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 īstenotā projekta Nr.9.2.3.0/15/I/001 „Veselības tīklu attīstības vadlīniju un kvalitātes nodrošināšanas sistēmas izstrāde un ieviešana prioritāro jomu ietvaros" 15.nodevums – Provider Payment Review.

Provider Payment Review[1]

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Table of Contents

I. Introduction

1. This review provides an assessment of health care provider payment mechanisms in Latvia. Specifically, the analysis seeks to (i) outline the key decisions both the purchaser of services and policy-makers more broadly must take when designing and reforming payment mechanisms; (ii) review international experience in purchasing primary care, specialist, and inpatient services and providing financial incentives for chronic disease management; and (iii) assess Latvia's current purchasing capacity and present a range of key reforms that could be pursued in the near future.

2. This analysis was conducted as part of a World Bank Group (WBG) reimbursable advisory services agreement with the Latvian National Health Service (NHS), which aims to provide "Support to Develop a Health System Strategy for Priority Disease Areas in Latvia." The analysis draws on: a) interviews conducted by the WBG in June and September 2015 among various stakeholders (NHS, Ministry of Health, physicians' associations) and b) document reviews (for example, legislation and country studies).

3. The review is organized as follows. Section 2 briefly reviews possible objectives of payment reforms, while Section 3 details the attributes of a well-functioning payment system. Section 4 reviews international experience from select countries (Estonia, Lithuania, Hungary, Denmark, the United Kingdom, and Germany) with respect to payment methods for primary, specialist, and inpatient care and chronic disease management. Section 5 assesses Latvia's current performance in purchasing appropriate, high quality services and suggests some key areas for reform in the near future.

II. Objectives of provider payment reforms

4. Among the leading strategies to reform health care is the development and implementation of new payment models. The goal is to change the way physicians, hospitals, and other care providers are paid in order to emphasize higher quality at lower costs — in other words, to improve value. Health care provider payment systems are undergoing a paradigm shift. Payers for health care are moving from having a passive role when reimbursing providers to more strategic purchasing of services allows them to pursue a variety of policies for improving the quality, efficiency, and equity of care. Most would agree that the level and structure of provider payments are a core element for influencing providers' behavior.

5. The starting point for any revision of a payment system should be the objectives of health reforms. No payment system has significant value, except as a tool for promoting desired changes, and in Latvia, future reforms to the payment system should take account of existing health strategy documents. Health professionals who play a major role in coordinating payment system developments should have a clear and detailed understanding

– and a shared understanding – of health system goals in the broadest sense. A list that has been compiled for use in further refining the payment method in Latvia and that builds upon criteria used in other countries with well-managed health systems is presented in Table 1.

Table 1: Potential objectives of a payment reform

A: Encouragement and reward of good performance
Objective A1: Anticipation of care providers' likely responses
Objective A2: Rewards for improvements in performance
Objective A3: Penalties for poor care
Objective A4: Encouragement of correct use of care pathways
Objective A5: Encouragement of coordinated care across settings and care providers
Objective A6: Encouragement of appropriate referrals
Objective A7: Appropriate targeting to address agreed priority problems
Objective A8: Encouragement of a culture of continual improvement
B: Ensuring equity for providers and patients
Objective B1: Equal payments for equal amounts of work
Objective B2: Volumes of work set in accordance with estimated needs in the service area
Objective B3: Transparency, so that everyone can judge whether payment system is fair
Objective B4: Ongoing process whereby all parties' suggestions are openly debated
C: Easy operation and refinement
Objective C1: Data for the payment process that are largely byproducts of care provision
Objective C2: Easy assignment of patients to payment classes
Objective C3: Easy auditing og costs, volumes, quality of care, and appropriateness
Objective C4: Flexibility (easy revision to improve performance)
Objective C5: Robustness (effectiveness remains even if circumstances change)
Objective C6: Ongoing consultative process for review and refinement
D: Cost-effective classification of services (outputs)
Objective D1: Effective classification system covering all health services
Objective D2: Output classes that are defined with adequate precision
Objective D3: Consideration of classifications used elsewhere
Objective D4: Cost homogeneity
Objective D5: Classifications that make sense to clinicians
Objective D6: High level of bundling of services
Objective D7: Payment classes that are defined by care needs where possible
Objective D8: Minimization of payment classes defined by inputs
E: Payment rates based on the best available data
Objective E1: Payment rates that are set by patients outcomes where possible
Objective E2: Payment rates that take account of the costs of providing good care
Objective E3: Payment rates that take account of good estimates of actual average costs
Objective E4: Capped payments to care providers (prospectively limited)
F: Effective contracting processes
Objective F1: Selective contracting of care providers on the basis of performance
Objective F2: Careful control over competition
Objective F3: Contracts that precisely specify the mix and range of patients to be treated
Objective F4: Contracts that precisely specify the quality of services to be provided

