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I E G U L D Ī J U M S T A V Ā N Ā K O T N Ē

Eiropas Savienības fondu darbības programmas “Izaugsme un nodarbinātība” 9.2.3.specifiskā atbalsta mērķa “Atbalstīt prioritāro (sirds un asinsvadu, onkoloģijas, perinatālā un neonatālā perioda un garīgās veselības) veselības jomu veselības tīklu attīstības vadlīniju un kvalitātes nodrošināšanas sistēmas izstrādi un ieviešanu, jo īpaši sociālās atstumtības un nabadzības riskam pakļauto iedzīvotāju veselības uzlabošanai” ietvaros īstenotais projekta Nr.9.2.3.0/15/I/001 “Veselības tīklu attīstības vadlīniju un kvalitātes nodrošināšanas sistēmas izstrāde un ieviešana prioritāro jomu ietvaros” nodevums Nr.16 –

A short policy paper for concrete policy proposals

World Bank Reimbursable Advisory Services
Support to Develop a Health System Strategy for Priority Disease Areas in Latvia

Health Sector Reform Options for Latvia

November 2016



1. Introduction

Latvia's current demographic structure, characterized mostly by an aging population with a rising burden of disease, carries significant implications for the delivery and financing of the health sector and for the demand for more costly health care services in the future. These challenges, together with mounting macroeconomic and fiscal pressures, has in 2014 steered the government of Latvia to request World Bank technical assistance to support ongoing efforts aimed at increasing overall efficiency of the health system. Specifically, the main objective of this reimbursable advisory services (RAS) program was to assist the National Health Service (NHS) of Latvia in the development of a comprehensive national health strategy to address priority disease areas and manage key health system challenges.

Under this RAS program, four disease areas, including cardiovascular disease, cancer, maternal and perinatal health, and mental health, were used as a lens to identify bottlenecks in the health system that may impede timely access to services or impact on quality of care. Knowledge gathered through this process was used to identify areas in which service delivery efficiency could be improved. This was particularly important given that the health budget in Latvia was not likely to increase in the short- to medium-term, and thus improvement in health sector performance needed to spur from efficiency gains. The emerging series of analytical reviews and reports developed under this program provide an overview of Latvia's current health care system with respect to service delivery, quality standards, access, and equity.

The purpose of this paper is to provide a consolidated summary of key findings and policy recommendations gathered from the series of technical analyses developed under this RAS program. It is complimentary to the full reports produced, which should also be consulted regarding evidence that supports the justification for reform. Duly attention should also be given to the array of strategies employed by other countries when designing models for Latvia's healthcare system.

1.1. Description of World Bank RAS Products 2015-16

During the years 2015-16 a number of technical and analytical products were developed by the World Bank under the Latvia Health Sector RAS program. Below is a brief synopsis of these products, based on which this policy paper is prepared.

- *Inception Report* - presents a preliminary analysis of the state of the health system in Latvia and outlines the conceptual framework for the work that will be carried out under the RAS program.
- *Qualitative Study on Health System Bottlenecks in Latvia* - presents results from a qualitative study that focuses on bottlenecks for timely access to care, quality of service provision, and coordination of services among healthcare providers.

- *Review of the Benefits Package and Service Delivery Model* - examines the current benefits package and service delivery model in Latvia and assesses the extent to which they advance the objectives of universal health coverage, and promote an efficient use of scarce health care resources.
- *Capital Investment Planning Review* - presents an assessment of capital investment decision making in primary care and hospital settings in Latvia. Case studies relevant for Latvia are used in a framework for evaluating best practice in capital investment planning based on a review of OECD countries.
- *Human Resource for Health Review* - identifies and measures critical issues within the Latvian health labor market that may contribute to the increased burden of the four dominant diseases and affect the health system's responsiveness and efficiency.
- *Hospital Volume and Quality of Care in Latvia* - empirically examines the link between volumes for both hospitals and physicians working in inpatient care and the efficiency and quality of care in Latvia.
- *Provider Payment Review* - provides an assessment of health care provider payment mechanisms in Latvia and a comparison with international examples.
- *Health Promotion Review* - presents a review of Latvia's health promotion program with respect to the four main disease burdens compared with international best practice.
- *Latvia Health Care Facilities Master Plan 2016- 2025* - discusses development of a well-organized, sustainable health service network that aims to deliver high quality services.

1.2. Summary of Main Findings

Efforts to date in Latvia have delivered several reform foundations such as: a unique citizen identifier; a national drug list; some standardized quality performance measures; preparation for the implementation of an electronic health record, and emerging legislation and regulatory frameworks. However, when compared to benchmark countries, Latvia's performance does not fare as well on most key health indicators, particularly those related to mental health, maternal health, oncology, and cardiology. Drivers of such outcomes show a multifaceted array of contributing factors including low patient volume, quality of healthcare services, limited clinical guidelines and pathways, and limited policy levers to affect the desired change. Collectively, these factors have encouraged the government of Latvia to pursue major health reforms. At the same time, current data and information systems have not sufficiently developed, inhibiting accountability, performance measurement, and evidence-based decision making at the clinical practice and policy levels.

Despite earlier phases of consolidation, there is still excess capacity in Latvia's healthcare system in terms of infrastructure, equipment, bed occupancy, and staff which represents a costly

burden on the healthcare system. Optimizing the capacity is likely to result in savings for the system, improvements in quality, and improved access and satisfaction for health care consumers. In order to meet the demands of the population, many changes to the existing system will be required, especially with regard to infrastructure and human resources.

The historical funding mechanism in Latvia has not been conducive to achieving national policy objectives. Essentially funding has not been linked to clinical outcomes, performance or the cost of delivering specific clinical services. The model does not distinguish between non-acute, and acute complex episodes of care. Furthermore, in hospitals, where patient quotas are applied, this adversely influences the timing of access depending on how much of the quota has been reached with those missing out having to rely on the private sector, raising equity issues. In primary care the current capitation model only considers age. Again, this does not adequately recognize the different complexity of patients based on a wider set of factors that directly influence demand and cost.

