technical report. Such reports would be regular management tools and not require special research.

4) *The Demand-side: Discussion of factors affecting health seeking behaviors.*

Qualitative discussions and interviews involving local residents and community leaders and officials provided many insights into the health seeking behaviors of residents and their rising expectations of CHC services.

- Access to primary health care. CHCs are crucial sources of access to primary health care for local patients, particularly in the rural and mountainous areas. The geographic characteristics of the coastal and mountainous areas of Khanh Hoa and rural areas of Da Nang constrain CHC activities and affect efforts to seek and provide services.
- The climate of care and demand. In general, local residents report being satisfied with services provided by CHCs, and particularly with the friendly attitude of health staff, which contributes to patient's confidence and reliance on the CHCs. When the public perceives that CHCs have poor infrastructure, inadequate equipment, or limited supplies, residents report lowering their use of CHCs as primary service points.
- Insurance. The national health insurance scheme plays a crucial role in shaping demand for CHC services among the poor. Medical examination and treatment for the poor have reduced the burden of medical costs for clients, particularly for ethnic minority groups and other poor residents of the mountainous and other rural areas.
- Private care. General curative care caseloads of CHC in this appraisal are gradually declining with time, in part because clientele have resources for private services that they view as having higher quality than the CHC alternative. Development of private health services helps reduce the overload of work for public health centers at higher levels, creating more choices for clients in seeking health services relevant with their capability and condition. Nonetheless, there is a need to review the policy implications for investment in CHC services of the growing reliance on private care.
- Health-seeking behaviors. Residents and users employ a wide range of health care options:

- Residents report routine use of self-treatment and private providers, often in consultation with pharmacies, sometimes simultaneous with use of the public system, and sometimes as alternatives to public system.
- Residents also report selective use of the public system, taking minor problems to CHCs while pursuing self-referral to DHC or provincial facilities.
- Per capita utilization of CHCs is higher in rural and remote areas than in urban areas.
- While residents are generally positive about CHC staff and services, they seek a wider range of specialized services than CHCs can realistically provide, including services such as ear, nose and throat specialists, ultrasound exams, x-rays, dental care and eye care.

I. INTRODUCTION

The government health system of the Socialist Republic of Viet Nam (GOVN) is well-respected outside Viet Nam, in particular for its achievements in preventive health and disease control. However there is evidence that the primary level of care, based at the commune health center (CHC), falls short in meeting the actual and perceived needs of many users and would-be users. This is more often the case for those who are poor, living in remote areas, or ethnic minorities. Current GOVN priorities and policies have begun to make conditions more favorable for intensified attention to primary health care (PHC) and public health at commune level. It is timely therefore to increase the levels of good evidence, data and analysis of primary health care and prevention services, in order to better diagnose issues and problems and to test feasible solutions.

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II. PROJECT OBJECTIVES AND APPROACH

The Population Council and the Provincial Health Services of Khanh Hoa and Da Nang reached an agreement in the fall of 2004 to prepare an assessment of primary health care. This project, which was supported by Atlantic Philanthropies, aimed to add new, practical knowledge about the specific opportunities and challenges that Provincial Health Services will face as they formulate plans for improving primary health care in the public health system.

This study aimed to:

- Develop assessments in 2 provinces, in order to inform and guide Atlantic's support of a future Commune Health Services Initiative in a cross-section of strategic provinces.
- Use project team composition and methods that insure that strong local leadership and external experts work together at each stage of the project.
- Engage the Provincial Health Service in each selected province as the co-director of the assessment, along with Population Council Viet Nam Office.
- Document and assess preventive and primary health care services at commune level from three angles –
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- Develop and test an assessment methodology for each province that makes systematic use of existing databases and studies before doing collection of new data in each province.
- Identify and test a methodology for pre-intervention assessment that can be used in other provinces if found useful in the initial two.

These objectives have all proved to be appropriate and achievable. Both provinces chose to design their individual assessments according to the same basic structure and methods. Each assessment was organized to assess current services in terms of four sets of factors that are key determinants of access and quality of services. Three sets of factors are on the supply side: 1. policies and human resources, 2. infrastructure, equipment and medicines, and 3. Functions and practice of preventive and curative services, and management practice. The fourth set of factors is on the demand side: perceptions of local residents and community leaders/officials, and health seeking behaviors of residents.

The framework and scope of the assessment both warrant comment in terms of their relative novelty. The incorporation of in-depth collection of demand-side, community-level data is rare in pre-intervention baseline studies designed or commissioned by

governments. More distinctive still is the scope, which is the whole span of primary health care and prevention services. The norm is still to use the single issue or single problem organizing principle for health reform initiatives – what is usually called the ‘vertical program’ approach.

III. DATA FOR THIS REPORT

1) The Types of Data

This report for Khanh Hoa Province and Da Nang is based on three sets of existing and new data, as outlined in the next section on methodology:

- Data Set A, Existing Quantitative data: from MOH-required routine reports (sometimes referred to as the Health Management Information System, or HMIS);
- Data Set B, New Quantitative data: Survey of commune health center-based health providers and Inventory of CHC amount and status of staff positions, infrastructure, equipment, supplies, etc.; and
- Data Set C, New Qualitative field data: In-depth interviews and Focus group discussions with commune residents, commune and health leaders, village health workers, and local private health providers. This data set also includes in-depth interviews with health system leaders from provincial and district levels.

Since some, but not all, communes in Khanh Hoa and Da Nang have been engaged in health systems improvements, these two provinces represent an important resource for assessing whether improvements affect: 1) demand for services as measured by patient or client caseload, or 2) the quality of care, as indicated by qualitative data recording the views of clients and health service providers.

All findings from Data Set A are based on the combination of data from Da Nang and Khanh Hoa Provinces, so that analyses are conducted on statistically robust sample sizes. We also present findings from Data Sets B and C delineated by the source of information, Khanh Hoa or Da Nang, as well as the type of respondent.

Taken together, findings identify key factors determining the quality, accessibility, and volume of primary health care services. The report paints a picture of many parts, with no single factor that dominates. It offers new evidence, both confirming and challenging some widely accepted priorities for primary health care, and raises topics for consideration by the two provinces as they plan initiatives to improve primary health care.

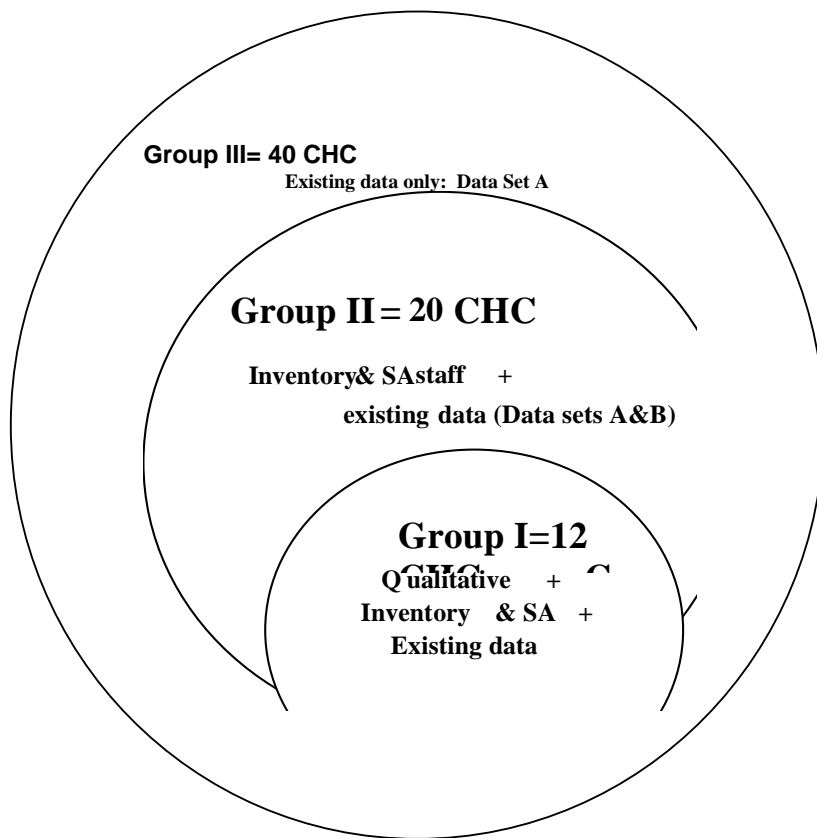
2) Preparation of Data Sets

Selection of communes: A nested purposeful sample. In all, twenty CHCs from each province were selected for the appraisal following a purposeful sampling strategy. Selection was designed to address competing goals: the appraisal requires large-scale, statistically representative data; yet, a wide range of quantitative and qualitative data from community members, CHC staff, and district medical personnel are needed to provide

insights into health seeking behavior and service delivery practices. New quantitative and qualitative information required for these goals could not be collected on a large scale; yet large-scale information was needed to provide the statistical power for inference. Therefore, a combined “nested” approach was employed to build on the advantages of each analytical strategy, while avoiding intractable data collection designs. Figure 1 illustrates this “nested design” study. In each province, communes for Group 1 & 2 were selected in pairs:

- First, we chose 10 communes that have “new CHCs” in each province: Group 1 was prepared of CHCs that have been renovated during the period from Dec. 2000 to Dec.2003. Communes were eliminated from the list with construction in 2004 so that CHCs included in the sample had populations served by renovated CHCs or not served by new CHCs. Then, districts were arranged by population size so that in the largest districts 2 communes were selected and the smallest, one district, leading to the random sampling of 10 communes.
- For each “new CHC” we selected a matched “old CHC.” These were purposefully sampled as the nearest CHC that matched the corresponding “new CHC.” Where there were CHC of equivalent distance, the matched CHC was the oldest eligible CHC.

Figure 1: The Design Of The Nested Purposeful Sample, Groups I, II, And III.



Group 1 was comprised of twelve communes -- eight in Khanh Hoa and four in Da Nang -- where all elements of the study were conducted. The data Group I data collection package included:

- Compilation of existing archival data from the routine MOH data reporting forms, as translated and presented in English in Appendix B.
- Compilation of new quantitative data based on visits to CHCs to conduct a detailed facility inventory and interviews with two staff at each CHC using a structured questionnaire.
- New qualitative data collected from in-depth research recording CHC staff views on health service issues; community residents' experience and views on health seeking behavior and service options; provincial and district health managers/leaders' views on policies and challenges for local CHCs and prevention services; and

Group 2 was comprised of 20 communes--12 communes in Khanh Hoa, (including the 8 which are also in Group 1), and 16 in Da Nang (including the four in Group 1). This yields 20 CHCs where quantitative elements of the study were conducted, including situation analysis inventories and staff interviews. This level of data collection ensured feasibility, avoiding the need for expensive and complex requirements of in-depth data collection and interpretation activities.

Group 3 would ideally be comprised of all the remaining CHCs in each study province. However, owing to time and resource constraints, existing CHC Health Information System Data were entered for the 20 CHCs in Group 1 and 2 only and 10 additional CHCs in each province, making 40 altogether.

Data for the analysis are extracted from existing records. All CHCs in Vietnam are required to submit monthly reports of total caseloads of preventive and curative care to district health authorities. These standard forms are reproduced in Appendix B. To provide data for the present analysis, these monthly reports have been computerized for 40 study CHCs in Da Nang and Khanh Hoa Provinces, providing time trend data from the period when forms were introduced, April, 2002. In Khanh Hoa, some CHCs report data for 22 months (from March 2002 to December 2003) while others reported less than 22 times over this period. Da Nang CHCs reported data for 21 months (from April 2002 to Dec 2003). Available reports from the 40 Data Group III CHC have been merged so that observation time is scored for the 22 months from March 2002 to December 2003.

Taken together these "Data Set A" reports define a set of "time series" data for monthly clinic caseloads, including indicators defining the completion month of construction for the 20 study CHCs where facilities were upgraded. Owing to the high frequency of missing entries on some variables on some of the records, analysis focuses on eight indicators of the volume of health services that were consistently reported by most participating CHCs:

- Total curative and preventive visits (an indicator of the total volume of care)

- Total in-patients and out-patients (an indicator of the total demand for curative care)
- Gynecological examinations
- Gynecological treatment cases
- All diarrheal disease cases
- Under age five diarrheal disease cases
- All pneumonia cases
- Under age five pneumonia cases

The analysis of Data Set A proceeded in three stages:

- First, we reviewed general time trends for each indicator to determine if caseloads are increasing, decreasing, or remaining the same.
- Next, we reviewed time trends in reference to the timing of construction or renovation to determine if the post construction period is associated with caseload levels that are higher than preconstruction levels or if levels of caseloads change in response to construction.
- Finally, we examine the effect of construction on caseloads, adjusting for other possible determinants. This final analysis explains the variation in caseload levels over time.

Dataset A limitations. Various factors point to a need for caution in interpreting specific results from the statistical analysis that follows:

- Problems arise from the small sample used for this study. Results are highly sensitive to outliers. For example, observations from one CHC include exceptionally high caseloads. This CHC was renovated in June 2001, but the actual caseload was affected by the Expanded Immunization Program. During this campaign many children were immunized and if any child was found with respiratory symptoms such as cough or fever, ARI medication was prescribed and the child was reported as a “pneumonia case.”
- Construction and renovation are timed and located according to administrative standards that aim to solve problems. This selective placement of facility investment may have biased results in unmeasured ways.
- Data quality of CHC HMIS operations was flawed. In the absence of routine use of HMIS data by management omissions, errors, and inconsistencies in how the routine data are recorded go unnoticed. Potentially useful indicators of health operations and outputs could not be used for this assessment because data quality was too poor for the type of analysis to be pursued. Time trend data compensate for flaws, since assumptions can be made about trends that are unbiased by factors that affect data quality and a particular point in time. Nonetheless, routine use of HMIS data for management purpose, with tools for reporting findings and errors back to CHC, would address these problems and widen the scope for analyses.

Collection of new data at field level: Data Sets B and C. Collection of new data took place in 20 Ward/Commune health centers and communities in each province.

For Khanh Hoa province, these communes/wards were randomly selected from 137 communes and wards of Khanh Hoa province, among which 16 communes are rural and 4 are urban wards. These were selected by a communes/ward stratification procedure that aimed to generate a sample that is geographically typical of the province, including 10 rural communes, six mountainous, one coastal commune and three communes with mixed terrain. All CHCs selected for the study were accessible by staff of a higher level health facility. Nearly all of the sample CHC were accessible by tarred roads and were functioning as centers that refer cases to district hospitals. The average distance from the CHC to the regional polyclinic is two kilometres, to district hospital is 5.2 km, and to the provincial/city hospital is 35.4 km. Thus, in comparison with other regions throughout the country, the average distance from the sample CHCs in Khanh Hoa province to higher levels of referral is rather short-- results from the National Health Survey 2001/2002¹ show that the average distance from CHCs to district hospitals is 12 km (10 km in the plain areas and 22 km in the mountainous areas), and from CHCs to the provincial hospital it is 51 km (34 in the plain areas and 88 km in the mountainous areas).

The surveyed CHCs are located in the communes with the typical economies of Khanh Hoa province - agriculture, aquaculture and service. The communities under this survey were rather developed with telephone coverage and electric network services in most of the surveyed communes; in the rural areas, deep wells were available almost everywhere; piped water was available in the urban areas and there were either deep wells or natural water in the mountainous areas.