6. The most important objectives may be those labeled A1 to A8, and the next most important those labeled B1 to B4. However, there is no entirely objective way to prioritize them. For the most part, they are mutually dependent. In a few cases, they are obviously conflicting. For example, if the payment method is to be fair to all (Objectives B1 to B4), it will need to

be relatively complicated (and it will therefore be partially in conflict with Objectives C1 to C4).

III. Key attributes of a payment system

7. When designing or reforming provider payments, there are number of decisions that the purchaser must make that will affect providers' incentives and ability to provide services of a certain level of quality.

   (i) Who is involved in the *design process*
   (ii) What *payment method* is used
   (iii) Which *method of classification* is used to distinguish among services?
   (iv) How *payment rates* are determined
   (v) How *contracts* are structured?
   (vi) What *monitoring arrangements* are needed to ensure accurate pricing?

This section focuses on the six key attributes (emphasized above) of a payment system where these decisions would be relevant. The section also highlights best-practices that the NHS may wish to consider going forward as it reforms its payment methods.

(i) The design process

8. Payment methods are difficult to design and need to be continually reviewed and refined through collaborative work. The challenges are best met if large numbers of health professionals are informed of ideas being considered and have the opportunity to contribute their own ideas as well as to comment on the ideas of others. This might require a variety of profiles from physicians, nurses, and hospital managers to economists, lawyers, and IT specialists.

9. In Latvia, existing consultative bodies can be strengthened and their ways of working need to be reviewed. In addition, the Ministry of Health and other policy-making bodies in the health sector can communicate more widely with health professionals and ensure that criticisms will be welcome at all times from all health professionals. For example, several countries have what is termed a Clinical Classification Committee that is responsible for generating ideas about classifications used for payment purposes. Latvia could consider establishing such a Committee or making use of established bodies to deal with these kinds of issues.

10. In addition to extensive collaboration, the process of designing payment reforms requires a focus on external and internal experiences where there has been a satisfactory degree of objective evaluation. However, new information is continually emerging, and the sharing of experiences with other health systems will be an ongoing task, as will be learning from Latvian experiences. A process of monitoring and evaluation therefore has to be established to ensure this happens.

11. As Latvia reforms its health system, it should also avoid mindlessly following approaches used elsewhere, even if they have been largely evidence-based. Successful health care financing reforms are necessarily path dependent and should be based on a country's

historical and cultural development, current socioeconomic and political realities, and the interests of all stakeholders.

(i) The payment method

12. In return for services, providers can be paid in myriad ways, each with its own implications for incentives and cost-containment. There could be a single price for a particular service across all facilities, for example, or payments could incorporate facility-specific costs and thus vary across different providers. Prices could be attached to units of time or to episodes of care.

Payment vs. cost reimbursement

13. Payment means that services are specified in a contract between the purchaser and the care provider together with agreed prices (payment rates) for each type of service, where the same payment amount is made to all providers for the same service regardless of whether a provider's costs of care are higher or lower than that amount.