Consistency in the approach to care and treatment is not supported by an agreed set of clinical guidelines in Latvia. Consequently 'best practice' is not clearly defined and variations in practice can be found. For example the normal rate of C-sections for a population is considered to be no more than 15 percent of confinements. In 2008, Latvia delivered 23.3 percent by C-section compared with Lithuania and Belarus at 20.5 percent, Estonia at 20 percent and 18 percent for Russia. The estimated cost for these 'unnecessary' procedures for Latvia was US\$ 11 million.

Evidence gathered identified low volume practitioners working in low or high volume clinical settings with poor outcomes when compared with more favorable clinical outcomes from high volume practitioners in high volume settings. From an efficiency perspective there were low acuity patients being treated in high volume high acuity settings. From a clinical safety perspective there were high acuity patients being treated in low volume settings, often with limited or sub-optimal equipment. This was clearly influenced by the number and skill set of the health workforce available at different locations which was not specifically determined by patient demand or clinical complexity profiles. Consequently there is over and under supply of the health workforce and in the scope of clinical practice.

Development of the Latvian Health Master Plan presents a coordinated, comprehensive response to address many of the key findings identified in the RAS reports. Strategic Purchasing is a feasible mechanism highlighted to tackle many of the factors requiring change. Replacing quota based block funding with a contract model that recognizes the true cost of delivering specified services such as weighted DRGs can deliver substantial benefits. These increase when linked to agreed clinical guidelines and pathways, minimum case volumes and specified performance objectives creating an effective mechanism for the MOH to initiate and implement change that

will support national policy. Reconfiguring the role and scope of smaller hospitals can be influenced by purchasing specified services from identified care settings matched to patient acuity with requirements to establish transport links for complex tertiary patients. This can include community settings in the scope of treatment for mental health and home care for people that require low level monitoring and evaluation for cardiovascular services or for hospice care. The Master Plan considers Latvian data and information to make the case for change and presents examples of strategies employed internationally to create an array of options to be considered by the Government to achieve its national health objectives.

2. Proposed Reforms

Building on the findings emerging from the suite of analytical products developed under the World Bank technical assistance program, four cardinal reform areas are proposed.

2.1 Phased Investment in Infrastructure, Equipment, and Human Resources

Determining the investment needs for infrastructure, equipment and human resources, involved conducting a Health Needs Assessment (HNA) to determine the current and emerging health needs of the nation and to identify the resources required to address the needs in keeping with delivery of national policy objectives. Using international benchmarks to determine quality, safety, access and equity, a sustainable patient-focused model emerged that would reduce the burden of disease, initially in the priority categories of oncology, maternity and perinatal, cardiovascular and mental health. This provided an empirical framework regarding the number, type and location of health services to best meet the community's needs which was supported by undertaking a Facility Assessment (FA).

The FA provided a detailed review of current health facilities and provided key evidence in determining the infrastructure and equipment requirements to deliver high volume tertiary services, accessible secondary services and full functioning primary care. Achieving an optimal configuration will involve strengthening some sites and adjusting the role and scope of others to facilitate delivering the highest standard of care to the entire population.

Consequently reforms in the Latvian healthcare system should follow a strategic master plan that details the different phases of investment and implementation. This would ensure optimal allocation of resources as well as maintain flexibility to adjust according to shifting country circumstances. The proposed re-mapping of infrastructure, equipment, and human resources constitutes ambitious changes for the Latvian health care system. They will make a positive contribution through centralizing certain services to improve quality and efficiency and decentralizing others to improve equity and access to care based on the health needs of local populations.

Some proposals for investment, such as investment in current tertiary hospitals and the strengthening of current regional hospitals, are unlikely to be controversial among the broad set of stakeholders in the health sector. Given the volume of patients in these hospitals and the estimated need, the proposed levels of investment for these hospitals are likely to be accurate. Proposals related to smaller local hospitals, on the other hand, may prove more challenging to implement. No hospital or its municipal government would typically favor downsizing its services. Given their low patient volumes and inventory of equipment, it is more difficult to accurately estimate needs and required levels of investment for such hospitals. Thus, to achieve a similar allocation that centralizes specialized services and decentralizes basic services in a transparent, data-driven manner, the NHS could consider using more elements of strategic purchasing when contracting hospitals.

From another perspective, some services like psychiatric care and long term care are currently not well integrated with the rest of the healthcare system in Latvia. Allocating such services across facilities and across ministries (as the Ministry of Welfare would take responsibility for some patients) will take time, not just from an institutional standpoint but also from a societal one. Patients and their families may need to be consulted to identify potential reallocation of services. This will be greatly facilitated by the development of community-based psychiatric services with routine care and treatment linked to primary care.

Considering the above, three phases of investment for improving timely access to high quality healthcare services are recommended:

1. Immediate investment in tertiary hospitals and regional hospitals, including trauma and maternity services.
2. Implementation of strategic purchasing among local hospitals to determine future investments needed in these facilities and any restrictions on programs and services offered.
3. Further investigation on the medical needs of the following populations to determine ideal locations and required investment for psychiatric services at the primary, ambulatory specialist, and acute care levels: (i) currently institutionalized patients, (ii) patients admitted in hospital settings for psychiatric diagnoses, and (iii) patients suffering from mental health disorders who are currently severely underdiagnosed (for example, patients diagnosed with cancer, diabetes, or hypertension).

In addition to the above recommendations, five areas pertinent to human resources for health are recommended, while ensuring compliance with EU labor laws in terms of workforce deployment:

1. Development of multi-faceted strategies to attract and retain staff in rural areas involving career pathways, attractive living and working conditions, enhanced remuneration, and recruitment of students from rural areas who will potentially return.
2. Increasing the workforce in targeted specialties and geographical locations through education and training opportunities.
3. Development of multidisciplinary teams in primary care.
4. Encouraging higher standards of quality of care by adopting pay-for-performance schemes for all levels of care.
5. Regulating dual and multi-practice to comply with EU regulations and occupational safety

For the above two sets of recommendations to be successfully implemented, it would be critical to develop a social marketing plan to ensure that major stakeholders are kept informed and involved with the multiplicity of changes associated with the reforms. This should receive an adequate budget so that professional assistance can be engaged.