Focus group and in-depth interviews were convened of the following study participants:

- *Health managers and leaders of Khanh Hoa province:* In all, 34 Health managers from provincial, 8 district and 8 CHCs participated in in-depth interviews. Most of them are aged 40 and the majority are male (85%). They had different duration of working experience, from one month to 20 years. Health sector work experience of the interviewees varied between 10- 38 years. Most of them are physicians (70%), among them, one-third are general physicians, the others are physicians of other specialities, mainly gynaecology, odonto-stomatology, epidemiology and public health. One-third of the participants completed a graduate education (Specialist I) equivalent to a masters degree in the medical field.
- *Health staff:* A total of 59 health staff from 20 CHS participated in interviews with structured questionnaires. The average age of health staff is 36 and 80% of them are married. Female health staff account for 66%, and male staff, 40%. Most of them (93%) are Kinh majority. Regarding professional levels: 7% are general physicians, 2% are physicians of different specialities and 17% are obstetric and gynaecologic assistant physicians, 32% are assistant physicians of other specialities; 20% are secondary and primary midwives; 19% secondary and

¹ Ministry of Health - General Statistic Office - Report on the National Health Survey 2001-2002: State Primary Health Services - Pages 201-2002.

primary nurses. The average time of working in the health sector is 13 years; their average time of working in current health centers is 10 years.

- *Private health providers:* A total of 16 private health providers in eight communes participated in in-depth interviews. They are of different ages, 43.6 years old on average. The oldest health provider is 86 years old while the youngest is 28. More than two-thirds of the participants are male. Regarding their professional background, four of them are physicians, four are traditional healers, five are pharmacists and three are assistant physicians. Most of them had a long working experience with 15.6 years of working in the health sector. Professional experience ranges between two years to 43 years. Most are experienced working in the public health system. At the moment, more than one-third of them are still working in public health facilities such as commune health services, hospital or pharmaceutical companies. One-fourth of the private health providers did not have experience working in any public health facilities. Among interviewed health providers, one-third provide western health services, nearly one-third are providing traditional health services and another one-third operate a pharmacy. Apart from one participant who provided western health care services without a legal permit due to insufficient number of years of experience, all other health providers had permits to run their medical operation according to their trained professional background.
- *Village health workers (VHW):* 54 VHWs participated in FGD in 8 communes, of which over 90 percent are female. They are of middle age on average (43.4 years old). Over half of all VHWs pursue agricultural livelihoods, and have 3.5 years of experience in this role.
- *Community leaders:* 77 community leaders (including commune and village leaders, members of women unions and population boards, etc.) participated in eight FGDs about primary health care and preventive medicine in the commune health centers. The average age of leaders was 45 years old, and they are mainly male of Kinh majority and married with 3 children on average. They mainly do agricultural production, accounting for 61%. Nearly 42% of them were working as village heads or vice heads. The rest pursue other careers as members of women unions or youth associations.
- *Residents:* In Khanh Hoa, 100 individuals participated in 8 FGDs and 37 in-depth interviews in 8 communes. In Khanh Hoa, respondents are mainly Kinh majority (75%), and Raglay ethnic minority (24%). A very small percentage is Tay minority. Most of the interviewees are engaged in agricultural production (64%), or private business (27%). Some are retired workers.

For Da Nang Province, collection of new data in the field also took place in 20 Ward/Commune health centers, of which six are commune health centers in the rural communes and 14 are ward health centers in the urban area. As a big city in the center of the country, Da Nang's geographical characteristics include terrain that is 45% plains, 30% coastal, 10% midlands, 10% mountainous and 5% mixed.

Among the 20 surveyed CHCs in Da Nang city, the average distance from the CHCs to district hospitals is 5.2 km, and to provincial hospitals is 9.7 km. Thus, the average distance between the CHC to district and to provincial hospitals is not far compared with that of other CHCs in the country. Results from the National Health Survey 2001/2002² show that the average distance from CHCs to district hospitals is 12 km (10 km in the plain areas and 22 km in the mountainous areas), from CHCs to provincial hospitals was 51 km (34 in the plain areas and 88 km in the mountainous areas). There are tarred roads leading to all the 20 surveyed CHCs in Da Nang, so accessibility is convenient.

Focus group and in-depth interviews were convened of the following study participants:

- *Health leaders of Da Nang City:* 19 Health Leaders from provincial and 4 districts and managers of 4 CHCs participated in in-depth interviews. The average age was 54.7, and the majority are male (95%). Work experience ranged from one to 20 years. 68.4% have more than 20 years of work experience in the health sector. Most are physicians (95%), among them, one-third are general physicians, the others are physicians of other specialities, mainly gynaecology, odonto-stomatology-Maxillo Facial Surgery (OSM), epidemiology and public health. 50% of them attended graduate training (for doctor with first level of specialization).
- *Health staff:* 60 health staff from 20 CHS participated in interviews with structured questionnaires. The average age of health staff is 38 years. Female staff accounted for 80% and are all King majority. Regarding professionalism: 15% are general physicians, 10% are physicians of different specialities and 11.7% are obstetric and gynaecologic assistant physicians, 32% are assistant physicians of other specialities; 25% are secondary midwives and 3% are primary midwives; 2% primary nurses (no secondary nurses), 2% have other specialities, there are no traditional healers.
- *Private health providers:* 11 private health providers in 4 communes participated in in-depth interviews. Their average age was older than other participants, at 53.2 years; the oldest health provider is 64 years old while the youngest is 43. More than half of them are male. Regarding professional level, two are physicians, three are traditional healers, four are secondary pharmacists, and one midwife. The combined average of work experience is 23 years in the health sector, ranging between ten and 34 years. Most of them have worked in the public health system. At the moment, more than half of them are still working in the public health facilities such as commune health services, hospitals or pharmaceutical companys, including three agents for pharmaceutical companies and two pharmacists. Among the interviewed health providers, four out of 11 provide western health services, three provide traditional health services and four operate pharmacies. Apart from one nurse who was not granted a legal permit, all other health providers hold permits to run medical operations according to their trained profession.

² Ministry of Health - General Statistic Office - Report on the National Health Survey 2001-2002: State Primary Health Services - Pages 201-2002.

- *Village health workers (VHW) and health collaborators:* In Da Nang city, VHWs are available only in the rural areas while in the urban areas there is a network of health collaborators. 19 VHWs and collaborators in three communes/wards participated in FGDs. Their average age is over 50. More than one-third are retired workers and the remaining work as members of women's unions and as local officers in charge, etc. It is noticeable that all the VHWs interviewed are female. Their experience in local health activities average over 5 years. Among them, only 47% attended training for VHWs.
- *Community leaders:* 32 local leaders (including commune and village leaders, members of women unions and population boards, etc.) participated in four FGDs conducted in four communes about primary health care and disease prevention in the commune health centers. Most of them are male (84%). The average age of the leaders is 45.5 years old all are Kinh majority, and mainly married (84%) with 2.6 children on average. They are mainly civil servants (64%), with main responsibilities related to population, culture and information, and public relations issues; and heads or vice heads of inhabitant clusters (36%). 16% work as chairman or vice chairman of ward people's committee and 4% are representative of the Ward Father Front Committee.
- *Local people:* 42 local residents participated in FGDs and in-depth interviews in four communes. The average age is 38, of which males account for 33% and 67% are female. Most interviewees work in agricultural production (55%), or private businesses (30%). The remaining are retired workers. The majority, 81% of participants, are married.

Limitations of the qualitative information from Dataset C

Similar to Dataset A, due to small sample size, especially for Khanh Hoa province, we cannot use statistical tools to test the difference between indicators. Focus group sessions were convened with the aim of representing levels of the health care provision and decision-making system: CHC staff, VHWs, community leaders, and community members. Discussions were convened to portray the reality of health care from the viewpoint of participants and stakeholders in the CHC system. However, there are implicit limitations in this approach. First, it was obvious to all participants in the appraisal that the health care policy community was the audience for the exercise. It is likely that responses reflect participant respect for the health policy community and reluctance to embarrass workers or challenge the system. Moreover, community respondents know and respect health care providers, and may have viewed the interviewing process as somehow related to supervision. Finally, workers at all levels may be cautious about expressing views that would question the authority or leadership of their superiors.

V. FINDINGS

Findings are grouped into four major thematic areas:

1) Human resources, training, and service delivery policies.

At the service delivery point level of the CHC, readiness to deliver quality services means that service infrastructure, facilities, and equipment of an appropriate type are available, functioning, and able to handle the existing client load. Trained and competent staff is available to provide services mandated by the program for the particular service level. IEC activities such as health talks are conducted and materials on various health subjects are available and utilized to educate clients, and distributed so clients can inform their partners or family members. A variety of contraceptives, medicines, and other program supplies is available (without stock-outs); and providers maintain and report appropriate records of services, receive helpful supervision and feedback on their reports. Various themes emerged from the appraisal of CHC readiness.

The role of physicians. Community residents indicate that the presence of a physician is an important factor in quality health care and crucial to the credibility of CHC services:

"At the moment, there is no physician in the commune, that is our difficulty... we would like to have at least one physician for primary health care (PHC)" (Male, head of village, VN commune, NT city, Khanh Hoa).

"It is very necessary to have an additional physician for the commune health center, there should be more training for commune health staff to provide services for the people in the mountainous area rather than they have to go to the very far-away district. There is no physician in this commune health center, only nurses are not enough." (a resident, male, aged 38, Raglay group, BCB commune, KS district, Khanh Hoa).

"Our most serious problem is human resources, one [there is one physician at the CHC] physician in charge of 30,000 inhabitants is overloaded" (Male health provider, aged 40, AK precinct, TK district, Da Nang).

Often, comments about the importance of physicians were accompanied by comments on perceptions of the equipment that physicians need:

"I wish there was a physician and additional facilities, at least an electrocardiograph in the commune health center because the old people often suffer from cardiovascular problems. If there is such an apparatus here there must be some one who can use it. In that case, the assistant physician won't be able to work with it, so there must be a physician" - (a resident, male, aged 66, NQ commune, NH district, Khanh Hoa).

It is already difficult to have sufficient physicians at CHCs; however another matter that needs attention is whether physicians can work effectively in the current context:

"I am the only physician at the health center who is responsible for examination and make prescriptions but I have to go to a lot of meetings. So I cannot meet the requirements of the people visiting the center." (Male health provider, aged 40, TQ precinct, ST district, Da Nang).

"There is one physician who is also the head of the health center, he is out of center all the time for meetings. He has meetings for 25 days a month. In the physician's absence, assistant physicians are in charge but their knowledge is limited" (Male commune leader, HN commune, HV district, Da Nang).

More typically, however, respondents equated the role of the physician with the general credibility of CHC services:

"Health staff at the CHC are very enthusiastic about services. They tried to educate to improve the people's awareness but I see that they don't find a good physician so we are not very confident when going to the CHC for treatment." (Female, aged 37, VB commune, VN district, Khanh Hoa)

Yet, only 28 of the study 40 CHCs had a physician assigned full time, a ratio in the sample that was much lower than overall provincial proportion of CHCs with physicians. There were midwives and obstetric/ gynaecologic assistant physicians in most communes to meet the requirements of reproductive health services, but the shortage of physicians -- in the view of community respondents, VHWs, and CHC staff -- is compounded by the fact that physicians spend too much time in meetings to be fully effective in their clinical roles. Moreover, pharmaceuticals, equipment, and other essential supplies are often lacking, preventing physicians from providing care that they are trained to sustain. The level of demand for CHC services would be enhanced if physicians were equipped to provide a broader range of diagnostic and curative functions than is now possible. Respondents often express a demand for specialized services that cannot possibly be offered at the CHC level. However, to a significant degree, mobile teams can address the need for specialized medical services district level:

"We were very happy when health staff from the higher level came for examination and providing medicines free of charge. Or when there was the campaign of eye check, operation, TB examination...free, so many people came." (Male, aged 65, VB commune, VN district, Khanh Hoa)

"A campaign of eye and gynecological examination was just organized. My uncle had poor eyesight, we thought that it was because of his old age and it was not necessary to have an operation. I found the services very useful, I prepared papers for him to have the operation and took him to hospital to check if an operation is necessary, then he had the first operation for the first eye, and the second operation for his second eye. Now he stepped out of his house and said 'today I see this house, that high house. It is interesting to be able to see again.' " (Female, aged 40, VP ward, Nha Trang, Khanh Hoa)

These mobile team visits are sometimes infrequent, however, and their patterns can be irregular. Routine and frequent visits from specialists would address critical health needs.

Paramedical staffing and training. The number of health staff in CHCs is defined based by national government regulation on the demand for health care in the community, the size of population and the covering area (plain, midland, mountainous or urban areas).

According to the inter-ministerial circular No. 08/TT-LB dated 20 April 1995 of the Ministry of Health - Finance - Labour - Invalid and Social Affairs - the Governmental Personnel Organization Committee (now called Ministry of Internal Affairs), there should be one health staff for about 2000 inhabitants on average for plain, midlands areas and for communes of 8000 -12.000 inhabitants, there should be at most six health staff. Since Khanh Hoa is a coastal province, with the most plain and coastal areas, it is reasonable to assume that this circular should apply to the province. Of the 20 CHCs surveyed in each province, an average of five staff was posted in Khanh Hoa and seven in Da Nang, including both permanent staff and staff with long and short term contracts receiving salaries from the commune budget. According to government guidelines, the number of health staff in CHCs was generally sufficient. However, in interviews with 119 health staff about the current human resources of the CHCs, over half stated that additional staff is needed.

Interviews showed that most paramedical staff in both provinces had experience in examination and treatment of common diseases which were relevant with their professional background, including child health care services and reproductive health care and some other health programs including Food Hygiene and Safety program, Tuberculosis, and Leprosy prevention programs.

Regarding examination and treatment, each health staff member received an average of 8-9 patients per day, in addition to a night or holiday shift. More than half of them said that the workload was reasonable. Besides, health staff are also responsible for the National Health Program assigned for each CHCs (averaging 18 programs). Each health staff was in charge of three programs on average. Half of the interviewees said that the workload from the national health programs was very heavy, while only one-third in Khanh Hoa (36%) and almost half in Da Nang (47%) said that it was reasonable.

The preventive health care regimen is crucial to CHC effectiveness. Training for public health programs is not universal, however. The following table shows the percentage of health staff among 119 interviewed personnel who attended short term training on management (ranking from the training courses with highest percentage of attendance to the lowest one) and the average days that a health provider attended in each training course:

Table 1: The percentage of health staff of two provinces attending training courses and mean days attended.

No.	Name of management training courses	Percentage of health staff attending	Average number of days of attendance
1	Reproductive health program management	72	14.9
2	Expanded program of Immunization/EPI management	57	1.4
3	Malnutrition program management	50	2.1
4	Hemorrhagic fever (Dengue) program management	45	1.4

No.	Name of management training courses	Percentage of health staff attending	Average number of days of attendance
5	Tuberculosis prevention program management	45	1.4
6	HIV/AIDS program management	42	3.0
7	Leprosy prevention program management	42	1.6
8	Mental health program management	40	3.6
9	Food Hygiene and Safety program management	33	1.4
10	Local health referral program management	32	11.3
11	Malaria program management	26	1.8
12	Commune Health Center management	20	8.6
13	Epidemics management	17	1.1

As Table 1 shows, there were a total of 13 training courses, mostly on public health program management and one on CHC management. Courses provided a combination of administrative and technical training. For example, the EPI programs not only provided training on child vaccination management, but also on vaccination injection techniques, etc. Reproductive health training has the highest coverage and the most extensive duration. Program management training for EPI, tuberculosis, malnutrition and hemorrhagic fever (Dengue) prevention had high percentages of attendance but only two days of attendance. Apart from program management training, health staff also attended other training on emergency procedures, care for eye diseases, ENT and OSM diseases, and other issues.

Out of 119 interviewed health staff, only 33% staff attended any long term training or were sent to training for professional promotion, which were mainly crash courses for assistant physicians to be promoted to physicians (21%) and for doctor with first level of specialization (15%). Most of the training courses were conducted before the year 2000.