14. Cost reimbursement, on the other hand, means that there is no agreed price, and each provider is paid an amount equal to its costs, which therefore means there are no profits or losses. Cost reimbursement rewards providers that are wasteful and penalizes providers that improve their efficiency.

15. Payment of previously agreed prices is fairer and gives providers more incentives and rewards for improving their methods of care. In Latvia, there has been progress on this front, as payment methods will move away from cost reimbursement and towards more use of payment models, such as payments by Diagnostic Related Groupings (DRGs) in hospitals.

Episodes vs. time when counting the quantity of services provided

16. When counting the quantities of services provided by providers, it is preferable to use episodes rather than time. Under time-based counting, the unit of service to be purchased is defined by duration – such as one hour, one day, one month, or one year. All services provided during that period are included within the package of care that is being purchased. In Latvia, for example, the capitation payment system for general practitioners uses time-based counting.

17. In contrast, under episodic counting, the unit of service to be purchased is defined by a start event and a termination event – such as admission to hospital and discharge from hospital. Thus, the actual duration of the service can vary. Currently, in Latvia, per-case payments are used for inpatient services, where the entire package from admission to discharge is bundled into a single payment.[2]

[2] Over and above these case-based payments are fixed monthly payments for the work of the hospital, work of the reception department, and for patient observation under 24 hours; payment for actual bed days; payment for services for individuals who require prolonged mechanical ventilation; and payment for labor for big joint arthroplasty.

The length of episodes

18. When counting services, a payer must also decide how to specify the services to be purchased – whether every element of care is purchased separately (such as every drug or every diagnostic test) or whether packages (or bundles) of services are purchased. Consider hospital inpatient services, for example. At one extreme, the entire package of care from admission through to discharge of the patient could be purchased, as is done for per-case payments. This means all care would be included in the package or bundle, and there would be a single payment for the package. However, at the other extreme, each service can be counted separately: each inpatient day in hospital can be counted and paid separately, each operation, each drug, and so on. This is usually called "itemised" payment. In Latvia, payments to hospitals for inpatient services are based on episodic counting and per case payments, consistent with trends in all countries with well-managed health systems.

Costs included in per-case payments

19. In a few health systems, the per case payment includes all the hospital's costs – clinicians' salaries, equipment, drugs, building maintenance, insurance, and so on. However, in most countries, at least one important type of cost is excluded – the cost of capital. For example, capital costs are not included in per case payments in Slovenia, Australia, and Germany. There are separate budgets for capital assets (such as the hospital site, buildings, and large items of equipment). In Latvia, it has yet to be decided whether some costs will be excluded from the per case payment made to Latvian health care providers. The goal should be to include as many costs as possible.

Outlier payments

20. No classification system can accurately categorize every single patient. There will be a few patient care episodes with costs much higher than the average for the payment class to which they belong. These episodes are called high outliers. If high outliers are used, it is necessary to decide what the additional payment amount should be, but the use of high outliers is a crude approach to fair payment. In Latvia, the need for high outlier payments should be discussed during the early phases of implementation of per case payment by DRG. However, there are alternative approaches that may be clinically more sensible, such as (i) use of better measures of case complexity and (ii) separation of non-acute from acute inpatient care (see Section 5).

21. Low outliers are patient care episodes with costs much lower than the average for the payment class to which they belong. Low outliers are much less commonly used than high outliers. This is because it may be counter-productive to reduce payment rates and thus reduce the per case incentives for hospitals to minimize costs and lengths of stay.

Incentives for acute inpatient transfers

22. A between-hospital acute inpatient transfer is a patient who is admitted to one hospital for acute inpatient care and is then transferred to another hospital for continuation of the same episode of care. There are risks of inappropriate transfers, especially when using per case payments. One type of inappropriate transfer would be when it is not necessary but is rather due to a clinical error. A second type is a transfer for financial reasons. For example,

the hospital might refer a complicated and expensive patient in order to avoid financial pressure.