2.2. Investment in Critical Quality Assurance Mechanisms

The quality of health services in Latvia is inconsistent. This is demonstrated by examples including performance issues in primary care with 50% of GPs only meeting 4 or less of 13 indicators, under-reporting of important health issues including mental health conditions, clinical practice that does not address some major health concerns, poor patient compliance with proven treatments for example hypertension and diabetes, over-ambitious treatment of complex patients in low acuity settings and clinical practice that does not conform to international benchmarks in terms of over and under servicing. To a large degree, the current benefit package contributes by failing to encourage best practice care and treatment.

In addition there is an absence of clinical guidelines or pathways formally endorsed by the NHS or MOH in Latvia, aside from what can be inferred for a few services from the regulation that stipulates what the NHS pays for, and regulations related to maternal and perinatal care.¹ This absence of guidelines and pathways is a liability for both quality assurance and efficiency.

Developing clinical guidelines and pathways is not only critical for outlining management protocols and sequencing of clinical activities, but is equally important in anchoring the benefits package and service delivery model to medical need. Clinical guidelines and pathways also form the foundation for quality-based payments for physicians and health facilities. For example, in the UK, the National Institute for Health and Care Excellence (NICE), which is an independent organization, helps set the standards for high quality care for working within the UK's NHS and

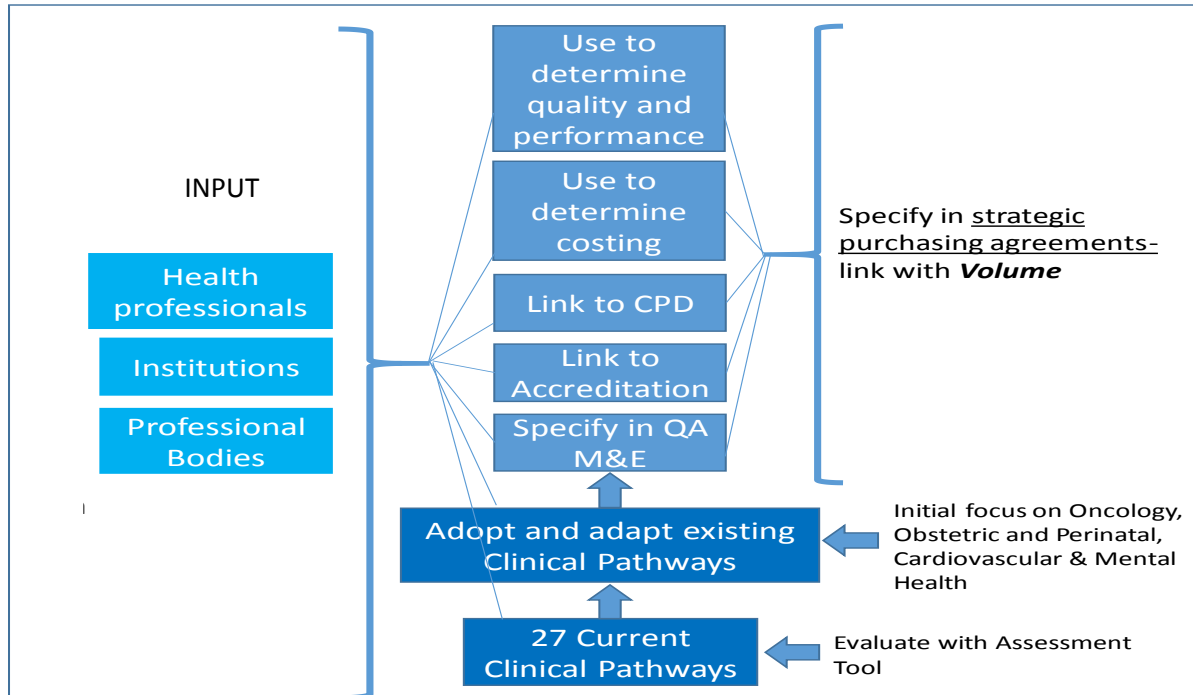
¹ There are however 27 clinical guidelines which refer to the 4 priority disease areas. They are not formally endorsed, do not necessarily coincide with the benefits package, and are not easily used for clinical decision pathways or teaching.

the wider community. NICE commissions partner organizations to set up guideline development groups based on specific knowledge of the guideline's topic. Such groups include, for example, healthcare professionals (and occasionally those from social care or education), researchers, and patients or care-givers. These 'gold standard' clinical guidelines are then developed into a quality standard designed to drive and measure priority quality improvements within a field of care. Other examples of similar efforts globally include: the Canadian Guidelines Advisory Committee which is informed by the Canadian Medical Association and Centre for Health Evidence; Denmark's Secretariat for Clinical Guidelines; Japan's Council for Quality Health Care; the Australian National Health and Medical Research Council; and New Zealand's Guideline Development Group.

Given the need to incorporate more elements of strategic purchasing into NHS contracts and given that some of these elements will need to derive from articulated quality standards, the NHS, together with MOH, would be well advised to start immediately the development of guidelines and pathways for priority areas: cardiovascular disease; cancers; depression and substance abuse; and maternal and perinatal conditions. This could be carried out by adapting existing ones to the Latvian context, such as those developed by NICE and used by the National Health Service in the UK to make quality-based payments. Another example to reflect on comes from Germany, where the most appropriate method of clinical guidelines development is based on a comprehensive and systematic review and recommendations of the best available evidence. In addition, it is important to note that in Germany's case consensus is ensured through stakeholder engagement in the guideline panel and the application of formal consensus development methods. This type of an "evidence-based consensus guideline" is assumed to possess the highest level of scientific and political legitimacy across the country and can be tailored for use in the Latvian context.

Building on the above, the government of Latvia would need to consider developing clinical guidelines and pathways based on clear criteria and standardized methods for: guideline selection, evidence used, formulation of recommendations, and updating of existing guidelines (see diagram 1). In doing so, it could use a tool to assess the current 27 clinical guidelines such as Appraisal of Guidelines for Research & Evaluation (AGREE) or similar. Further, it could expand the number of guidelines and pathways using an adopt and adapt approach of an existing comparable set of guidelines with an initial focus on the four priority disease categories so that costing, pricing and institutional comparison can be undertaken.