Village Health Workers. VHWs play an important role in primary health care support activities at the commune level, particularly in health education activities and participation in national health programs. According to the provincial health report, out of 137 communes in Khanh Hoa province, there were VHWs in 122 communes, and all communes in Cam Ranh town and Khanh Son mountainous district have VHWs. VHWs are particularly important in the mountainous areas where people's accessibility to health services is more limited. The results from the survey in 20 communes showed that VHWs work in 19 of the 20 study communes, a ratio that is considerably higher than the national average. The number for Da Nang is 14, a low ratio because Da Nang city is characterized as an urban area and has an alternative network of health collaborators. According to the national standards of commune health services, all villages should have VHWs who have attended at least 3 months of training on technical knowledge provided from the materials issued by Ministry of Health. In the surveyed communes in Khanh Hoa and Da Nang provinces, one-fourth of the communes had no trained VHW. The VHWs in the

remaining communes were mainly commune officers, with combined responsibilities as VHWs. In the communes with VHWs, there was rather close coordination between CHCs and VHWs. Activities of VHWs included health education and dissemination, instructions on hygiene and disease prevention to local people, early detection of new diseases in the village and reporting to commune health centers. VHWs have frequent contact with the local people:

"We had to know the size of population, the number of households in the village... encourage them to have vaccinations. Besides, we are responsible for health education to the local people on how to prevent hemorrhagic diseases, carry out environmental hygiene program, clean water program and instruct women on contraceptive methods "(Female village health worker in NQ commune, NH district, Khanh Hoa).

CHC staff, in turn, organize monthly meetings with VHWs. In the view of CHC staff, these meetings are vital for monitoring the health status of villagers and to plan technical backstopping of the VHWs. However because over one-third of the study VHWs were not sufficiently trained, many had such limited technical knowledge that CHC staff backstopping was not possible:

"I strongly wish that VHWs have some training every year to update and widen our knowledge. I wish that we all are trained on new knowledge "(A female VHW in VN commune, NT city, Khanh Hoa).

"Because I haven't attended any training for VHWs I found it very difficult to encourage people to go to take medicines because they did not trust in me, they said that I did not have any technical knowledge of health. Take, for example, when I distributed anti-infection medicines, villagers did not want to take because they felt hesitant" (A female VHW in NQ commune, NH district, Khanh Hoa).

"The VHW network has not been developed in the urban area and training is also limited with few participants. Health workers in this ward are not invited to training so I only attended a training course in 1999." (A female VHW in VP precinct, NT city, Khanh Hoa).

"The difficulty of our VHW is limited knowledge, so we can't meet the requirements of the people. They think that we have little knowledge. With only one or two training courses we are not provided with enough knowledge to meet their requirements despite that we would like to participate in the activities " (A female VHW of ST commune, DK district, Khanh Hoa)

"It is not really precise to call it a training course, there was some very short training of one or two days, with very little knowledge provided and there is no fundamental training" (A female VHW of KN commune, KV district, Khanh Hoa)

"They are trained on what they do only. But I suggest that there should be more in-depth training for the young health staff to take over." (Female VHW, PN precinct, HC district, Da Nang).

"VHWs are not officially trained. For example they are trained a bit on rehabilitation, and a little on malnutrition" (Female health provider, PN precinct, HC district, Da Nang).

"We are in fact not trained on preliminary emergency care." (Female VHW, AK precinct, TK district, Da Nang).

"Training was also provided by health staff from district health center but the training was too short to meet the practical requirements of the work here". (Female Population-family-child health collaborator, AK precinct, TK district, Da Nang).

Due to insufficient training, collaborators had difficulties in information dissemination and education activities in the communities.

"In communicating with young married couples, their awareness was even better than mine, for example if we discuss with those who are physicians they would make questions that we could not answer due to our limited knowledge" (Female collaborator, AK precinct, TK district, Da Nang).

For rural health care, there was a network of VHWs who had attended 3-month training officially organized for VHWs as stipulated by the Ministry of Health. The training was focused on population, reproductive health and child nutrition. However, apart from those two topics, VHWs were not trained on any other topics so when there was integration with other health programs, they then could not implement their activities:

"As public health workers, a 3-month training can provide sufficient knowledge and skills but if there is any other activity related to HIV/AIDS for example... there should be support from district level. We don't know how to implement activities related to drug addiction." (Female VHW, HN commune, HV district, Da Nang).

Clearly, lack of training and technical competence hinders the VHW program. Yet, VHWs seek expanded roles that involve curative services that extend beyond their mandated skills. Moreover, VHWs are responsible for some aspects of primary health care but they face difficulties such as lack of essential drugs, and basic equipment, and too large coverage area, particularly in the mountainous areas. This has been mentioned in the national health survey. These problems detract from their enthusiasm for their role in the public health system:

"I recommend that VHWs be provided with some medicines for them to use in emergency cases, for example for traffic accident cases, a sick child or some common diseases, I felt so sorry that there are no medicines that they may need at night". (A female VHW in VN commune, NT city, Khanh Hoa).

"I would like the management to subsidize each VHW a bag of essential medicines or a first-aid bag. Take the case of broken leg or there is a need of a cervical column temporary fixation for example, it would be better if we could make some first-aids before sending them to the higher level of referral. We couldn't do any thing now because we don't have any instruments". (a female VHW in NQ commune, NH district, Khanh Hoa).

"The difficulty for me is that the coverage is too large with several hundreds of households, some time they were sick and came to my house but I only had a blood pressure device or something to monitor but not any thing for first aid or any medicine for primary health care or injection." (A female VHW in VN commune, NTcity, Khanh Hoa).

"It is very difficult for VHW because I am the only VHW in village one from group 2 to group 4... I have to come to all women to inform them of the vaccinations, pregnancy examination, child weighing... so I have to get up at 4am but not go home until 7pm."-(A female VHW in BCB commune, KS district, Khanh Hoa)

Access to health insurance. The health insurance scheme affects client responses to costs. According to the Decision 139 of the Prime Minister, part of the MET fund for the poor was transferred to the CHCs so that eligible poor people could benefit from service at the CHCs. Interviews with health staff in Khanh Hoa showed that since 2003 MET services for the poor were carried out in most areas, particularly in the mountainous and rural areas. Interviews with other subjects in the communes also showed that health insurance for people in general and for the poor in particular is important in helping reduce their health expenses:

"My grandmother, who has health insurance for the poor, had an intestine operation at the provincial hospital of Khanh Hoa completely free of charge. I am very happy. We did not have to pay for such a major operation, which costs about VND 7 million. With the health insurance policy, we only had to pay for food expenses" -(A resident, female, aged 37, Kinh group, VB commune, VN district, Khanh Hoa).

"Those having health insurance [and their children] coming for examination at the CHC are provided with sufficient medicine so the residents in the areas often go to CHC and only to the higher level when their disease is serious."-(Female VHW, NQ commune, NH district, Khanh Hoa).

"There is a poor family in my village who has a health insurance card for the poor. They really appreciated it because they could go to the CHC, the hospital without having to pay any money, for the examination, bed, and medicine. This insurance card lists age and other information in their residence book so it can't be lent to others."- (A resident, female, aged 43, Kinh group, VB commune, VN district, Khanh Hoa).

In both provinces, most of the beneficiaries of the health insurance were grateful for this support. In the course of the appraisal, no evidence emerged of discrimination between patients using or not using health insurance:

"To be honest, I am very grateful to the health sector, health insurance sector and the local authorities. When we are sick, we can go for examination and treatment without having to pay. I previously suffered from gastric problems and a swollen leg, I went to the CHC for treatment without having to pay anything. Only if the

physician asked me to buy medicine, then I had to buy medicine, which were mainly additional tonics, not for curing.” – (A resident, male, aged 86, CPN precinct, CR town, beneficiary of health insurance policy for the poor, Khanh Hoa).

“In general, the residents coming for examination returned home very happy, for example, some poor people were granted with the health insurance cards, they came here for examination and were very happy. If they were sick and unable to come, health staff would go to their house for examination and provide medicines”- (A resident, male, aged 66, Kinh group, NQ commune, NH district, Khanh Hoa).

“The first time I came to the provincial hospital, because of lack of knowledge, I came to buy the ticket for the Kinh because someone told me that I needed to buy it for examination, otherwise, I wouldn't receive services. I had to buy the ticket for three thousand dong. When I saw the nurses and physicians, they told me: 'you don't have to buy this ticket because you are mountainous, ethnic minority people-- you don't have to pay. It's already difficult and costly for you to come here, you should bring this back for reimbursement'. The nurse took back the ticket and returned me my money.” – (A resident, female, aged 35, Raglay group, BCB commune, KS district, Khanh Hoa).

“There was no discrimination between those holding health insurance card and the rich... the insurance for the poor encouraged them to go for examination and treatment timely, for example, if you have a headache but because of the lack of money, you don't dare to go for a medical examination. Once you have insurance, you feel confident to go to the CHC.” (a resident, female, aged 46, HN commune, HV district, Da Nang).

“At the CHC, treatment for beneficiaries of health insurance for the poor... [by health staff] was the same as for others, there was no discrimination. First come, first serve.” (a resident, male, aged 30, TQ precinct, ST district, Da Nang).

While the poor clearly benefit from the program, there is evidence that defining “poor” and “non-poor” can be challenging to the system:

“The percentage of the poor is currently about 5-6% of the whole province. However, according to the definition, the poor have income of VND 200,000 or less per month, those who earn above the level are not [considered] poor. Calculation shows that VND500,000 per month is only sufficient for food, we can't consider those with that level of income to be wealthy. Thus if the income is enough for food only, they will lack money if they get sick. So the poor now are the most disadvantaged people. For example the poor can go to hospital without having to pay. But those are very close to that poverty line, i.e. those who have a house, or even a TV set, they still don't have much money, maybe 5-3 million dong, when they are ill, they have to sell cows and pigs for medical treatment. There are such cases in fact.” (Male provincial health leader, aged 54, Khanh Hoa).

“Beneficiaries of the health insurance for the poor policy was not defined by the health [what?], but by the people's committee, who decide who receive medical examination and treatment free at the CHC or at the district level, that's why, [the

health sector found it and the beneficiaries in appropriate.] Many beneficiaries who came for the service under the health insurance for the poor policy were wearing gold jewelery all over their bodies.” - (Male health manager, aged 44, NH district, Khanh Hoa).

"In general, those granted with the card deserve it but many other poor are not eligible because they are not residents and don't have a residence book." (Female VHW, VP precinct, NT city, Khanh Hoa).

However, apart from the advantages of health insurance for the poor, some said that there are some disadvantages. In the communes where poor families were granted with the insurance, not all family members benefited from the scheme:

“There are 5 people in my family, my husband and I, and our three children, one is a year old, one five is years old and one is seven. Only my husband and I benefit from the health insurance and we have to buy school pupil insurance for the 7-year-old child.”- (A resident, female, aged 31, Kinh group, CPN, CR town, Khanh Hoa).

“There are 3 people in my family, only one family member is granted with the insurance card, my mother and I don't have it. So not all the poor are beneficial, the program prioritizes only the old and sick people”. (A resident, female, aged 27, HN commune, HV District, Da Nang).

In addition to discussing free health services, several respondents expressed the incorrect view that free or inexpensive medicine is poor quality medicine:

“I think the health staff's attitude is fine but I am afraid of the quality of medicine because many people think that health insurance is subsidized by the government so medicine is free of charge, as a result, they must be cheap and few and not as good as [chargeable] medicine. More expensive medicines are better.” (A resident, male, aged 56, Kinh group, VB commune, VN district, Khanh Hoa).

"After examination, and prescription, the common cost was VND 2,000, but cheap things are no good... if the CHC could provide services of better quality, we would be happy to pay a higher cost and wouldn't have to go far away [to the higher level of referral or private health providers]." (A resident, male, aged 57, TQ precinct, ST district, Da Nang).

Table 2: Summary of service policy and human resource themes

General discussion theme	Specific comments by residents
Staffing	<ul style="list-style-type: none"> • CHC are understaffed • Physicians are crucial to CHC credibility • Two physicians are needed. • Physicians spend too much time in meetings and too little time on clinical duties

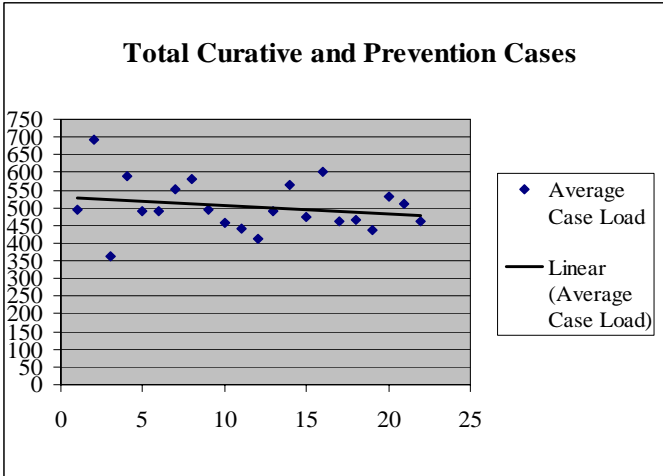
General discussion theme	Specific comments by residents
Training and staff competence	<ul style="list-style-type: none"> • Short term training is inadequate • Short term training is too infrequent • Long term training provides career opportunities for staff • Staff lack essential skills for primary health care • Staff are experienced and competent
The supply of quality primary health care services	<ul style="list-style-type: none"> • Service quality is a problem • In general CHC have high quality services
The range of services available	<ul style="list-style-type: none"> • The services available are too limited • Diagnostic capabilities are limited • The types of services available are appropriate • Pharmaceuticals are in short supply or inadequate
Referral services	<ul style="list-style-type: none"> • CHC are capable of referral • Patients refer themselves, bypassing CHC services
Service fees	<ul style="list-style-type: none"> • Fees are too high • Fees are appropriate
Health insurance	<ul style="list-style-type: none"> • The system meets the needs of the poor • Some poor people have trouble getting cards

3) Infrastructure, equipment, and supplies

Construction and major renovation. The Government of Viet Nam and its donors continue to invest substantial resources in the construction of new CHCs and major renovation of existing CHCs. Often this investment is associated with other inputs, such as the upgrading of equipment, the addition of staff, and training. A widely assumed, but seldom investigated, effect of facility investment concerns its impact on utilization of services: It is reasonable to expect that construction of a new and spacious facility could contribute to perceptions of service quality in ways that enhance demand for services. In this section, we examine the hypothesis that “construction” represents an indicator of investment in CHC that has an impact on health service outcomes.

"Construction" clearly represents a more general indicator than construction itself, including changes that collectively affect the staffing, equipment, training, and climate of care. Nonetheless, this package of care has a weak overall impact in this analysis. In some of the regressions, we demonstrate that construction makes a significant difference, but we also show that most of the variation is explained by things that we are not measuring in the statistical model. The term for this is "variance explained." The "Variance Explained" is always under 10 percent when population is excluded from analyses

Figure 2: Time Figure 2: Time Trends for Overall and Curative and Care Caseloads for 40 CHCs, April 2001 to December 2002



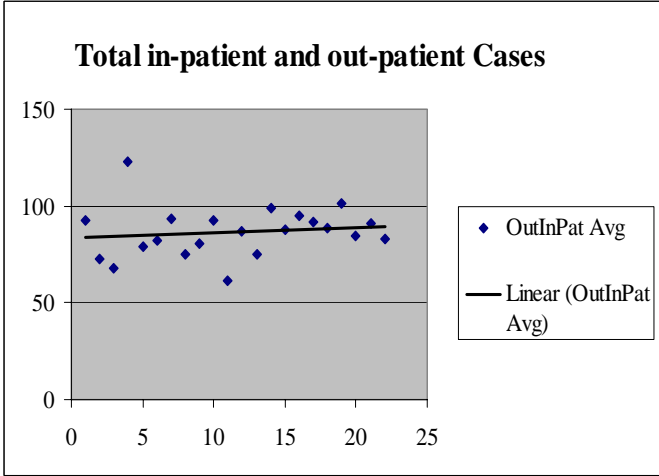
equipment that are seen by potential users as of good quality and 'modern', and willing, efficient implementation of the health care fund for the poor. Thus we urge attention and careful field testing and evaluation of an array of factors that shape health seeking decisions and behaviors of users, and build the capacity of health staff and facilities. Le Mai's comment: Where is figure 1.