23. There are several ways of controlling between-hospital acute inpatient transfers: setting of neutral payment rates, defining transfer guidelines, defining referral rules and guidelines, and sample auditing on the basis of pattern analysis of routine inpatient data. However, the most important method of control by far is to ensure that financial incentives are appropriate. This means ensuring that no hospital can gain or lose financially from the decision to transfer, and consequently responsible clinicians can make decisions exclusively on the basis of ensuring the wellbeing of the patient.

(ii) Classification of payments and services

24. Per case, diagnosis, and procedure classifications in use differ around the Europe (Table 2). Latvia has been using the International Classification of Diseases (ICD - 10) for diagnoses which adequately recognizes rare diseases in national healthcare and reimbursement systems and the Nordic Classification of Surgical Procedures (NCSP) for procedures. Implementation of the Nordic DRG variant which contains 764 DRGs for acute inpatient care began in 2014. The selection of the Nordic DRG classification was the correct decision for many reasons. One is that it is clinically very sophisticated because it is regularly updated as a result of advice from expert clinical advisory teams. Another is that it will provide better opportunities to compare statistics and offer easier access to relevant software and other tools together with other countries which are using Nordic DRG variant (the investments can be shared).

25. For the coding of rare diseases, Latvia uses the SSK-10 classifier, which contains only a small fraction of rare disease diagnoses that are used; the Orpha Code classifier; and the International Classification of Functioning, Disability, and Health.

Table 2: Per case, diagnosis, and procedure classifications in selected countries

Country	Classification system	Used in payment	Diagnosis coding	Procedure coding
Denmark	Nord-DRG, Dk-DRG	In part	ICD-10	NCSP
Great Britain	HRG	Yes	ICD-10	OPCS-4
Finland	Nord-DRG	Yes	ICD-10	NCSP
Germany	G-DRG (AR-DRG)	Yes	ICD-10 SGBV	OPS-301
Norway	Nord-DRG	Yes	ICD-10	NCSP
Sweden	Nord-DRG	Yes	ICD-10	NCSP

26. Services have to be grouped in some way. They can be grouped according to cost, output, or outcome. They can be grouped according to diagnosis (type of health problem) or method of treatment. A combination of factors can be used. The most common approach uses a classification that defines class boundaries using a mix of three main variables: estimated cost, diagnosis, and treatment method. Examples are the DRG classification (for payment of acute inpatient care), the Function Related Groups classification (for payment of

rehabilitation), and the Resource Utilization Groups classification for nursing home care. This approach is the best for most types of services, but different payment approaches are needed for the various major categories of services provided by hospitals. In well-managed health systems, the following Major Output Categories are defined for hospital inpatient services:

Major Output Category 1	Intensive care
Major Output Category 2	Acute inpatient care
Major Output Category 3	Inpatient rehabilitation care
Major Output Category 4	Inpatient palliative care
Major Output Category 5	Inpatient maintenance nursing care
Major Output Category 6	Tertiary severity
Major Output Category 7	Research
Major Output Category 8	Clinical staff education (teaching).

27. These categories are important because the services need to be measured, counted, and paid in different ways. In Latvia, however, these distinctions are not made currently.

(iv) Setting payment rates

Who sets the rates?

28. There are three main approaches to deciding who should set the payment rates. First, prices could be set in a market. Providers would compete and charge as much as they could while still keeping their market shares. Second, there could be negotiation between the purchaser(s) and the care providers, which is a common approach in many government-dominated health systems. Finally, prices can be completely set by governments or government agencies. Latvia currently uses the third approach, although more effort can be made in future to involve care providers in the process to a greater extent

Prospectively capping payments

29. To avoid budget over-runs for the purchaser, total costs must be fixed in advance through payment capping, where the maximum amount that will be paid to a care provider is prospectively set. Capping is in fact unavoidable, and the question is whether it will be formal and planned or take place largely by accident. Therefore the choice is effectively between direct or indirect capping.