Figure 1: Clinical Guidelines/Pathways Development



CPD: Continuous Professional Development; M&E: Monitoring and Evaluation; QA: Quality Assurance

In addition, it would be critical to establish a Health Technology Assessment (HTA) facility to conduct comprehensive, systematic evaluations of the benefit and impact of using health technology (including medicines, medical devices, vaccines, procedures and systems). These assessments are essential to the development of evidenced-based standards and policies and clinical guidelines and pathways. Until such a facility is established, the NHS may wish to consider contracting out HTA activities that it currently oversees. This would bring in highly needed expertise in this field and potentially avoid the demands of maintaining a group of assessors.

See Annex 1: *Investment in Critical Quality Assurance Mechanisms*, for examples of policy actions that have been undertaken by other countries implementing quality related health reforms grouped by ‘structure and approach’, and ‘standards and delivery’.

2.3. Health Financing Reforms

The payment model has a direct impact on the way health services are delivered. In Latvia, health service managers have little flexibility, or the means and incentives to deliver a responsive health system. This manifests in a range of negative outcomes such as a shortage of health care professionals with specific skills sets in some regions and difficulties with staff retention outside major metropolitan centres. Hospitals lose their capacity to deliver safe quality services and this creates issues for access. Aside from GP performance payments, there are little to no quality or

efficiency incentives for physicians or hospitals available. Coupled with weak sanctions for poor quality by the Health Inspectorate, there is limited capacity to drive quality in the system.

The benefits package lacks the flexibility to facilitate optimal service delivery. Quotas are periodically limiting access to services until the funding quota is renewed creating variation in access that is not mapped to clinical need. Fortunately emergency procedures do not follow the same pattern, however this may encourage misuse. The package is also deficient in some essential services like psychotherapy for depression patients, and some treatments are not adequately covered including essential medicines for chronic diseases such as statins or antidepressants which are only reimbursed at 50 percent, thus affecting access and compliance.

The current reimbursement for services is basic and doesn't recognize variation in the cost between treatments and patients of differing need. There is partial implementation of DRGs, but in a limited way without cost weights and therefore not adequately recognizing full costs. A survey to determine the Latvian cost weights would serve the system well in determining base costs to incentivizing the more efficient hospitals and promoting efficiency.

As a result current payment systems in Latvia are not delivering the required data and information to adequately manage quality, equity, service configuration, accountability, performance and planning. Hospitals are still paid through a combination of “earmarked service programs” and Diagnostic Related Groupings (DRGs).² As a result, hospitals performing only simple procedures are paid the same as hospitals that perform the most complicated procedures. Furthermore the amount paid does not distinguish between non-acute and acute inpatient episodes of care resulting in inequitable funding, access issues, and limited data for service planning.

In light of the above, a set of critical health financing reforms are needed. Core and central to these reforms is the need to increase efficiency of health financing by implementing new provider payment mechanisms and increasing competition among health providers. To achieve this, the move towards strategic purchasing is critical. Moving from passive purchasing, or following a predetermined budget, to strategic purchasing involves a continuous search for the best way to maximize health system performance within the country policy framework and health financing reforms.

Many countries have implemented reforms to institutionalize arrangements for purchasing. Typically, this is done by establishing a public or autonomous agency to focus exclusively on purchasing rather than providing services. The strategic purchaser establishes what services it should purchase for the population it serves. This could take the form of an itemized list of

² A DRG is an admitted patient classification system which categorizes acute admitted patient episodes of care into groups with similar conditions and similar usage of hospital resources.

services or an entitlement to a comprehensive range of health services, with some limitations. Government may take the lead in deciding on service entitlements, but a strategic purchaser should engage actively in identifying the health needs of the population and understanding the preferences and values of citizens. Strategic purchasers should also decide which providers to purchase services from. This may be limited to public sector providers, or may include private providers, and often involves an accreditation process. Purchasers should make explicit decisions on which providers to accredit, considering issues such as providers' location relative to the population, their ability to provide an appropriate range of services, and quality of care. Provider payment mechanisms, such as performance-based systems, can be one strategic purchasing tool implemented as part of a larger health financing reform plan. By clarifying roles and relationships between purchasers and providers, the payment mechanisms can create the right incentives to guide health provider behavior toward reaching health system objectives.

The critical move towards strategic purchasing is one in which the NHS could implement through contracts with providers by relying more on DRG-based payment mechanisms to pay for services in hospitals and by offering group-based contracts to GPs to ensure adequate access to primary care. The role of strategic purchasing helps link resources for health coverage to the effective delivery of quality services.

Experiences from countries such as Slovenia, Hungary and the United Kingdom serve as good examples.

Slovenia moved from a prospective-planning based reimbursement system linked to a limited budget specifying the number of inpatient cases and has implemented DRG-based payments to the funding of acute inpatient care. The reimbursement model was established in a way which also provided the Health Insurance Institute of Slovenia (HIIS) the flexibility to act as an active and strategic purchaser. The implementation of this model was primarily driven as a result of deficiencies in the original payment system. This included a narrowly defined classification of services for which prices differed from one provider to another for the same medical specialty. The implementation of DRGs supported the monitoring and measuring of hospital activity according to more specific and a wider classification of services. The DRG model also helped to obtain stronger health statistics and assisted in the implementation of a more transparent funding system based on a wider classification of hospital health care services with equal pricing across the board. Over a five year period from 2003-08 the resulting consequences included a 12.6 percent increase in acute admissions achieved with cost efficiency, reducing average length of stay (ALOS) and organizational changes. The waiting list decreased by 31 percent. The complexity of patients and number of procedures also increased in keeping with the higher acuity of the patient mix. At the same time, efficiencies were achieved in the non-acute patient mix with lower length of stay.

Hungary similarly initiated a move away from inputs based line-item budgets towards a DRG payment system that led to increased efficiency and cost-consciousness among hospital managers, and reduced regional differences in resource allocation. From the initial pilot in 1987 to determine activity levels and cost data, national implementation took a further six years. There are now 780 DRGs in Hungary of which 200 cover 85 percent of all cases. DRGs cover all recurrent costs including salaries of all staff. Capital costs continue to be paid by the owner, including local municipality and national governments.