As Figures 2-5 show, the overall time

trends in caseloads were unchanging over the observation period for seven of the eight indicators. There is a slight, but statistically significant, decline in overall caseload over time. When caseloads are examined for curative caseload alone, the trend is upwardly positive but statistically insignificant as caseloads emerge over time. Other trends differ only moderately from this pattern:

Gynecological examination and treatment declined with time, diarrheal disease caseloads for all patients and children remain constant over time and pneumonia caseloads for all patients and for under five children increased with time. While we assume that caseloads provide an indication of public demand for services, all results are subject to validation and confirmation with qualitative data. Nonetheless, some conclusions can be drawn from the data. Figure 3 plots mean trends for 40 CHCs. Mean monthly caseloads vary markedly across time points, and decline significantly with time. One in three examinations lead to some form of treatment.

Part 2B: Time Trends for Curative Caseloads for 40 CHCs



Diarrheal disease treatment caseloads remained constant throughout the study period. Mean monthly trends for the 40 study CHC are portrayed by the graphs in Figure 4. Children under five comprise approximately half of the cases managed by CHCs.

Factors underlying time trends in all eight indicators are complex, and the interpretation of trends is not straight-forward. For example, the reported increase in CHC pneumonia caseloads portrayed in Figure 5 increase with time. This may reflect successful immunization services or other preventive health care operations that increase the volume of clinical encounters and pneumonia cases observed and treated. Thus, more clinical encounters would be associated with more diagnosis of common childhood ailments, such as pneumonia. However, the trend may be due to health service failure rather than success, if pneumonia is associated with a progressive deterioration of the effectiveness of public health epidemic control operations.

Figure 3: Trends in Gynecological Examinations and Treatment

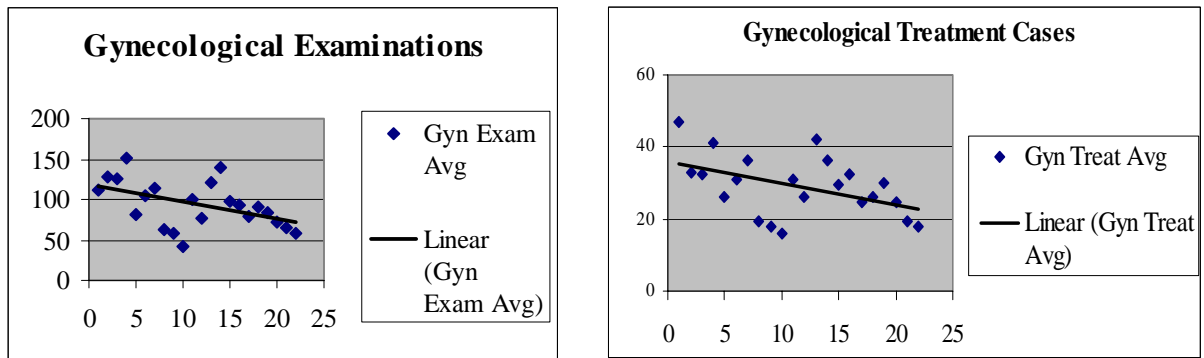


Figure 4: Trends in Diarrheal Disease Caseloads for All Ages and for Children Under Age Five

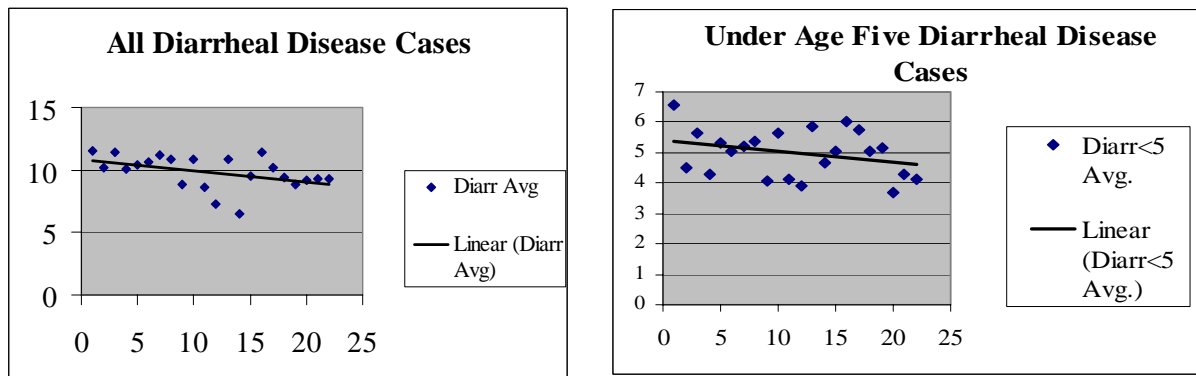
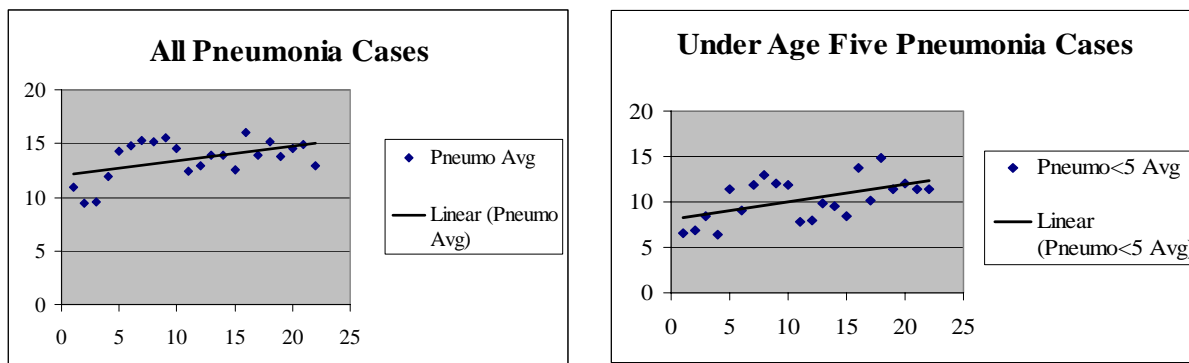


Figure 5: Trends in Pneumonia Caseloads for All Ages and for Children Under Age Five



Caseloads for the 20 CHCs where construction occurred were arranged for the months after construction and before construction and graphed over time, as illustrated at the left hand panels and right hand panels of Figures 6-10. In each case, the before and after trends were compared with the corresponding underlying trends illustrated in Figures 2-5 above. Using statistical methods, we test the hypothesis that the trend after construction is different from time trends that are observed in the absence of construction. The logic of our analysis is illustrated by the time trend patterns shown in Figures 6-10. A general trend line is drawn to show how caseloads are changing relative to the date of construction (construction time= month zero in the figures). A “polynomial” regression line has been added in each diagram for the period following the completion of construction. This provides a preliminary basis for drawing conclusions about the impact of construction on the trend in each diagram. If the polynomial trend differs from the underlying trend, results suggest that something may have happened after construction that changed the level of client caseload relative to the “before” trend. However, if the two lines coincide, there is no evidence of a construction effect. Actual analysis is not limited to the 20 CHC where construction occurred, however. The logic of analyzing the slope of time trends can be extended to include CHC where there was no construction. In this manner, we have used existing “Data set A” information to create something akin to an experiment. The slope of trends for 20 CHC with construction are compared with the corresponding trend where there was no construction in 20 CHC, using the “before” construction data to represent trends that would have occurred in the absence of construction in the 20 CHC where construction occurred.

Results diagramed in Figures 6 and 7 suggest that the trend in general caseload and curative caseload following construction is no different from the general trend. However, some CHC exhibit high caseloads after construction, while others exhibit no apparent impact. Patterns of this sort are consistent with the hypothesis that construction may have made a difference in caseloads in some of the CHC where caseloads accelerated after CHC were upgraded, but this conclusion cannot be drawn with confidence from the diagrams. Figure 7 suggests that caseloads are more variable after construction –that construction and renovation may make a difference in a few CHC, but not in general.

Figure 6: Trends in Overall Client Caseloads Before and After Construction or Major Renovation for 20 CHCs

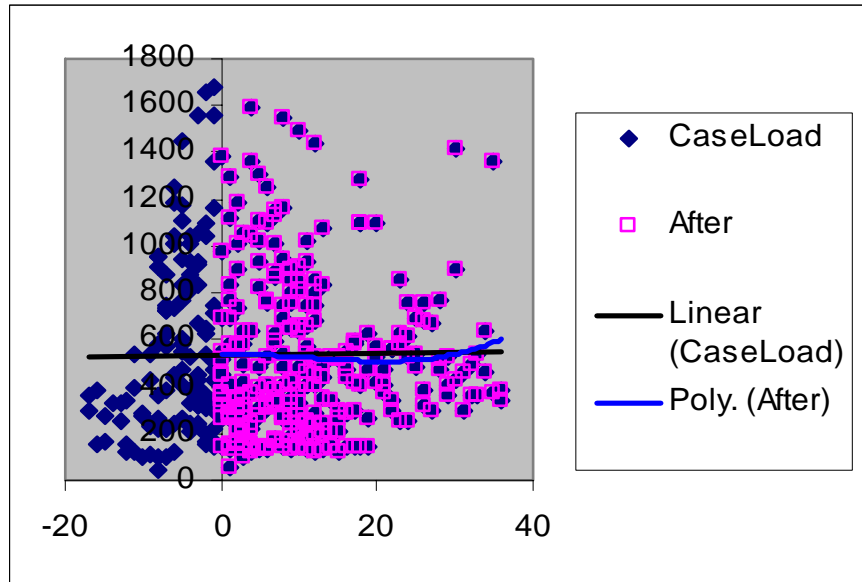
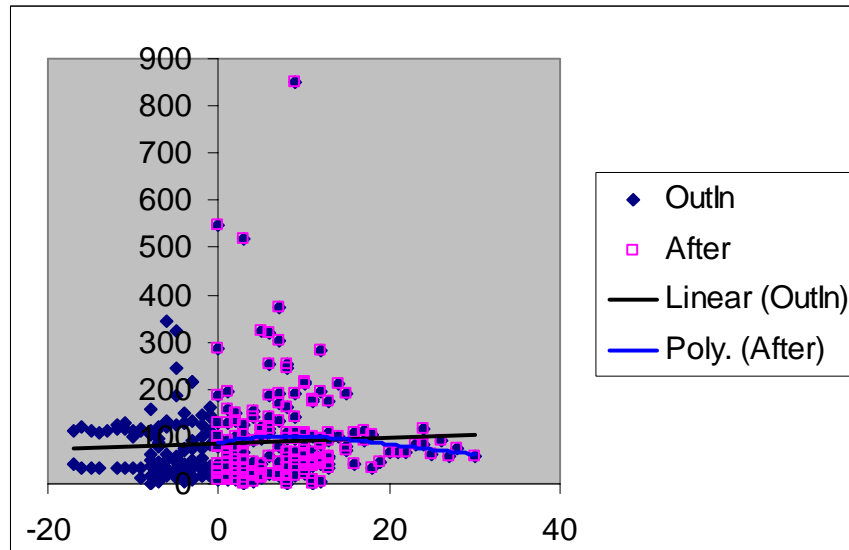


Figure 7: Trends in Curative Care Caseloads Before and After Construction or Major Renovation for 20 CHCs



In order to clarify the possible role of construction further, we have repeated this analysis for gynecological tests (Figure 8a) and treatment (Figure 8b). As in the case of Figures 6 and 7, the “after” trend coincides with the general time trend in caseload, suggesting that construction has no effect on this indicator. Caution is warranted with respect to the gynecological trend analysis, however. Gynecological services are provided by CHCs as regular service, and in addition are provided by district or provincial mobile teams who visit communes as part of a campaign twice a year, or sometimes more frequently. While it is unlikely that visits or campaigns would be affected by upgrading facilities, it is possible that client participation in such programs would be affected by perceptions of the quality of the facility where this service is provided. However, the mobile team program

can utilize any CHC in an area to provide clinical services. In such a case, it is possible that the availability of a new CHC may affect the location where services are provided, increasing caseloads accordingly. Thus, results suggesting an impact of facility upgradation on client demand for gynecological services may instead be related to staff decisions on where mobile services are provided. Therefore results of this analysis for curative caseload indicators must be interpreted with caution.

Figure 8: Time Trends in Gynecological Examination and Treatment Caseloads Before and After Construction or Major Renovation for 20 CHCs

Figure 8a: Gynecological Examination

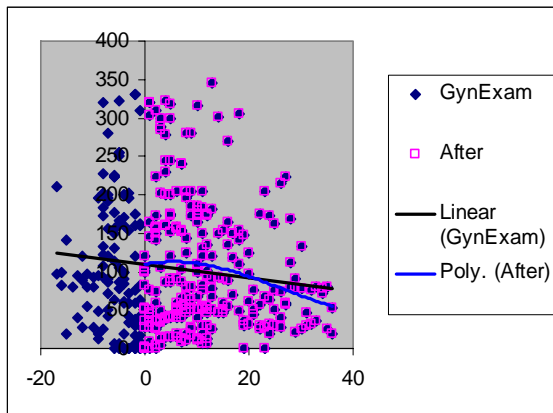
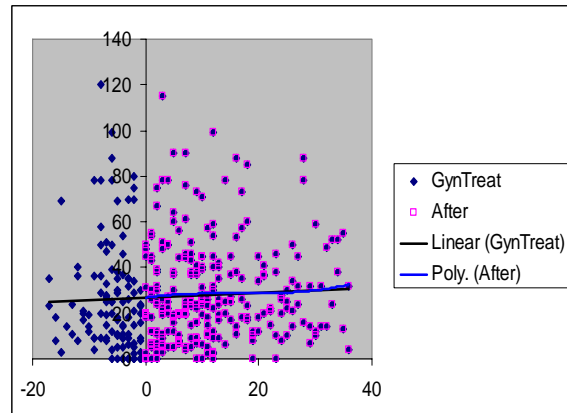


Figure 8b: Gynecological



Treatment

A similar conclusion can be derived from the diarrheal disease caseload data (Figure 9). For all cases, and for children under age five, time trends following construction resemble trends that prevailed before construction. Figure 10 illustrates a feature of these data, however, that is not immediately apparent in Figures 8 and 9, but is statistically evident for all indicators. Following construction, caseloads are more variable than before, mainly because construction appears to have an impact on caseloads of some CHCs but not others.