In 1997, Hungary equalized DRGs to pay a flat rate for average costs. This led to the more efficient hospitals generating surpluses but also created several perverse incentives whereby expensive outlier patients were being referred to other hospitals (cost shifting), and some patients being admitted that could have been adequately cared for in a lower cost outpatient setting ('cream skimming'). Other negative provider behaviors included classification to an artificially higher acuity level without clinical justification (DGR 'creep'), counting re-admissions as a separate new admission, and classifying outpatients as inpatients ('paper cases'). A common outcome of coding systems is that measures to cut or moderate health spending work for limited periods. However, after an initial reduction in cost, the total level of spending often returns to the previous trajectory. Essentially, governments need to monitor and evaluate activity against baselines and regulate for compliance to achieve the policy intent of the payment system.

In terms of managing risk, the Hungarian government caps the overall national expenditure and has created a pool of funds in the event of marginal increases in patient volume. If this proves to be inadequate, then the national base fee is recalculated, which has proven to be an effective overall cost-control mechanism. Cost weights have also been adjusted to more accurately reflect cost and account for the impact of new health technologies, to reduce cheating, and pursue policy priorities. To prevent substandard quality of care, outcomes are continuously monitored and evaluated with results reported back to providers to adjust care processes and limit adverse effect. Further challenges included insufficient data in health facilities, interference from powerful interest groups who tried to negotiate higher case group weights, the need to adjust DRGs to reflect some capital costs and depreciation and teaching tasks in hospitals. There is also an identified need for institutional and legal changes to support hospital autonomy and enable managers to react to changing financial incentives. The Hungarian experience demonstrates that DRGs and other payment systems require constant ongoing development to maintain objectives.³

In the UK, GPs were facing an increasing workload as they were required to manage chronic conditions from secondary care and make their services available 24 hours a day, seven days a week. The GP remuneration system failed to reward additional efforts aimed at making service

³ Adapted from a presentation by Tamas Evetovits: The experience with DRGs in Hungary. WHO/Euro and Semmelweis University. Presented at WB workshop on Health Financing and Purchasing in Ljubljana, Slovenia. May 21, 2007.

provision more responsive and accessible to patients which could have relieved some of the pressures on hospitals. The growing concern about the low status and pay of GPs was leading to low morale and problems with recruitment and retention. A pay-for-performance contracting program was implemented to correct the failings of the current capitated payment system and reward more activity and better quality of care.

The NHS would also be well advised to identify incentive-compatible payments for providers in underserved regions and for those who perform outreach activities to population groups that rarely seek care. This has been effective in the US in improving access and quality of healthcare for underserved regions where typically providers that care for disproportionate numbers of underserved patients tended to perform worse than other providers on quality measures commonly used in provider payment programs. Various manners of implementing and managing pay-for-performance mechanisms exist, and a deeper understanding of the market and already existing payment systems is required to choose an optimal design. For instance, in the state of California, a pay-for-performance system was implemented, where pay-for-performance is determined with the standard approach and then those payments are adjusted to redistribute funding to high-performing providers working with disadvantaged patients. This redistribution approach was able to mitigate disparities in funding across provider categories, geographic regions, and racial/ethnic populations in underserved areas.

Additional activities in support of incentive-compatible payments include provider reimbursement rates where the true costs of providing services is reflected. For the implementation of such payment systems, the NHS would need to organize routine costing surveys and a transparent methodology to determine the resources required by facilities and physicians to provide the level and quality of services stipulated in NHS contracts. In Canada, fees often reflect relative values (though not necessarily resource based ones) and a global conversion factor. Most provinces incentivize service provision in remote areas by boosting reimbursement amounts in isolated areas with manpower shortages. This is reasonable both in terms of remuneration for physician supply and compensation for potentially higher practice costs. Quebec pays a 15 percent bonus to general practitioners in very rural areas and a 20-percent bonus to rural specialists. Another example is Australia which established Remote Area Nurse (RAN) positions with extended clinical scope to compensate for the lack of doctors. RANs had additional allowances for working in secluded areas and were given tax concessions.

Furthermore, it would be important to experiment with different levels and formats of incentives to identify the most cost-effective method to induce high-quality service provision that meets population needs. Exploring various cost-effective methods may lead to the use of incentives in combination, or a blend of both financial and non-financial methods. These incentives will have to be in line with the standard clinical guidelines and pathways set by the NHS and will have to ensure service provision across specialties to the entirety of the population.

Three other concrete recommendations that the NHS could consider include:

- Simplifying the current formulae and adjusting the capitation amount based on age, gender and limited health status indicators – to more accurately acknowledge the factors influencing costs.
- Paying specialist care through PHC capitation amount, similar to the case in Estonia and the UK to rationalize specialist utilization.
- Adjusting the hospital per-case payment to include a shorter ALOS per case, and adding a financial incentive for treating low acuity patients in more clinically appropriate outpatient and day-care settings.

See Annex 2: *Health Financing Reforms*, for examples of policy actions that have been undertaken by other countries implementing similar health reforms which have been grouped into ‘purchasing’, ‘other streams of income’ and ‘procurement’.

2.4. Development of an Integrated Health Management and Information System

The role of evidence is critical to implementing successful reform policies. However, evidence-based analysis is often a challenge in countries where data and information is lacking and/or poor. Ex-ante analysis to diagnose the problems faced by the health care system and benchmark it with other countries is critical to justify the need for reform, influence the design and to undertake cost benefit analysis which is also needed to establish the affordability of the reforms. Baseline studies, linked to the objective of the reforms, allow assessment of change due to interventions initiated through the reform process. These are critical to sustain interest and support and justify continued implementation. The World Bank RAS reports for Latvia greatly assist in this regard.

The current health information systems in Latvia inhibit effective management at the operational and policy levels. For example, the monitoring of clinical practice is not consistent in Latvia and there is no collection of data on privately funded care which impedes the design of performance incentives if base lines are unknown. Furthermore, clinical information is not centrally collected from Hospitals and that specialist outpatient clinics and primary care services submit on paper as well as filling out the same information on computer. This may explain why reporting costs were considered to be high by GPs. Other findings included use of a unique pharmacy database that cannot be easily mapped to international codes for benchmarking or used to determine patient compliance. There are also shortfalls in the referral system for a diagnostic and specialist visits. This makes assessment of waiting times difficult and may inhibit gaining a full understanding of queue jumping and private sector involvement. Currently, there is a reliance on self-reported waiting times from physicians, hospitals or clinics. This is not incentive compatible, as patients must pay out of pocket to jump the queue. Interestingly, the name of the practitioner is often not accurately reported which makes peer review a challenge. Another important factor impacting

on the value of current data and information is that the ICD-10 codes are used inconsistently. An example was provided for coding cancer interchanging between the suspicion codes and confirmed cancer codes.

Overall, data across the episode of care is not gathered consistently. This complicates data analysis and thus inhibits evidence-based decision making. Evidence-based reform is difficult when the evidence needed is lacking or contested. One consequence of this is that isolated facts, or incomplete data, or the emergence of a single high profile study can have a disproportionate impact on policy debate. HMIS, e-health and ICT constitute a cross cutting enabling factor required for all the proposed reforms. They are necessary to provide the evidence, monitoring, evaluation, and analysis to formulate, implement and appraise the proposed changes to the Latvian health system. Collectively they integrate and promote the use of quantitative and qualitative data to improve health service effectiveness and efficiency through better management at all levels of health services. HMIS can deliver four main benefits: (i) increasing quality of care and efficiency; (ii) reducing operating costs of clinical services; (iii) reducing administrative costs; and (iv) enabling entirely new modes of care.

In relation to the implementation of clinical guidelines and pathways, as well as other dimensions of provider performance, proper monitoring of such systems will require significant improvements in the existing health information infrastructure and analytical capabilities in Latvia. To this end, the legal arrangements to share data across departments within the health sector and between ministries should be maintained to allow for tracking of patients, as well as monitoring and accurately costing services. Further emphasis should also be placed on a number of other critical areas pertaining to: information flow; data collection reporting tools; data management and validation techniques; and information system technology, including databases and protocols. Further, MOH and NHS would be advised to collect a core set of indicators similar to those collected for NHS contracted care for all privately financed services to monitor patient access, measure provider remuneration, and improve overall accountability.

Various countries such as Finland and the United Kingdom already have similar systems in place. In Finland for example, PERformance, Effectiveness and Cost of Treatment Episodes (PERFECT) monitors the content, quality and cost-effectiveness of treatment episodes in specialized medical care.. Indicators and models were created to monitor selected disease groups and procedures such as stroke, premature newborns, hip fracture, breast cancer, schizophrenia, acute myocardial infarction, and orthopedic endoprosthesis including hip and knee replacement surgery, and invasive heart surgery. Through the linkage of individual-level data, PERFECT goes further than reporting on single health care events to examining the whole cycle of care including patient outcomes, treatments and use of health system resources for well defined, and risk-adjusted, patient groups. Performance metrics collected from the PERFECT project allow for benchmarking clinical practices against best-practice guidelines and aid in the evaluation of

the extent to which guidelines are being followed. The project's fundamental component relates to a database of around 200 indicators for hospitals and regions. Across the disease groups and procedures examined, a wide range of patient outcome indicators have been published including mortality rates at different time intervals, emergency room visits, days spent at home and/or in long-term care facilities after events, and re-hospitalization rates overall and for specific reasons such as infections and surgical complications.

Similarly, in the UK, the NHS Information Centre for Health and Social Care is in charge of data collection, processing, analysis, and publishing of national information for health and social care communities in England. It is the principal national repository for data for secondary purposes, including holding and linking person-identifiable data when approved and necessary. This system is pivotal in the dissemination of information to monitor and improve the healthcare system in the United Kingdom.

Investment in electronic health records (EHR) that also captures payment relevant data would facilitate monitoring of adherence to clinical guidelines and pathways and decrease administrative reporting burdens. Clinical information collected through EHR systems, combined with socio-economic data and existing payment data, could be used to predict which specific populations would benefit from greater outreach and assistance with follow-up care or treatment compliance.

In Denmark, nearly all primary care physicians have EHRs with full clinical functionality. These EHR systems are linked to a national network that is operated by a private nonprofit organization called MedCom. This organization allows GPs the free exchange of clinical data with specialists, hospitals, pharmacies, laboratories, and other health providers and specialists. Communication across these service providers is done electronically. In addition to that, the Danish National Health Portal, introduced in 2005, provides patients with electronic access to their personalized EHRs thus facilitating patient-provider electronic communication.

In Sweden, EHRs are used for documentation by all physicians and most hospitals (and most ambulances). Hospital use has lagged compared with use in primary care, but EHRs are now used in 97 percent of hospitals and 100 percent of primary care clinics. Most Swedish EHRs contain functions for clinical documentation, electronic prescribing (80% of prescriptions are written electronically), and computerized provider order entry. All laboratories are fully computerized, and computerized order entry for various laboratory, radiology, and pathology services is growing, but varies (20% to 75%) among the county council regions. Most county councils have systems for electronic exchange of hospital discharge summaries and most have systems for electronic scheduling of visits and renewal of prescriptions. Electronic referrals and exchange of clinical data across county councils are problematic, however, because national standards for interoperability are lacking. Development of EHRs was led by local clinical

champions and strong administrators in the early 1990s, and approximately 27 different systems came into use. Today, however, four different EHR providers cover most of the Swedish market. About half of the county councils have adopted a single EHR system for both hospitals and primary care, and most of the others are moving in that direction. The creation of a single record allows hospital physicians (with patients' consent) to have access to patients' primary care records and for hospitals to have reciprocal access.

Below are two other examples from countries that have also adopted HMIS and EHR systems to improve health care access and quality:

- Lithuania initiated its e-health initiative in 2009 with the aim of developing a transparent, more effective health system and improving the access and quality of services through information exchange. By 2015, 29 projects had been undertaken and 14 laws amended to support the progressive implementation of the strategy which is scheduled to be completed by 2018. The strategy uses real time information and communication technologies to link providers, clinics, and hospitals with diagnostics, imaging and pharmacy through an electronic health record. Patients have access to their own record through a patient portal which allows for making appointments and seeking repeat prescriptions. The challenges experienced were related to competitors in the IT market, institutional resistance, and opposition to change by hospital management. The system cost €26.9 million with an ongoing national budget of €6 million per year.
- Estonia has a rich 20-year history of pursuing e-technology strategies. This has resulted in a mature system that embraces constant development of contemporary architecture, inter-connectivity, safety, and security. The system links providers with diagnostics, imaging, and pharmacy, and hosts a patient portal as well. The strategy also electronically connects with ambulance, dental, on line consultations, social security, health insurance, statistical services, payment services, and with cross border services. All appropriately licensed healthcare providers are required to send data to the Health Information System and access is strictly controlled. Patients have access to their own records and can monitor who views their record. Plans are to exploit data analysis opportunities and engage patients using telehealth and telemedicine technologies so that they become more involved with their own prevention and treatment. This has been predicted to expand the array of care settings and further reduce demand for hospital beds.