Figure 9: Trends in Diarrheal Disease Treatment Caseloads for All Ages and for Children Under Age Five Before and After Construction or Major Renovation for 20 CHCs

Figure 9a: All Ages

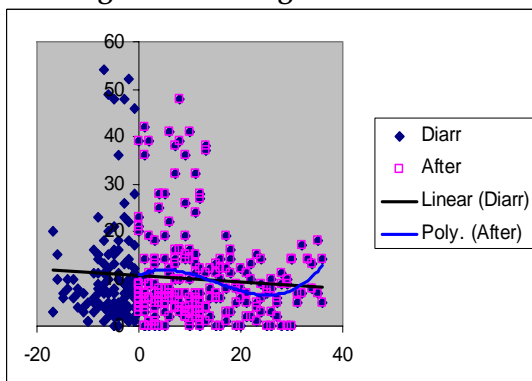
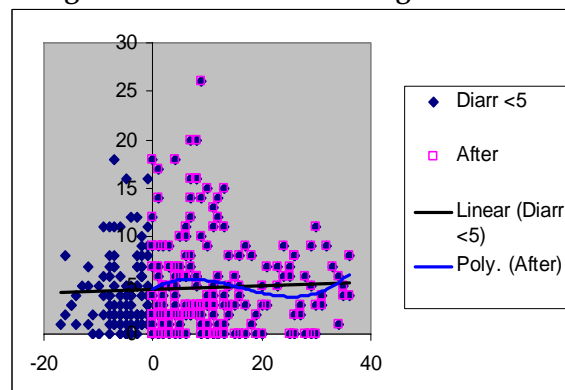


Figure 9b: Children under Age Five



Evidence that post construction effects may occur in some communes, but not others, suggests that further analysis is warranted to refine assessment of the possible association of construction with trends. The dilemma to be addressed is portrayed in Figure 10, above: Following construction, two time trends are evident, not one: some caseloads remain low and unchanging with time while other caseloads suddenly increase in the months following construction. The regression lines represent an attempt to combine these trends in trend lines. But, in fact, the regression curves fail to portray either situation: Actual caseload data points fall well below the curve or well above the curve, but rarely conform to the pattern estimated by the curves. While it is not possible to determine the cause of the rapid up turn in caseloads in some CHC, it is possible to adjust for factors that may contaminate this analysis with a further analysis that uses regression methods, lending further perspective to what is going on. Details of this further analysis are described in Appendix E. “Multiple regression techniques” refine estimates of time trends by adjusting for possible factors that confound the Figure 6-10 trends:

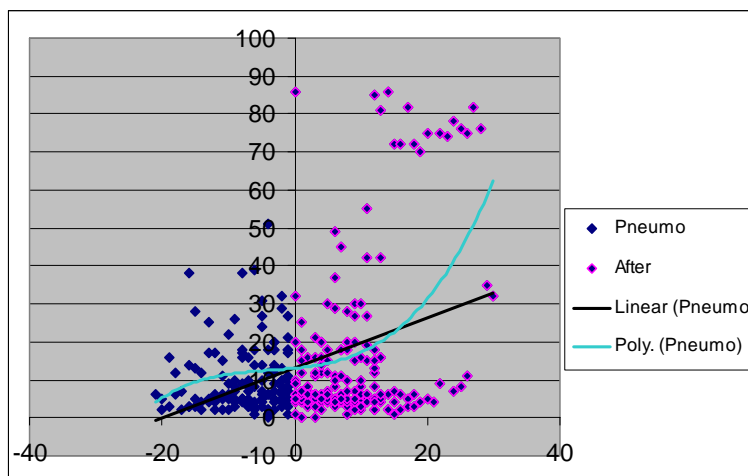
- The degree of remoteness of the facility could represent a contaminant if distance matters and construction is targeted for remote communes,
- The population size of the commune could represent a confounding factor if population size affects CHC caseload and construction is targeted on large communes
- The timing of renovation is confounder if construction is targeted on communes where services are most likely to be in demand owing to the very poor state of facilities. That is, the duration of exposure of a commune to a new facility will determine the impact of the facility.

To adjust for such factors, we employ a time series regression method that answers the question: Does CHC construction or major renovation cause the time trend in caseload to change, once adjustment is made for the time of exposure to investment in construction, commune remoteness, and commune population size?

Results of the regression are presented in Table 3 and discussed in detail in Appendix E. Results show the combined effect of observation time and time since construction. All results are hypothetical and illustrative of the implications of the regression results. We have set commune population and referral distance at mean levels, and projected caseloads under three assumptions:

- There is a baseline level for each caseload indicator (column 1).
- There is an expected caseload 12 months later if there is no construction
- There is an expected caseload 12 months later if the baseline corresponds to the completion of construction.

Figure 10: Trends in Pneumonia Treatment Caseloads for Children Under Age Five Before and After Construction or Major Renovation for 20 CHCs



The first row shows the expected baseline for the caseload for all CHC activities combined. In the absence of construction, this monthly caseload is expected to decline slightly with time, adding up to a seven percent decline within a year. Results suggest that construction reverses this trend. The magnitude of this reversal is small, but the implication is clear: Renovation and construction appears to be associated with a reversal of client tendencies to seek care elsewhere. Not surprisingly, this effect is more apparent among curative care clients than for the caseload in general. Once various adjustments are made with our regression procedure, caseloads increase by ten percent within a year for CHC experiencing construction, versus five percent for CHC where no construction or renovation has been conducted. However, when these effects are weighed in light of the baseline monthly caseload in column 1, it is clear that the small percentage effect is greater in absolute terms for overall caseload than for curative caseload. Since the difference between these indicators is the volume of preventive services, findings suggest that construction has an impact on preventive as well as curative care caseloads. This is a somewhat surprising finding, and cannot be considered definitive. However, these results, taken at face value, suggest that investment in CHC facilities has a modest but significant impact on utilization of CHC services.

To investigate this conclusion further, we have repeated the analysis for type of indicator and presented results in the lower panel of Table 3. Gynecological services and treatment are declining with time, as shown by the pronounced negative percentages in columns 2 and 3. Moreover, construction and renovation has no impact on this trend, as shown by the equivalent declines that are forecasted for CHC where there is no construction versus CHC with construction. Women are turning to other sources of gynecological care, a finding that merits investigation and validation, as this trend has not been explained by quantitative data marshaled in this appraisal. Nor has the qualitative research clarified the source of this decline. However, regression results show that construction related time trends in gynecological care are related to referral distance: The more remote CHC have significantly higher caseloads after construction than CHC that experience construction and are located close to referral hospitals. This suggests that investment in

CHC construction in remote locations offsets the downward trend in gynecological care caseloads whereas construction close to referral centers has no such effect.

Results from the analysis of diarrheal disease and pneumonia caseloads portray negative time trends in the absence of CHC construction and renovation. For cases reported as diarrhea or “pneumonia” this trend is markedly reversed for CHC where construction has taken place, most prominently for pneumonia cases that are under age five children. Clearly “construction” is too narrow a term to describe what is going on. Respiratory illness cases reported as pneumonia may often be categorized as “pneumonia,” and activities unrelated to childhood illness may explain observed trends. Nonetheless, evidence suggests that an association exists between upgrading CHC and treatment caseloads. This association merits further investigation.

Table 3: Predicted change in monthly caseloads for 12 months of CHC observation with and without major CHC construction or renovation

Caseload indicator....	Estimated monthly baseline caseload:	Change in caseload over 12 months of observation assuming that there has been....	
		...no major CHC construction or renovation	... major CHC construction or renovation
Total curative and preventive visits	568.0	-6.6 %	+3.3 %
Total in-patients and out-patients	277.3	+5.3 %	+10.7 %
Specific treatment indicators:			
Gynecological examinations	124.5	-27.1 %	-19.2 %
Gynecological treatment cases	35.1	-22.9 %	-24.3 %
All diarrheal disease cases	24.7	-1.9 %	+42.7 %
Under age five diarrheal disease cases	19.2	-7.1 %	-24.1 % (not significant)
All pneumonia cases	31.7	-0.3 %	+4.9 %
Under age five pneumonia cases	24.5	-7.8 %	+23.5 %

In summary, findings suggest that:

- Construction or major renovation of a CHC has a slight, but significant, effect on how much commune residents use CHC services. If this small effect is projected over time, and assumed to continue, the long-term effect can be substantial. Thus, small effects on monthly caseloads may be important in the long run.

- For gynecological care, CHC service caseloads are also affected by referral distance.
- For pneumonia caseloads, CHC construction reverses downward trends in client caseloads, particularly for children under five.

These conclusions must be interpreted with considerable caution. While results have employed objective statistical methods, various biases can arise in such analyses. Only 40 CHCs were included in the sample, and these were selected purposefully. Estimation of statistical models assumes random sampling. Moreover, unmeasured administrative factors may lead to construction decisions that bias results. To assess the validity of these results we included an assessment of infrastructure in the Data Sets B and C investigation. One-third of surveyed CHCs in both provinces were built before 1995 (35%), 20% were built during the period of 1995-2000, 33% built after 2000, and for the remaining 13% it was impossible to define when they were built. For those CHCs where the time of building was defined, the time of operation was 16 years on average. During the operation, these CHCs were also upgraded. The latest upgrade took place 5 years ago, a rather long time relative to national standards, which specify that infrastructure of commune health facilities should be upgraded and maintained once a year. The floor plots of land occupied by study CHCs were about 1000 m² on average and the floor space of facilities was about 225 m² which is large compared with the national standards, which stipulate a minimum land area of 500 m² in rural areas, 150m² in urban areas, and a minimum floor space of 90m². Discussion of infrastructure focused on the following issues and themes:

The age and condition of the facility. Structure of the clinic building of CHCs: Nineteen of the buildings were of level-4 type, i.e. those with a low quality and the limiting time for operation in these house is less than 20 years and one of the buildings was another non-standard type of structure. There was no building of level 1, 2 and 3 types, which are of the medium and higher quality with a timeline for operation from 20 to 100 years (in accordance with the ranking of public constructions of Ministry of Construction, dated 3/7/2003). Considering the average time of operation of CHCs (15.9 years until now in Khanh Hoa and 5.3 years in Da Nang), many centers in Khanh Hoa are close to expiry of operation time line. It is clear that the quality of the clinic building of those CHCs was generally very low and it was also reflected in staff and community member comments. In the course of indepth interviews with 119 health providers in both provinces about how to improve CHCs, 57 percent spontaneously referred to the need to completely reconstruct CHCs, 24 percent thought that buildings needed a complete renovation and 13 percent thought that there should be minor upgrades. Thus, of the 119 interviews, only one percent thought that CHCs were presently adequate. Workers at all levels comment on this problem. For example, a VHW noted:

"The facility is too simple; there are only one or two beds, no emergency facilities. When there is any difficulty, the patient is referred to the higher level and it is impossible to travel when there are floods or storms"- (A male VHW in KN commune, KV district, Khanh Hoa)

"The health center in A K ward does not look good, its appearance is already of low quality, other factors such as lights, rooms are also not of right standards, there is leakage in rainy season, toilets on the above floors are too small and have leakages also. Looking at that infrastructure, clients don't want to visit it." (Female health collaborator, aged 45, AK precinct, T K district, Da Nang)

"The in-patient area is too narrow. This is acceptable in this season (Autumn-Winter), but it is unacceptable to stay in the room in summer. It is too hot without water and electricity. It is not hygienic in the health center, without any place for storing waste, or no waste bins." (A resident, male, aged 35, H N commune, HV district, Da Nang).

"Because this health center was an inhabitant's house ...now used as commune health center so the rooms are not of good standard. They should be used with investment from health sector. The quality of the house is now very low." - (Female health provider, aged 39, PN precinct, HC district, Da Nang).

CHC Layout. Restrooms (WC) for patients are an obvious requirement of quality care. However, of the 40 surveyed CHCs in Da Nang and Khanh Hoa provinces, 80% had a restroom for patients. Of these, three-fourths were clean, and problems with sanitation were apparent in interviews with the commune residents also showed that unclean WCs in the mountainous areas adversely affected clients of the health centers:

"I took care of my daughter who delivered for several days in the commune health center, I found it not very clean. Regarding using WC, there was not enough water, no water to clean the latrine after using. I had to carry water from the well to the WC to flush it. It is not problematic for care givers like us to do that however those new mothers, once they used the latrine, where they could get water to flush it. I would wish that the rest-room of the health centers would be improved - (A resident, female, aged 56, Kinh group, ST commune, DK district, Khanh Hoa)

According to the national standards, it is necessary to have separate rooms for IEC activities, reception, drugstore, for examination and primary health care, for family planning, delivery, post-natal care, recovery room, rooms for washing, sterilization and traditional treatment in a health facility. However, among those 40 surveyed health centers, none met the required standards. Most of these rooms were multifunctional. 80% of the CHCs had separate post-natal care room and 70% had a separate delivery room. One-half had a separate family planning room and 43% a separate recovery room. Only 25% had a separate room for sterilization of medical instruments. It was clear that under the new national standards, the health facilities built under the previous national health programs are of inadequate quality. In in-depth interviews with residents, infrastructure of CHCs are always mentioned and they also said that the lack of service delivery rooms limited their use of the health services. Community and staff respondents have ample advice on features of CHC facilities that could improve services:

"The CHC is new but there are not enough rooms and they are also small. For example, the examination room is too small, when there are many clients, they have to wait but there is not waiting room, the drug store is also too small so patients have to wait outside. There is only one small recovery room. The traditional treatment room is small

but is also used for counselling because there is not [a separate] counselling room. Another room is for gynaecological examination but is shared with other procedures such as IUD insertion. There is not a room for sterilization of medical instruments”-(Female health provider, aged 40, KN commune, KV district, Khanh Hoa)

“There should be more rooms, such as a room for delivery, an examination room and a recover room. The other day, there were many patients contracting diarrhea, some would like to stay at the CHC but there was no bed, some had to leave the center after very short recovery.” (a resident, female, aged 39, Kinh group, NQ commune, NH district, Khanh hoa).

"The limited infrastructure of the health center adversely affects the people's interest. There are few visits of inhabitants". (Female VHW, CPN precinct, Cam Ranh town, Khanh Hoa)

"The infrastructure of the CHC is currently very limited according to common requirements... If the condition of services is improved, I am sure that there will be more visits from the people". (Female VHW in NQ commune, NH district, Khanh Hoa).

"Infrastructure of the CHCs is very insufficient, Ba Cum Bac commune has a large population but the CHC has only a small examination room and only for out-patient treatment, there is no room or facilities for in-patient treatment."(A female VHW in BCB commune, KS district, Khanh Hoa).

“The infrastructure is of very low quality, rooms are too small and each room is used for 3-4 functions so there is not confidence in health service delivery from the people. Secondly, there is a lack of facilities which are necessary for the health center, thirdly the professional competency of staff is also limited. Assistant physicians should be trained on updated knowledge every year.” (Male health provider, aged 33, 1KN commune, NH district, Khanh Hoa).

"Despite some upgrade in the infrastructure of the health center, but due to the lack of money, the upgrades were temporary and could not improve the condition of the center with the right standards of cleanness, good appearance, hygiene and sufficient facilities to provide services.-(Male provincial health leader, aged 54, Khanh Hoa).

“Delivery room is separated but there is not a separate examination room. Sometimes, there is only one room for both examination and injection, all functions. Sometimes when I came for examination I find the health staff making an injection for female clients who have to draw up their trousers. It looked impolite, not private.” (A resident, male, aged 48, PN precinct, HC district, Da Nang).

"The working place is not of good standard and the treatment room is not well settled so it's hard to do the job well". (Head of ward, PN precinct, HC district, Da Nang).

“The health center is not standardized, for example, the examination room is used in combination with treatment. I am a health insurance beneficiary, I can't accept it. Even when I am used to it in the following visits, I would rather go to the drug store next to the

center to buy flu medicines rather than go there for treatment. The center is not of good quality so I don't like it." (Male commune leader, HN commune, HV district, Da Nang).

"This floor need upgrading, the wall need re-paving and the water drainage and rainwater containing system also need improving... there should be a sound-proof system because of so many noise here". (A resident, male, aged 45, AK precinct, TK district, Da Nang).

In general, CHCs are not configured for specialized health services. For example, none of the CHCs had rooms for ophthalmology examination and only five had a room for ENT examination. Although Khanh Hoa and Da Nang plans call for health facilities to provide maxilo-odontology services, this speciality was not available in any of the study CHCs. However, observation of services determined that 90% of the study CHCs had a clean area for examination. Preliminary care lighting provided was sufficient in 73% of these centers.

Privacy of examination and counseling rooms is an important factor to ensure the quality of the service provided because it is essential to the comfort for most clients who visit the center. However, this is still a limitation of most health facilities surveyed. There is a very low percentage of the health facilities that met the standard of privacy. Interviews with the local people also showed that the lack of privacy also prevented them from visiting the centers for services:

"The health center is still too simple, women would like to come for examination but there is a lack of examination room and there is no privacy. Sometimes, the window of the examination room was too low so the people outside kept watching inside." (a resident, female, aged 43, Kinh group, VB commune, VN district, Khanh Hoa).

Main sources of water, telephone and electricity for operation of CHC: Out of the 40 surveyed CHCs, 43% has access to piped water, seven centers have drilled wells and 28% of the centers have deep wells. Regarding water volume, only 70% of the CHCs had sufficient water for use and 80% had access to clean water. The lack of clean water affected the environmental hygiene and infection control. This weakness was also reflected in in-depth interviews in the communes.

Water used in the health center is from the source when the health center was built and it is natural surface water and not sufficient to provide water to the center. It is impossible to provide water to all the rooms so we have to carry water from the well." (Female health provider, aged 40, KN commune, KV district, Khanh Hoa).

Most health facilities in Da Nang and Khanh Hoa province have telephones. Out of 40 CHCs, all but three had a functioning telephone line. This ratio is higher than the result of the National Health Survey in 2001/2002 (showing that there were 37.6% health facilities having a telephone line; this figure was 64% in the urban area and 33% in the rural area³).

³ Ministry of Health - General Statistic Office - Report on the National Health Survey 2001-2002: Quality of Health Services in Commune/Ward Health Centers. Page 11.

Regarding electricity, 98% of the 40 visited CHCs in two provinces have regular electricity for operation.

According to the national standards of commune health centers, each health facility should have a traditional herbal plant garden or sample herbal plants with at least 40 types of plants according to the required list of the Ministry of Health. Out of 40 CHCs in Da Nang and Khanh Hoa, 65% had a traditional herbal plant garden, and none had all of the required plants in many centers.

Equipment: Medical equipment is cited by all respondents as critical to the quality of services provided in a health center. Results from the survey showed that less than a fourth of the CHCs had the minimal configuration of equipment stipulated by the Ministry of Health. The mentioned reasons for this insufficiency were the lack of funding (65%) and a lack of subsidy (87%). Table 3 illustrates the consequence of this problem with respect to specific items.

The availability of equipment is different among in health centers, some are available in all centers but some are available in only a few centers, as listed in Table 4.

Table 4. Equipment available in 40 CHCs of Da Nang and Khanh Hoa.

Available in 80% CHCs	Available in 79-50% CHCs	Available in <50% CHCs
<ol style="list-style-type: none"> 1. Telephone 2. Refrigerator/cold chain 3. Blood pressure cuff 4. Thermometer 5. Stethoscope (binaural ears) 6. Malnutrition program scale 7. Delivery/family planning bed/ table 8. Delivery kit 9. Obstetrical stethoscope 10. Infant scale 11. Adult scale 12. Gynecological/FP instrument 13. Gynecologic examination set 14. IUD insertion and removal kits 15. Pelvic meter 16. Intravenous infusion kit 17. Wet autoclave (oil, coal) 	<ol style="list-style-type: none"> 1. Suture (repair) of episiotomies 2. Cervical examination instrument set 3. Ambou balloon for adult 4. Vaccum aspirator (electric) 5. TV 	<ol style="list-style-type: none"> 1. Microscope 2. Eye chart 3. Infant emergency resuscitation 4. Ambou Balloon for children 5. Ear-Nose-Throat examination instruments 6. OSM examination instruments 7. Ophthalmology examination instruments 8. Electric acupuncture apparatus 9. instrument boiler (oil, coal); 10. instrument boiler (electric) 11. autoclave (electric) 12. Dry heat sterilizer 13..Vacuum aspirator (manual) 14. Video 15. Computer

In fact, the majority of the CHCs in the survey in the two provinces only had essential instruments for primary health care services. Many centers lacked instruments for infection control, for example, instrument boiler/sterilizer, dry heat sterilizer, autoclave for equipment sterilization, etc. Moreover, with the provincial policy of training health staff to provide other professional services such as OSM, ENT, ophthalmology and traditional treatment services in the local health facilities the lack of these instruments showed the lack of synchronism between human resources and physical resources, leading to the unreadiness of these services.

In interviews with questionnaires with health staff in Da Nang and Khanh Hoa, 66% of the respondents said that there is a lack of several types of medical equipment in these health centers. This problem was also reflected in in-depth interviews with health managers:

Regarding equipment for CHCs, apart from blood pressure cuff, and mainly delivery kits, there is hardly any instrument for other speciality treatments at the moment. In our province, I also paid attention to gradually equip for CHCs, such as Chinese Dental care apparatus, some ENT equipment, but only for some centers. That is why the condition for providing services in CHCs is currently still very limited". (Male provincial health leader, aged 54, Khanh Hoa).

"Client's psychology is that they would like to visit centers with more sophisticated facilities such as ultrasound scanner, X-ray machine... while there are only very simple equipment in the commune health center. If they come here, they still have to go to other places for testing or ultrasound scanning, so they would prefer to go to other places for a comprehensive examination." (Male Health provider, VB commune, VN district, Khanh Hoa).

"According to the standards stipulated by the Ministry of Health, there must be an aerosol apparatus and, microscope but these equipments are almost unavailable in the CHC" (Male city health leader, aged 51, Da Nang).

"The instruments for midwives were not sufficient nor of good quality" (Male city health leader, aged 47, Da Nang).

"Ward health centers should be provided with durable equipment. Previously they received equipment in the form of grants so we tried to use them without complaints. But in fact, some were not usable so they were disposed after reception" (Male health manager, ST district, Da Nang).

This topic was also mentioned frequently by local leaders and residents who noted that the lack of equipment substantially affected the quality of the services and changed clients' behavior on service selection:

"Common medical equipment in the commune health centers cannot meet the requirements of examination and treatment so the local people often visit private health clinic / examination cabinet of more sufficient and modern medical facilities" (Male, village head of VB commune, VNDistrict, Khanh Hoa).

"I felt it unsure because even the common equipment such as blood pressure apparatus of the CHC does not work". (Male, commune leader, KN commune, KV district, Khanh Hoa)

"There was no instrument for specific specialty examinations" (Female health provider, aged 39, PN precinct, HC district, Da Nang).

"I think there is a deficiency of many equipment here... lack of basic laboratory testing machine such as for blood tests". (a resident, female, aged 38, HN commune, HV district, Da Nang).

"We should invest in equipments to be used for specialities [Ophthalmology, ENT, OSM, Gynaecology and Traditional treatment]..." (Male precinct leader, aged 34, PN precinct, HC district, Da Nang).

"There should be more equipment for diagnosis such as an ultrasound scanner, x-ray machine... Because in the rural area, transport is very difficult, if we break our leg, we wouldn't have to go to higher level referral" -(a resident, female, aged 46, HN commune, HV district, Da Nang).

Essential drugs. Essential drugs include anti-biotics, medicines for influenza, diarrhea control, reproductive health, child healthcare, pain release, antiseptics, for allergy, soporific and sedative pills, different types of vitamins, intravenous infusion fluid and other items (Table 5) Of the 40 CHCs in two provinces, only 53% had all essential drugs, and only 58% had more than 60 types of drugs. Revenue constraints were cited as the main barrier to procurement of drugs by 42% of the respondents, while lack of subsidies was cited as a problem by over 63 percent of those interviewed.

Table 5. Essential drugs available in 40 surveyed CHCs in Da Nang and Khanh Hoa provinces

Available in 80% CHCs	Available in 79-50% CHCs	Available in <50% CHCs
1. Paracetamol 500 mg, 2. Paracetamol 325 mg/100 mg, 3. Diclofenac 50 mg 4. Lidocain 5. Nifadipin 6. Oxytoxin, 7. Albedazol/Mebendazol 8. Ampicillin-Amoxillin, 9. Cephalexin 500/250 10. Doxycylin 11. Tetracyclin 12. Erythromyxin 13. Cotrimoxazol 14. Nystatin 15. Metronidazol 16. Spasnaverin 40 mg 17. Anti-acid drug for gastric ulcer. 18. Terpin Codein. 19. Salbutamol 2 mg. 20. Vitamins. 21. Iron tablets, Axit Folic 22. Intravenous infusion fluid	1. Ibuprofen 400 mg, 2. Prednisolon/Dexamethasone 3. Alimemazin 5mg 4. Diazepam 5. Ergometrin 6. Gentamicin 7. Penicillin - oral intake 8. Ciprofloxacin 9. Atropin sulfat 10. Cimetidine/Ramitidine 11. Dextromethorphan,	(1) Penicillin (injection), (2) Griseofulvin (3) Tinidazol (4) Bromhexin

Only 19% of the 119 respondents believed that there were sufficient drugs, a concern that was shared by many community respondents. For example:

"In the CHC there is very limited medicines for patients so when we needed medication for treatment, we were recommended to go to higher referral." (A female, commune leader, ST commune, DK district, Khanh Hoa).

"The main difficult of this health center is the limitation of medicines." (A male, commune leader, VB commune, V N district, Khanh Hoa).

"According to me, the most urgent matter now is infrastructure and materials, rooms and facilities, and the second is medicine. Sometimes, when my husband visited health centers for examination, some medicines were available, some were not, there were not all types of medicines for patients. Infrastructure is both insufficient and of low quality, and due to this remote area and lack of facilities health staff's service delivery has many difficulties."- (A resident, female, aged 65, Kinh group, NQ commune, NH district, Khanh Hoa).

"I only found... simple medicines for normal sickness, fever, there was no medicines for speciality treatments." (a resident, female, aged 36, AK precinct, TK district, Da Nang)

"Q: How many clients come per day to buy medicine at your drug store?

A: About one hundred." (Female drug store keeper, aged 55, PN precinct, HC district, Da Nang).

Summary: Infrastructure, equipment and supplies. Additional types of qualitative data that need more analysis before findings are firm include the range of views and experience with private providers, the role of fees and other costs, rural/urban differences, and responses from community leaders and health leaders at district and province levels. However, responses generally confirm insights that emerge from the analysis of Data Set A: Factors other than facilities are the predominant determinants of staff morale and commitment as well as client demand for services. Nonetheless, respondents of all types commented on facilities, the need for privacy, cleanliness, and order.

Table 6: Summary of discussions of infrastructure, equipment, and supplies

General discussion themes:	Selected comments by community residents and leaders
Age and quality of CHC facility	<ul style="list-style-type: none"> • Construction is needed • The existing facility is adequate
Rooms and layout	<ul style="list-style-type: none"> • The CHC layout is inadequate • The CHC is clean • The CHC layout is inadequate
Status of garden of herbal plants	<ul style="list-style-type: none"> • The herbal garden serves as a health education device • Key plants are missing
Distance to DHC and Provincial hospital	<ul style="list-style-type: none"> • The referral distance is too far

General discussion themes:	Selected comments by community residents and leaders
Resources for CHC maintenance	<ul style="list-style-type: none"> • Funds for CHC maintenance are inadequate
The adequacy of equipment	<ul style="list-style-type: none"> • CHC equipment is adequate for primary health care
	<ul style="list-style-type: none"> • Key equipment items are lacking •
Diagnostic supplies	<ul style="list-style-type: none"> • Supplies for routine diagnosis are lacking
Essential drugs	<ul style="list-style-type: none"> • Key essential drugs are lacking

3) Operation of curative and some key national preventive programs

Curative health services

**Types of health care services at CHCs:* Inventory at local health facilities and interviews with health staff showed that most of the CHCs provided health services assigned by MOH to the commune level. These service and activities are primary health care services, including MCH care and HIV counseling; and implementation of approximately 18 important national health programs. General medical examination and treatment of main specialties include internal treatment services, emergency treatment, obstetrics/gynaecologics, nursing, surgery, ophthalmology, ENT, traditional medical treatment and also OSM were performed at different levels at the CHCs.

Testing at the CHCs: The survey of 40 CHCs showed that pregnancy tests were provided at 95% of the sites, while urine tests were provided at 68% of the CHCs. Other tests such as stain of bacteria, fungus and parasites or blood tests could be done at fairly few CHCs (under 10%). Despite the national standard's lack of regulation on which tests should be done at the CHCs, it would be more convenient for patients if health service providers could perform these common tests.

Many services are not yet widely available at the CHCs, such as rehabilitation (only 50% CHCs provided this service); and traditional medical examination and treatment (at 45% of the CHCs). According to the national standards, at least 25% of patients should be able to receive traditional non-medical examination and treatment such as massage and acupuncture. These figures shows insufficient attention to traditional medical services in both provinces. One reason is lack of a full-time traditional medical service provider. It was shown in the survey that there was not a traditional healer in the staff structure of the surveyed CHCs. At some CHCs traditional medical services were provided by part-time health staff. Interviews with health staff also highlighted the necessity of traditional medicine services.

In regards to service fee collection at the CHCs, clients who do not have health insurance normally pay in cash for medicine/prescriptions only, not for the services provided, excepting cases of drink- and fight-related injuries. A majority (86%) of the 119 health staff interviewed at Khanh Hoa and Da Nang said that there was service fee collection but that revenue from fee collection was very small compared with the expenses of the CHCs.

Emergency and referral services. One of the most important tasks of the CHCs concerns the early detection of disease and emergency referral of patients to higher level care if the case is beyond their technical capability. In emergency services, there are two important factors: availability of medicines and health staff. In the survey, only 45% of the 40 CHCs in both provinces had standard emergency drugs chest, all of the study CHCs had provision for 24 hour staff duty coverage. The average number of staff on duties 24/24 hours was 1.6 persons. Thus, continuous coverage was basically ensured. Emergency treatment and referral to higher level was well organized. No CHC has refused a request for a home visit in case of emergency. In principle, when referring patients to the higher level, there must always be a health staff accompanying them. When the patient was sent to the higher referral level, most of CHCs sent their staff to accompany the patient, only 5% of the CHCs never sent their staff to accompany patients.

Transportation means for referring emergency case to higher level: different ways were applied by different CHCs to deal with transportation constraints. For 90% of the CHCs, the patients were requested to arrange transportation means by themselves. To deal with transportation limitations, 83% CHCs also requested transportation means from higher levels, 20% of CHCs arranged its own available transportation means. However, in the FGDs with VHWs, staff mentioned problems in referrals to higher level, particularly in the rural or mountainous areas:

"It is very difficult for travelling, there is no transportation means, sometimes, the emergency case happened at night and there was no transportation to refer to patient to the hospital so we had to carry the patient on our shoulders. It was so extremely difficult to do so with a long distance " (A male VHW in BCB commune, KS district, Khanh Hoa).

"The CHC is rather far away and has no transportation to refer patients to higher level." (a resident, female, aged 48, H.N commune, HV district, Da Nang).

Quality of CHC services. With the diversification of health services and the expansion of the health system to all districts, commune-wards, and villages, villagers have access to alternative sources of care. In-depth interviews and FGDs with different subjects in the communities show that the majority trusted the CHCs; they considered the CHC as a place for examination and treatment of common diseases/or injuries. If the health problem became more serious, the role of the CHCs was to provide emergency treatment, then monitor and refer the patient to the higher level such district or province:

"When we are sick, we first go to the CHC. We can't stay at home because we don't know anything. For example, when I have a headache, I just take any medicines casually, this may have consequences, so it's better to go to the CHC for examination first, rather than to treat ourselves at home" (A resident, female, Kinh group, aged 48, KN commune, KV district, Khanh Hoa).

"If some one in your family gets sick, it's better to take them to the CHC first for examination, then depending on how serious it is, the staff at CHC will refer us to the higher level or not or upon request of the family, but the first point still is to go to the CHC" (A resident, female, Kinh group, aged 65, NQ commune, NH district, Khanh Hoa).

"People come here to measure high or low blood pressure for transfusion, or for treatments of slight wounds, including bandaging, or if they have a fever, or they buy medicines from outside and bring here for injections. Or if they have a traffic accident, so they come here for bandaging and preliminary care"-(Female VHW, PN precinct, HC district, Da Nang).

"For those who were not seriously sick, we could provide treatments to them here, but if it was serious, we had to refer them to H.V hospital or to general hospital. " (Male commune leader, HN commune, HV district, Da Nang).

There was widespread understanding, appreciation, and acceptance of the service delivery role of CHCs:

"Recently, the local health system has received appropriate investment from the government, so the services at the CHCs basically meet the people's demand. There is now a physician at the CHCs and the district health centre is of ten overloaded with the people's demand, while services provided by CHCs can also meet our requirements, so we often go to the CHC for health examination and treatment."-(A resident, male, aged 52, VB commune, VN district, Khanh Hoa).