Implementing more sophisticated HMIS and exploiting EHR to its fullest potential would require deep knowledge of “big data” techniques such as machine learning, and the MOH and NHS could consider contracting out such tasks to a local university, think tank, or health analytics firm. Big data has the potential to create significant value in health care by improving outcomes

while lowering costs. Big data's defining features include the ability to handle massive data volume and variety at high velocity.⁴ For example, the UK has the world's largest SQL data base including information from over 8 million patients that volunteered to participate. This data is freely available as a service for researchers, medical informatics students and health planners alike.

See Annex 3: *Development of an Integrated Health Management and Information System*, for several examples of policy actions that have been undertaken by other countries implementing HIS, e-health, EHR and ICT health reforms and have been grouped according to 'health information' and 'electronic health record'.

3. Conclusions

In conclusion, Latvia has embarked on a process to review the status of its health system and address health challenges spurring from changing population demographics and their associated burden of disease. Findings from various reports developed suggest that various policy reforms will be required to improve the quality of health care and reduce the burden of disease. The reforms presented in this paper put forth options to be considered by the government of Latvia for the improvement of healthcare service access and quality, the promotion of evidence-based decision making, and the establishment of incentive systems that ensure effective and efficient service delivery. It has been suggested that political "windows of opportunity" for making major structural reforms in health systems only open rarely in democratic countries. Strong political leadership from the highest level and the exercising of political authority are essential for seizing such opportunities. At other times, reforms need to be implemented with a more organic approach with minimal disruption seeking incremental improvements to performance without attempting major structural changes. The government will need to determine which strategy is the best for Latvia given the local context at any one time.

Cross-cutting elements across all reform areas such as the quality of information, adequate funding, high level advocacy, and system capacity should be given particular attention as they will likely facilitate implementation. Interdependencies among stakeholders also needs to be identified and considered when designing and implementing the reforms. Irrespective of the approach, reforming the Latvian health system will involve a complex, multi-stage process. All stages of that process, from diagnosis to design, legislation/regulation and implementation, must be completed successfully for the overall reforms to be successful.

⁴ Part of the **Data** and **data** management glossary: 3Vs (**volume**, **variety** and **velocity**) are three defining properties or dimensions of big **data**. **Volume** refers to the amount of **data**, **variety** refers to the number of types of **data** and **velocity** refers to the **speed** of **data** processing.

Advancing the collection of health quality indicators would also seem to be a priority given the central importance of efficiency in health system performance and the comparative lack of indicators and benchmarks of health care outcomes against which efficiency can be measured. Quality information and data constitute a major enabling factor required to undertake and inform the range of strategies for reform.

Successful reforms also require the co-operation of a wide range of stakeholders including, healthcare workers, medical professionals, governments, the private sector, and consumers. In all cases, there will be opponents to the reforms who must be actively engaged in the process with regular communication and to negotiate success. Securing resources to fund improvements and facilitate change has often been a necessary condition for success in combination with the skillful use of incentives to help align the interests of the key stakeholders with the intentions of the reforms. This may include a need for trade-offs between maximizing the success and sustainability of the reforms, maximizing the speed at which they are carried out, and minimizing the resources that are invested in their implementation. Other countries have found particular value in creating dedicated teams with the mandate to pursue a whole of government approach to lead the implementation through all stages with key stakeholders, which can offset the risks that may emerge in the event of a change of government.

A number of policy changes can be implemented for a relatively small cost and with minimal delay assuming the current legislative framework allows for the activities. Others can be implemented for minimal cost such as the realignment of some services. These should be considered as initial activities that will deliver visible results and contribute to building support for the reforms.

The Latvian MOH has identified its health concerns and built a case for reforms. It has a substantial body of highly analytical information regarding the national and regional situation and many examples and comparisons regarding the experience of other countries that have reformed their health systems. Toward this end, the analysis adopted under this RAS program has presented an array of approaches and options for consideration to assist the Ministry of Health and NHS to develop and implement the Latvian health reform model.

ANNEXES

The following annexes include examples of policy actions based on experiences from other reforming countries. They have been written with the Latvian context in mind, however they are not prescriptive, only indicative of some of the actions that could be taken to support achievement of the national health objectives. They are intended as a guide for consideration.

Annex 1. Investment in Critical Quality Assurance Mechanisms

Structure and Approach

- Use the concept paper previously commissioned by the MOH to inform the development of a national evidence based quality assurance system. Create a National Resource Center as permanent agency to serve as the knowledge base for practical guidance and technical assistance to help implement quality improvement initiatives. Ensure the mandate includes effectively addressing the direct influence between health behavior and the social, cultural, economic and physical environment. The multi-sectoral, multi-disciplinary approach should include regulation, taxation, education, healthy city design, food safety, personal safety, responsible advertising and similar. Initially target vulnerable groups in the 4 major health risk categories – smoking, alcohol, obesity, mental health, diabetes.⁵⁻⁶
- As an alternative, consider establishment of a national public health institute (NPHI/CDC) – with a broader mandate covering health promotion and protection, monitoring and disease prevention and control.
- Initiate a Health Technology Assessment facility to conduct comprehensive, systematic evaluations of the benefit and impact of using health technology (including medicines, medical devices, vaccines, procedures and systems). These assessments are essential to the development of evidenced-based standards and clinical guidelines and pathways.
- Revisit the previous accreditation process using an external or an internally developed model adapted for the Latvian context as a longer-term objective.
- Require at least basic training on quality assurance to be included in medical curricula at the undergraduate, post graduate, and continuing medical education levels, as well for non-clinical personnel with the aim of creating a ‘proactive’ culture which consistently attempts to identify and eliminate risks and patterns that may turn into quality problems.

⁵ noting the OECD/WHO approach.