"Firstly, we go to the CHCs if we get sick. Generally, where there is professionalism we feel more confident, rather just go to buy medicine, which is also a possibility [instead of treatment]. The health sector is now different from previously, they are very enthusiastic. If we go to see them, we can get rid of the disease" .-(A resident, female, aged 37, Kinh ST commune, DK district, Khanh Hoa.)

Apart from services provided at the CHCs, patients also receive services provided by mobile health service providers who are based at referral centers. These activities are conducted in close coordination with the local CHC. Mobile health providers provide examination and treatment free of charge for the people, including examination and treatment for common diseases, gynaecological examinations for women, eye examinations, dissemination and education on TB, leprosy, dermatology, goiter, health education services, and advice on environmental hygiene:

"I was very impressed by the team of mobile health staff, with its humanitarianism, serving the basic needs of the poor and the disadvantaged because there is a big gap between the urban and rural area at the moment. The rural people have to work hard but have no access to good health care that the urban people are benefitting from. For example, it is too difficult for [them] to go to the big health facilities for examination when they are sick. So I wish that there should be more frequent activities of the mobile health care services."-(A resident, male, aged 31, Kinh group, VB commune, VN district, Khanh Hoa).

"Some times, there are teams of mobile health providers from higher level; of course I appreciate that because it is to our people's benefit. Firstly, it's free of charge, secondly, our people are often careless with their health, we won't go for examination if we are slightly sick, but only when it becomes very serious. During these campaigns, we would go for examination of even slight sickness. For example, my child had a sore eye, it was very itchy, I just bought medicine to clean her eyes. When the mobile team came, I took

her for examination, it was free and I was also provided medicine for 3 month treatment.”- (A resident, female, aged 37, Kinh group, ST commune, DK district, Khanh Hoa).

“I very much like to have health staff from higher level coming for examination and treatment here. In general, they were very warm, friendly, asked very carefully to understand clients’ diseases so I felt very confident, rather than going to district or provincial level, I felt very afraid.”- (A resident, female, aged 43, VB commune, VN district, Khanh Hoa).

“A campaign for eye and gynaecological examinations was just organized. My uncle had poor eyesight, we thought that it was because of his old age and it was unnecessary to have an operation. I found the services very useful, I prepared papers for him to have the operation and took him to hospital to check if the operation was necessary, then he had the first operation for the first eye, and another operation for his second eye. Now he steps out of his house and says ‘today I see this house, that high house. It is interesting to be able to see again’”- A resident, female, aged 40, Kinh group, VP precinct, NT city, Khanh Hoa).

Some key national preventive programs

Similar to other provinces in the country, Da Nang and Khanh Hoa have been implementing many national preventive programs such as: the expansion program for immunization (EPI), TB, leprosy control program, AIDS prevention/control program, malnutrition prevention program, MCH &FP program, and prevention programs of malaria, ARI, goiter and food safety and hygiene. The activities, depending on each program requirement, are conducted daily, monthly or quarterly.

EPI and micro-nutrients: The survey showed that vaccinations for important disease prevention for children and women such as vaccinations for EPI, hepatitis B, and tetanus have been done by all CHCs. But vaccinations against Japanese encephalitis and typhoid in particular were done at a lower ratio than the afore-mentioned vaccinations at CHCs (42.5%). 17% of the interviewed health staff reported that they were responsible for the EPI program. Monthly monitoring was carried out so there is a high ratio of children receiving vaccinations (97%). The provision of Vitamin A is conducted in conjunction with EPI, and coverage is nearly universal in the study communes. This generates credibility and demand for CHC services more generally:

“Since EPI, 6 diseases have been eliminated, we are very happy. The program activities have become our habits. It is not necessary to disseminate any more, whenever invitations were sent, many mothers brought their children there for vaccination. Vaccinations for children are organized on the 2nd and 5th every month at the CHC. If there were any children left, the health staff had to go to their house to provide vaccinations.”- (A resident, female, aged 60, Kinh group, VP precinct, NT city, Khanh Hoa).

“After delivery, the mother has to know when to have vaccinations for the child, on which day to bring the child for vaccination. Everyone is now responsible, mothers with small children take care of it, pregnant women also remember to come for vaccination on these

days" –(A resident, female, aged 40, Kinh group, VN commune, NT district, Khanh Hoa).

"EPI is good, with sufficient coverage every year, if there is any one left, health staff from the CHC will go to their house for vaccinations. If they can't finish vaccinations here they will come to resident's house to provide all vaccinations." – (A resident, female, aged 35, Raglay group, BCB commune, KS district, Khanh Hoa).

"Most mothers with children of the ages eligible for Vitamin A intake or EPI received invitations or informed by health staff at home to bring their children to CHCs for vitamin intake or vaccinations so in our ward, 100% of the children received all kinds of vaccination". (Male precinct leader aged 36, PN precinct, HC district, Da Nang).

"I could see that clearly... infants infected with TB were almost eliminated... [and] tuberculosis, pertussis...hardly appear" (Female health manager, aged 40, HC district, Da Nang).

"There was a sharp reduction of contractions of infectuous diseases among children and child mortality due to these diseases. There were no cases of diphtheria, measles, tetanus and poliomyelitis in 2003". (Male health manager aged 39, TQ precinct, ST district, Da Nang).

"The people understood the benefits of [vaccinations]...they brought their children to CHC for vaccination as invited." (Male health provider, aged 37, AK precinct, TK district, Da Nang).

However, there is an unmet demand for other vaccinations such as hepatitis B, Japanese encephalitis B or flu:

"I would like to request the higher level to provide vaccinations against Japanese encephalitis B due to the prevalence of the disease, and vaccinations against hepatitis B have been provided to the CHC. If there is also vaccination against Japanese encephalitis B, the people will be very happy because it is an infectious disease. Vaccinations are not costly so they will be happy to buy vaccinations for Japanese encephalitis for their children." – (A resident, female, aged 30, Kinh group, VP precinct, NT city, Khanh Hoa).

"I would like to have vaccinations against flu, I heard the high ratio of mortality of this disease so I also try to ask [about it]" – (A resident, female, aged 39, Kinh group, VP precinct, NT city, Khanh Hoa).

The affect of nutritional services on CHC credibility. The malnutrition prevention program is important for child health care in the community and is widely appreciated. There are full time staff responsible for the program in all the surveyed CHCs in Da Nang and Khanh Hoa provinces and about a fourth of the interviewed health staff had some role in the program. Nutrition screening is well developed in Khanh Hoa, and all children under 5 years were weighed and monitored by growth chart every 2 months. After weighing and plotting on the growth chart, VHWs confirmed the health status of the child to the

mother or the caregiver and provided counseling on nutrition. CHCs also organize nutrition education and outreach activities. This is well received in the province:

"Malnutrition prevention activities have been well done. The commune authorities and health center provided tonic medicine for malnourished children every year and collaborators go to monitor child growth monthly, or they check children's weight every 2-3 months to see if the child is gaining or losing weight to monitor the rise or fall of the child malnutrition ratio. In general, the ratio has reduced a lot." - (A resident, female, aged 48, Tay group, KN commune, KV district, Khanh Hoa).

"The malnutrition ratio was higher prior to this program, after implementing the children malnutrition prevention program, the ratio was reduced. Previously it was very difficult to discover a malnourished child for nutritional feeding, gradually, when they were aware they their malnourished children's health would be improved, it became easier. And the activities have become periodical, monthly or yearly so the program manager is also more responsible. There is also a cooperation between different sectors, women's union, health, and the population and FP committee to contribute to the reduction of the malnutrition ratio."-(Male health manager, aged 46, KS district, Khanh Hoa).

"There are some health staff coming here to weigh children and sort out the malnourished ones, then organize sample food in the communities. Health staff and some collaborators came to make sample food and introduce healthy foods. They bought fish, shrimp, in general, nutritious foods for children, including vegetables and, fruit and invite mothers with malnourished children to come there to teach them how to cook and feed children " .-(a resident, female, aged 36, AK precinct, TK district, Da Nang).

"There are monthly meetings and a network of collaborators to cook sample foods for all mothers in the clusters so the prevalence of malnourished children has been significantly reduced." (Male health provider, aged 39, TQ precinct, St district, Da Nang).

However, despite the success of the program, malnutrition persists. Some staff believe that the program could be improved. Through FGDs and interviews with different subjects at the communities, it was found that there were many factors affecting the malnutrition prevention activities, including economic difficulties and poverty, as well as limited awareness, particularly in the rural and mountainous communes. These reasons were attributed to economic problems:

"I think malnutrition was due to many reasons. In general, the people here have limited awareness; they are also poor, in some families children are not taken care of sufficiently... particularly for those poor families." - (Female VHW in VN commune, NT city).

"The prevalence of malnourished children in the rural areas is rather high compared with that of the urban area. It is not only due to economic difficulty but also mother's lack of awareness of child feeding... some families are rich but they don't know how to feed their children with appropriate foods then their children are still malnourished. " (Male commune leader, HN commune, HV district, Da Nang).

Moreover, the budget granted to the program is limited, reducing the quality of the sample meals prepared at the communes:

"The difficulty was that the program budget was very limited, for example, limited in providing nutritious food for a malnourished children for one week. But after being fed with such nutritious food for the week, the children returned to normal meals with their families who could not provide them with nutritious food. It is therefore difficult to reduce the malnutrition ratio. We fed the children four meals for four weeks, i.e. four days a month, for the remaining 26 days the children were fed at homes where their families cannot afford nutritious food. The difficulty was the family's economic conditions."- (Male health manager, aged 48, KS district).

"There was a deficiency of programs for food counselling. There is a need to have more money to organize such sample meals [more frequently]"-(Female collaborator, aged 50, AK precinct, TK district, Da Nang).

TB control program:

About one-fifth of the interviewed health staff in both provinces said that they were assigned to be fully responsible for TB control program. That staff member was responsible for management and treatment of 12 patients on average. With their assignment, the CHC often discovered new TP patients, referred them to the district hospital for testing (including staining and direct inspection on microscope). To follow up, the CHCs were responsible for management of TB patients by providing them with sufficient and regular medicine. Everyday the patient had to go to the CHC to receive medicines free of charge. If the patient does not go to the CHC to receive treatment, the health staff has to go directly to their house to remind them. Thus, the management and treatment process of the TB control program has been well implemented at most CHCs.

One important issue of TB control is to diagnose the patients at an early stage of the disease. However, this issue is an unresolved difficulty. There is still a high ratio of TB infected people due to ineffective information dissemination, limited awareness in some areas and irrelevant training for health staff. VHWs, health managers, and even residents believed that patients lacked awareness of the reasons, prevention and treatment of TB, particularly the importance of following the right dose and not to interrupt treatment, which can cause relapse of the disease:

"Due to the shortage of both human resources and equipment, the information dissemination was very limited. Some patients came here for treatment and medicine, they were managed and monitored via the daily record book. For some patients, they had to have 90 or 60 injections for 3 months, but after 1 month they quit because it was too painful, so they stopped the treatment. In that case, the disease can relapse and once it relapses, it is more difficult to cure it."- (A resident, female, aged 57, Kinh group, NQ, NH district, Khanh Hoa).

"The difficulty of the TB program is that patients usually don't follow the dose appropriately, leading to drug resistance, then they have to come back here. They don't

understand it and do not accept our explanation/dissemination " .-(Female VHW, KN commune, KV district, Khanh Hoa).

"The difficulty was when they hide their disease and did not follow the whole treatment, some patients had very little understanding, they reduced the dose given and stopped the treatment by themselves. ".(Female VHW, VN commune, NT city, Khanh Hoa).

"The difficulty of TB treatment is that instead of following the 3-month treatment, the patients stopped after 2-3 days or did not follow the whole cure because of too long treatment, so the disease relapsed for some patients." - (Village leader, KN commune, KV district, Khanh Hoa).

"Information dissemination of the program was not expanded to the people, not sufficient enough to make them understand what tuberculosis is, so the local people do not understand it well." - (A resident, male, aged 30, TQ precinct, ST district, Khanh Hoa).

"It is too populous, there are many TB patients, but there are not so many information disseminators. So the dissemination is fairly good, not really good." (A resident, female, aged 38, HN commune, HV district, Da Nang).

"They [TB infected patients] asked physicians but if they were told the truth they would be afraid that they could not talk to any one, and no one would ask [for their diagnosis]." (a resident, female, aged 48, TQ precinct, ST district, Da Nang).

"I told them [TB patients] how to avoid transmission but... they did not follow my instructions... [because] they have to work to earn a living...[so] the source of transmission is not totally eliminated"- (Male health manager, aged 46, HC district, Da Nang).

"The TB infected people are often poor, so they have to work until exhaustion. ... they go to examination only when they fall seriously ill" (Male health provider, aged 37, AK precinct, TK district, Da Nang).

"I would like the information dissemination expanded to many people. If they know how to prevent it, they can protect themselves more effectively."(A resident, female, aged 48, AK precinct, TK district, Da Nang).

The MCH FP program is a significant priority of primary health care. There are full time health staff responsible for MCH and FP in all CHCs in Khanh Hoa and Da Nang provinces. Facility inventory at the local health facilities showed that contraceptive methods such as IUDs, condoms or pills were available in most of the CHCs, contraceptive injection drugs were available at 47% of the CHCs. Supply of contraceptives was continuous. Pre-natal, natal and post-natal care services as well as gynaecological examination and treatment services were provided in most of the CHCs. About 33% interviewed health staff responsible for MCH care in Khanh Hoa said that they had assisted in home deliveries. In Da Nang, home delivery care is not provided. Interviews with local people showed that information dissemination and provision of RH

services were carried out and was successful or effective even in the mountainous communes:

"This commune has many people of ethnic minorities. The FP program carried out many activities such as: encouraging men to go for sterilization, promotion against having many children, which caused difficulty in income generation because of the lack of food here, convincing women to take contraceptive pills or have IUD insertion"- (A resident, male, aged 26, Raglay group, KN commune, K V district, Khanh Hoa).

"The CHC invited women to come for gynaecological examination once a year by informing the collaborators who would inform all women to come to the CHC for the gynaecological examination, or infections if any we would be provided with medication and instructed how to take the medication, oral intake or vaginal insertion"- (A resident, female, aged 29, Raglay group, BCB commune, KS district, Khanh Hoa).

"The success of the program is to reduce the pregnancy ratio or prevent miscarriage or there is a sharp reduction in the ratio of still birth. The strengths include mothers' awareness of pregnancy care, the necessity of rest after delivery and breastfeeding." (Female collaborator aged 45, AK precinct, TK district, Da Nang).

"Contraceptive methods were disseminated and educated to mothers with many children in meetings of WU and cluster meetings such as IUD, pills or sterilization. If they failed to persuade the wife, they turned to her husband. There have been many cases of sterilization here." (A resident, female, aged 48, HN commune, HV district, Da Nang).

"Population and FP activities were carried out very well at all clusters, leading to the reduction of the ratio of families having three children." (Male precinct leader aged 51, AK precinct, TK district, Da Nang).

"Mothers know how to protect their foetus, to eat more, take iron pills and go for examinations periodically." (Male health provider aged 39, TQ precinct, ST district).

However, this program faces difficulty related to the Population Ordinance 2003. Due to the people's misinterpretation of the Ordinance, there was an increasing trend of families having a third child.

"There have been many cases of contraceptive failure in the past year... this year, there were 10 cases having the third child in the ward." (A resident, female, aged 50, AK precinct, TK district, Da Nang).