⁶ Subsequent topics for action include: healthy diet, physical activity, mental health, sexual and reproductive health, breastfeeding promotion, injury prevention, prevention of infectious diseases and reduction of addictive substance use

Standards and delivery

- Develop Clinical Guidelines and Pathways based on clear criteria and standardized methods for: guideline selection, the evidence used, formulation of recommendations, and updating of existing guidelines. Use an ‘adopt and adapt’ approach from an existing reputable set of guidelines with an initial focus on the 4 priority disease categories so that costing, pricing and institutional comparison can be undertaken.
- Use an industry standard tool such as Appraisal of Guidelines for Research & Evaluation (AGREE) or similar to assess the current 27 un-endorsed clinical guidelines.
- Engage with key stakeholders to collectively determine minimal procedural case load volumes to promote quality care and treatment, initially for the target disease areas⁷. Base these on regional benchmarks and review annually so that Latvia does not fall behind. Specify volumes in the clinical guidelines and use them to determine hospital accreditation, continuous professional development and for renewal of physician registration.
- Reconfigure clinical services based on purchasing the required minimum volumes by matching resources (qualified staff, equipment and infrastructure) to the services being delivered. Consolidate low volume services to create high volume centers. Base the location on population demand and travel time to high volume centers.
- Develop the clinical capacity of regional centers where timeliness to high volume centers is excessive and upgrade transport systems for patients travelling from low to high volume centers.
- Publish volume level information by hospital to support consumers making informed decisions about care and treatment.
- Strengthen the monitoring of adverse events, near misses, and safety hazards experienced in the care of patients. Include the findings as part of a formal peer review/clinical audit system that embraces a learning approach to strengthen quality and safety. Link the presence of this system to physician and hospital registration and consider WHO guidelines for establishing reporting systems.
- Re-evaluate the design of the primary care quality indicator targets scheme, including the appropriateness of the indicators, and align them with evidence-based clinical guidelines/pathways for the 4 priority diseases areas.
- Adapt and implement the WHO Global Action Plan for the Prevention and Control of NCDs 2013-2020⁸ adapted for Latvian targets and indicators in the delivery of primary care services.

⁷ maternal and perinatal, oncology, cardiovascular health, and mental health

⁸ http://www.who.int/nmh/events/ncd_action_plan/en/

Annex 2. Health Financing Reforms

Purchasing

- Move from passive⁹ to strategic¹⁰ purchasing to maximize national health gain from available resources.
- Drive patient volumes through strategic purchasing to be specifically referenced in service level agreements with providers and require compliance with admission protocols and referral guidelines. Support compliance through adequate compensation and incentives.
- Use performance driven purchasing agreements, to promote a ‘level playing field’ and assist with the creation of internal and external markets.
- Ensure that financially successful, quality service hospitals, are transparently rewarded with the capacity to use some of the efficiency savings they have generated to re-invest rather than using savings to bail out non-performing hospitals.
- Revise the ‘quota’ system to reduce its negative impact on treatment compliance, access and equity. This should include purchasing more services from efficiency gains to eliminate the seasonal distortion in access.
- Purchase to ensure primary care has a key role involving promotion and prevention and support integration with secondary, tertiary and community care with clinical pathways and a supportive payment system.
- Revise (reduce) the copayment/OOP model to induce greater compliance with clinical treatments.
- Increase the government share of health care expenditure relative to GDP.

Other streams of income

- Allow income to be derived and retained from government assets. Examples include: renting retail space, using clinical facilities for private practice out of hours, selling services from surplus capacity in food service facilities, laundry, equipment servicing and similar.
- Capitalize on the commercial value of data, information and analysis, that will be collected through the new electronic health record and HIMS systems.

⁹ This is characterized by being norms-based resource allocation, limited selectivity of providers, limited quality monitoring

¹⁰ This is characterized by harnessing selective contracting, using performance-based payments, and focusing on quality improvement

Procurement

Ensure procurement is undertaken in terms of:

- Delivering adequate volumes of service to meet purchasing standards.
- Economies of scale where possible
- Standardization of equipment and brands – to make planned preventive maintenance and servicing easier and lower cost
- Reduce the product lines across the inventory – equipment, consumables, and pharmaceuticals
- Perform one-off reductions in stock lines and stock volumes if feasible, and
- Control access to high cost inventory based on evidence of the need and the skill of the provider.

Annex 3. Development of an Integrated Health Management and Information System

Health information

- Aggregate anonymized data from health records should be available to use for report generation that will facilitate performance based/clinical pathway/payment model initiatives, quality assurance and support health planning, epidemiology, resource management, population profiling, demand analysis and similar.
- Develop a Latvian data dictionary of standardized definitions – starting with an existing example from another country and adapting to the local context.
- Agree on health information exchange protocols and mandate sharing of data as a contractual requirement in service agreements.
- Agree on a standardized data set using data dictionary definitions, to be implemented based on agreed priorities that focus on:
 - High priority health concerns
 - Performance based funding
 - An agreed data platform to facilitate interoperability and shared communications
 - An agreed coding system to be rolled out
 - An agreed service package
 - Direct linkage to the payment system
 - Incentives for clinicians and
- Establish the system with a mindset to commercialize the anonymized information in the future once the data base reaches significant size.

Electronic Health Record

- Ensure that there is a primary care driven single electronic health record (EHR) system that holistically captures and records a person's health. This must inter-connect with the hospital medical record which is episodic and illness orientated. The EHR must be linked automatically to import data from all sources such as imaging, laboratory, hospitals, other care settings with full interoperability. It must be linked to the national drug list, the list of essential services, prescribing rules and drug interactions and other key regulations, and clinical decision support based on clinical guidelines and pathways.
- Establish an easy to use patient portal for the usual features of access to their medical record, making appointments, gaining repeat prescriptions, public health reminders and connecting with telehealth and telemedicine options.
- Ensure secure access to the record should also be available through a tablet or smart phone as well as computers so that it is effectively portable.
- Considering $\frac{3}{4}$ of the population have access to reasonable communication systems, develop alternative care settings that use IT strategies for telemedicine, telehealth, remote

monitoring, consumer involvement in care, treatment and prevention/promotion. This can assist in improving access, redefining the requirements of physical infrastructure and facilitating mobile services to remote locations. This could also assist with community mental health, ante and post-natal services.