In the mountainous areas in Khanh Hoa, the administrative area of the commune is often too large and it is hard to travel throughout the commune, leading to difficulties for residents in accessing health services. Due to economic difficulties, the residents often have to work far away from home, causing limited IEC dissemination:

"Regarding MCH care and protection, we carried out IEC dissemination for different subjects, but only 50% of the mothers who were aware of its importance came for examination, the other half said that they were too busy and too tired after doing their farming so far away from home [so they did not come]." (Female commune leader, aged 27, BCB commune, KS district, Khanh Hoa).

"Residents often have to do farming work far away from home, so when we came for dissemination, most of them were absent and we had to disseminate through other people." (Male vice Head of village, KN commune, KV district, Khanh Hoa).

HIV/AIDS prevention program: HIV/AIDS is a fairly serious issue in Khanh Hoa province but not in Da Nang. According to the Health Statistic Yearbook 2003 of the Ministry of Health, there were 1163 HIV infected people in Khanh Hoa at the ratio of 106.51/100.000 people, there were 521 AIDS patients, and 407 people died of AIDS, ranking first on HIV/AIDS among the central provinces and cities. In Da Nang, these figures are 355 HIV infected people at ratio 47.5/100 000 people, there were 191 AIDS patients and 181 deaths due to AIDS. The actual figures are thought to be higher in both provinces. Due to prevalence rates, HIV/AIDS prevention programs were carried out widely, with involvement of health staff in information dissemination, education, and management of high risk groups, mandatory tests for monitoring groups (parturients, FTD patients, TB patients, new soldiers, drug users), home care and treatment. For monitoring HIV positive people, health authorities at different levels coordinated with the local authorities and collaborated with groups of peers under the management, care and counselling program (MCC). Under this program, some health staff and peers treated patients once a month.

According to health leaders at different levels, this the HIV/AIDS program is the most difficult program. 80% of interviewed health staff who were in-charge of this program reported that there were HIV infected people in their communes. Despite a lot of investment from the province, the HIV/AIDS program was not effective. According to provincial health leaders, the biggest barriers were the patients' shame; they feared to go for HIV tests, so they were not provided with timely counselling, care and treatment or education in how to avoid transmission to others:

"AIDS is a difficult issue, the province has invested a lot in this issue but there was not very [good achievements]. The number of patients is still increasing despite all our efforts, which include information dissemination, education, health care, management, home care. The most difficult problem is homecare because patients have a complex about the disease.... besides many people dared to go for tests for early discovery of the virus and timely treatment." - (Male provincial health leader, aged 54, Khanh Hoa).

At the grassroots level, CHCs managed HIV/AIDS infected people in terms of number recording rather than providing care and counselling services to keep HIV positive people involved in the community. In fact, it was difficult for CHC staff to provide support to people living with HIV/AIDS (PLHA) because of the conflict between professional requirement of keeping management records for PLHA , prevention, and ensuring confidentiality and privacy of PLHA to avoid stigma.

"The information was provided to the CHC by the Preventive Medicine Center and was kept in confidence" (Female collaborator, aged 40, PN precinct, HC district, Da Nang).

"They [PLHA] went to other places and had casual sexual relationships or got married in other places so we could not manage them....[the principle of] confidentiality..... they are involved in the community, then can easily make transmission". (Male health provider, aged 30, HN commune, HV district, Da Nang)

Stigma against HIV/AIDS people is still prevalent and discrimination against PLHA happens despite awareness that HIV/AIDS is not transmitted through casual contact, therefore, HIV positive patients often try to conceal their disease, leading to more serious consequences. These are difficulties for health staff in detection of new cases and treatment:

"HIV prevention measures are provision of condoms, dissemination on FP and explanation of the ways of transmission. But about HIV/AIDS disease, I am not aware of it; it is only an integrated activity. The difficulty is that HIV positive people conceal their disease, in fact we here could not diagnose any new cases" (Female VHW, VN commune, NT city, Khanh Hoa).

"The main difficulty is their families's limited awareness, they think that the HIV infection is a stigma so they try to conceal it and take their child to Ha Noi or HCCM, they then do not tell the truth, others who have sexual relations with them risk infection because of [unawareness]" - (Female VWH, CPN precinct, CR town, Khanh Hoa)

"Due to the dissemination on the terrible symptoms and effects of the disease, which caused fear, so everyone, including health staff not only ordinary people, is afraid of it. If we know to prevent it's not easy to transmit but if we are not careful, transmission can happen and every one is afraid of death"- (a resident, male, aged 53, Kinh group, NQ commune, NH district, Khanh Hoa).

"We know that HIV is transmitted through blood contact and sexual relations, but I am still afraid and want to avoid them [PLHA]. In general... I am unable to make contact with them, just to avoid an unfortunate situation that they contaminate me by accident." (A resident, female, aged 29, HN commune, HV district, Da Nang).

"I am aware that there should not be stigma and discrimination against HIV infected people... [but] if there is an HIV infected person living near my house I would not allow my children to contact him/her" - (A resident, female, aged 48, TQ precinct, ST district, Da Nang).

"For the funeral [of a PLHA], I called but no one would like to come to carry to the coffin ... I called them in the evening, they said tomorrow morning, the following day when I came they said they had to do farming work, because they are afraid of HIV transmission." (A resident, male, aged 55, AK precinct, TK district, Da Nang).

4) Factors affecting the demand for CHC services.

Quality of CHC services. The quality of services profoundly affects demand for CHC care. As mentioned in the part three, perceptions of quality and the severity of clients' illness often dominate the health decision making process:

"For sickness such as headache, fever, cough, stomach ache, it is better to go to the CHCs for examination and medicine provision first, if it becomes serious and there is no medicine at the CHC, they will refer to the patient to the higher level." (A resident, male, aged 38, Raglay group, BCB commune, KS district, Khanh Hoa).

"Because we could not meet the people's requirement, they suspect the capability of the CHC so they rarely come " (Male precinct leader, aged 51, AK precinct, TK district, Da Nang).

"The people here have a pattern that if they are sick they go to the CHC, if the sickness is more serious, they will be referred to district hospital HV, if it is even more seriously they would be referred to the Da Nang General hospital." (A resident, female, aged 27, HN commune, HV district, Da Nang).

"For slight sickness, we go to the CHC, or buy medicines at the private drug stores but when it becomes more serious, we go to the general hospital. When we are seriously sick, we go directly to the general hospital rather than via the CHC". (A resident, female, aged 40, AK precinct, TK district, Da Nang).

Local residents selected CHCs for various reasons, but in mountainous and remote areas, the CHC was their only option. Moreover low costs and deferred payment motivates decisions to use the CHC:

"We often go to the CHC when we get sick. This is the only place that provides medical examination and treatment, there's no other choice. We go to the CHC for examination and ask for medicines. They do not collect money there, even for bandaging, which is also free of charge". -(A resident, female, aged 38, Raglay group, BCB commune, KS district, Khanh Hoa).

"It's common to have someone having cough or flu in my family, we have to go to the CHC where they provide examination for both children and adults and medicine free of charge. We are ethnic minority and don't have to pay money for health services so we go to the CHC first for any sickness." (A resident, male, aged 59, Raglay, group, CPN precinct, Cam Ranh town, Khanh Hoa)

"Our family often goes to the CHC for medical examination, treatment, and primary health care. We are ethnic minority so we have economic difficulty, that's why we can hardly go to hospital or private health services. We have relied on the CHC. Sometimes, when i have gone to the CHC to buy medicine, but did not have enough or any money, we

explained to the staff, they let us owe for a value of some dozens of thousands dong”, (A resident, male, aged 51, Raglay group, ST commune, DK district, Khanh Hoa)

“In general, I like to go to the CHC because, firstly, it is cheaper there than the private health services, moreover, health staff are enthusiastic. If they don’t perform well, we can give feedback to the commune people’s committee.”(A resident, male, aged 31, Kinh group, VB commune, VN district, Khanh Hoa.)

Evaluating the situation of service use at CHCs in Da Nang, we recognized that the preventive activities and primary health care have been well done. However, the demand for health services of the local people is beyond the capability of the current functions of the CHCs. On the other hand, with the existence of the private health services, the local people have more choices in seeking health services.

“There are 1 physician, 3 assistant physicians and 1 nurse. The physician has been experienced here for 6-7 years, is therefore very good at examination and prescription. Moreover, there are staff responsible for TB control, some responsible for population dissemination and even good at tooth pulling. They could even conduct minor operations at the CHC. In general, that center is of good quality.... has the people’s prestige.” (A resident, male, aged 59, PN precinct, HC district, Da Nang).

The people still have difficulty in accessing health services, particularly in the rural areas, due to the long distance and inconvenience to travel to CHCs while private health facilities are closer and more easily accessible.

“It [the CHC] is so far off. If someone falls sick in the evening, they can’t find the way to the CHC” - (A resident, female, aged 27, HN commune, HV district, Da Nang).

“My house is 5km away from the CHC, some are even farther away... Now there are so many private health services everywhere, they think that it is closer to go to private services than to the CHC.” (a resident, male, aged 45, TQ precinct, ST district, Da Nang).

The cost of health services. Residents, especially the poor, found health-care expenses to be a primary factor in their choice of the CHC for primary health care services and needs.

“Our family often go to the CHC for medical examination and treatment and primary health care. We are ethnic minority so we have economic difficulty, that’s why we cannot go to the hospital or private health services. We have relied on the CHC. Sometimes, I go to the CHC to buy medicine, but did not have enough money or if we did not have any money, we explained to the staff, they could let us owe for a value of some dozens of thousands dong.” (Male, aged 51, Raglay minority, S T commune, DK district, Khanh Hoa

“In general, I like to go to the CHC because, firstly, it is cheaper there than the private health services; moreover, health staff are enthusiastic. If they don’t perform well, we can

give feedback to the commune people's committee." (Male, aged 31, VB commune, VN district, Khanh Hoa)

Despite widespread appreciation about CHCs, there is concern about equipment and pharmaceutical shortage that may limit the range and quality of services:

"I think there is a deficiency of physicians and medicine at the CHC, that's why people often go to other places for examination. For me, I hardly went there, except for gynaecologic examinations. In particular, when there are staff from the higher level coming for FP and gynaecological examination, I would encourage other women to come for examination, including vaginal discharge tests."- (A resident, female, aged 42, Kinh group, VN commune, NT city, Khanh Hoa).

"Health staff at the CHC are very enthusiastic, but the local people rarely go there because of the lack of good medicine. Secondly, there is lack of instruments needed for services. Generally people don't come here because of that"- (A resident, male, aged 40, Kinh group, NQ commune, NH district, Khanh Hoa).

"The medicine chest of the CHC is very poor. Why clients have to go to the higher level or to private health providers? The reason is insufficient medicine. Those who are poor usually come to the CHC,, those who are more wealthy, they go to private health providers."- (A resident, female, aged 37, Kinh group, ST commune, DK district, Khanh Hoa).

"For treatment at the CHCs, there is no medicine to provide to patients, they have to buy medicines by themselves, there is no medicine free of charge, that's why most people come here only for a prescription." - (Male health manager, aged 40, HC district, Da Nang).

"This CHC is located close to the center of the city but I think the equipment for delivery is very poor, there hasn't been any client coming for delivery here yet." (Male ward leader, PN precinct, HC district, Da Nang).

Apart from services provided at the CHCs, patients also receive services provided by mobile health service providers who are based at referral centers. These activities are conducted in close coordination with the local CHC. Mobile health providers provide examination and treatment free of charge for residents, including examination and treatment for common diseases, gynaecological examinations for women, eye examinations, dissemination and education on TB, leprosy, dermatology, goiter, health education services, and advice on environmental hygiene:

"I was very impressed by the team of mobile health staff, with its humanitarianism, serving the basic needs of the poor and the disadvantaged because there is a big gap between the urban and rural area at the moment. The rural people have to work hard but have no access to good health care that the urban people are benefitting from. For example, it is too difficult for [them] to go to the big health facilities for examination when they are sick. So I wish that there should be more frequent activities of the mobile health care services."- (A resident, male, aged 31, Kinh group, VB commune, VN district, Khanh Hoa).

“Some times, there are teams of mobile health providers from higher level; of course I appreciate that because it is to our people’s benefit. Firstly, it’s free of charge, secondly, our people are often careless with their health, we won’t go for examination if we are slightly sick, but only when it becomes very serious. During these campaigns, we would go for examination of even slight sickness. For example, my child had a sore eye, it was very itchy, I just bought medicine to clean her eyes. When the mobile team came, I took her for examination, it was free and I was also provided medicine for 3 month treatment.”- (A resident, female, aged 37, Kinh group, ST commune, DK district, Khanh Hoa).

“I very much like to have health staff from higher level coming for examination and treatment here. In general, they were very warm, friendly, asked very carefully to understand clients’ diseases so I felt very confident, rather than going to district or provincial level, I felt very afraid.”- (A resident, female, aged 43, VB commune, VN district, Khanh Hoa).

Summary: The demand for CHC services. Qualitative data provide insights into the demand for CHC care and prevention services. Community members appreciate their CHC as a vital commune resource, respect its staff, and want its services. Yet, they also identify shortfalls in equipment, and supplies, essential drugs, and technical capacity that are similar to those identified by quantitative data on supply. Many of the shortfalls in quality relate less to problems with the competence of staff than to the working conditions needed to enable staff to perform roles for which they are trained. They seek health services from a range of public and private providers, including CHCs.

VI. NEXT STEPS: CHOICE AND TESTING OF INTERVENTIONS TO IMPROVE THE SYSTEM OF CARE

Leadership of the provincial health service is very strong in both Khanh Hoa and Da Nang provinces, indicating that good opportunities exist for testing new policies and interventions. The strong cooperation between the provincial health authorities and local governments, through Provincial People's Committees, the Party, and other sectors of government also sets a favorable climate for province-led experimentation with changes in the system of care.

Findings from this assessment suggest two general types of interventions. Each set requires commitment to a sustained period of identifying promising innovations, implementing new or revised interventions, and conducting serious evaluation of feasibility, acceptability, quality, cost, and impact.

Human capacity building and procedural changes at the CHC level -- “Health software:” Managers of CHCs find it difficult to balance and manage curative and preventive services. The complexity and top-down nature of many vertical prevention programs, and resource limitations for in-service training limit CHCs’ ability to address commune-specific needs and demands. There is a need to respond to rising expectations of community for services that alter the mandated scope of CHCs. Some potential responses to be tried might include expanded health regimens, rotating specialist teams, and other changes that can increase the time that physicians have for clinical service

delivery. Other findings indicate a need for experimentation with modes of cooperation between public and private providers, expansion of insurance, and building community engagement for health financing.

“Health hardware:” This assessment’s findings attest to the importance of construction and facility renovation in the general system of care. Results also indicate that basic equipment in working order and with adequate electrical power for operations, and consistent, adequate supplies of medicines are crucial to the climate of care. Improved quality and use of health management information at the primary health care level are also critical to improved quality and effectiveness of services.

There are many plausible “software” and “hardware” reforms and actions that could be undertaken, whether independently, jointly, or not at all by provincial health services. The key is that the provinces make their own choices, and that they have the evidence needed to make informed choices about which interventions to test and how, and to assess the effects of those choices.

If a few leading provinces commit to creating a deliberate cycle of testing and evaluating the quality, impacts and costs that characterize different interventions, these reforms in a few provinces could inform and mobilize others’ commitments to improving primary health care access and quality. If at the same time, provincial health management information (HMIS) systems raise the quality of the data and produce routine, simple feedback reports for commune, district and provincial levels, more systematic investigation and learning could take root. Taken together, these province-led initiatives could generate a variety of options for improving primary health care that many provinces could adapt and use in all regions of Viet Nam.

By raising questions that go behind the prevailing wisdom, evidence emerging from this assessment is intended to assist provincial health managers to track and evaluate patient demand and current practice, and to identify gaps and opportunities. The process of conducting the assessment is also intended to stimulate new ideas, and contribute some new tools that can help increase the quality and use of evidence. We hope that the evidence and the process have helped to lay groundwork for careful testing in the field of new options for enhancing primary health care at commune level that are at once realistic and promising.