30. There are several ways of implementing direct capping. For example, the payment rate for each output could be set, and then the total payments are capped by setting a limit on the number of patients for which payment will be made. A single limit can be set (covering all types of patients), or there might be limits for each type of patient.

31. A common method of indirect capping used for hospitals involves defining the limit as the number of cost-weighted patients. The most likely approach in the initial phase of implementation of per case payment by DRG is that total payments will be capped on the basis of the number of cost-weighted patients. However, there will also be volume caps for particular types of high-cost or complicated services. This is not much different from the current approach in Latvia, but further implementation of payment reforms offers a chance to be more systematic and transparent in the future.

Use of cost data

32. Some countries use crude indicators of costs, such as charges made by providers or average length of stay, whereas other countries make a major effort to estimate costs through costing studies. Well-run health systems have a process whereby providers participate in annual product costing surveys, as past cost data may not always be accurate and often quickly becomes out of date. Regular surveys ensure that the costs used to set the payment rates are up to date, and Latvia will need to establish such a process. In the short term, however, even a simple, one-off costing study could improve cost estimates that the NHS could use when setting payment rates.

33. There are two different types of cost data that might be used when setting payment rates. First, actual costs of care in a previous period could proxy for current costs. These costs, however, may reflect inappropriate methods of care and discourage providers from changing to better methods. Second, the payer could rely on "standard costs", or the costs that would be incurred if care were provided in the most sensible way.

34. Under the current approach in Latvia, payment rates are partially based on estimated actual costs of care in a previous period, as reported by service providers.[3] Improved methods of cost estimation should be introduced. Steps should also be taken to move increasingly towards the use of standard costs rather than actual average costs. Ideally, this type of costing would start with high-volume case types for which the best method of care has been specified using a care pathway model (For more on care pathways, see accompanying review of the Benefits Package and Service Delivery Model).

35. Cost is the actual amount of money spent to treat one episode of care. Good costing enables periodic cost data comparisons, cost comparisons by providers, comparisons with international averages, profit and loss analysis.Two approaches to costing health services can be broadly categorized as micro-costing (bottom-up) or standard (top-down) costing.

36. *Bottom up costing* means that patient level cost data is collected ((for example, the costs of drugs administered to patients). The calculated cost would reflect the actual amount that was spent on an episode of care. This requires accounting methods that can track costs of every episode. This process leads to better understanding of how costs are generated in the delivery of patient care, which, in turn, can motivate innovations that lead to improved efficiency.

37. *Top-down costing* is commonly referred to as "average" costing because the method takes total health care expenditures and divides it by a measure of total services provided (the output) to determine a cost per patient (Jacobs et al, 1999). Under this approach, average costs can be measured as (i) *per diem costs*, calculated by dividing the total expenditure for services by the total number of days of service to give an average cost per day, or through (ii) *case mix costing,* where patients are divided into clinically meaningful groups that are expected to use similar amounts of hospital resources. The case mix system assigns a "relative" weight to patient cases and assumes a standard consumption of resources among similar cases.

[3] There are some exceptions – for example, arthroplasty revision - that are based on actual costs.

(v) Contracting methods

38. Payment methodologies and policies are a critical determinant of the success of any health care system. Several different perspectives can be used to evaluate payment models. For example, the relative financial risk to physicians and other providers may be considered as well as the potential for overtreatment or under-treatment of patients.

39. Across Europe there are a limited number of the provider payment methods in use: salary, per capita payment (capitation), fee for service (FFS), per diem, line-item budget, global budget, case-based (DRG), pay for performance (P4P). The mode of payment creates powerful incentives affecting provider behavior and the efficiency, equity and quality outcomes of health finance reforms. Definitions, advantages and disadvantages of different payment methods are summarized in Table 3.

Table 3: Advantages and disadvantages of different contracting methods

Payment Method	Definition	Main Advantages	Main Disadvantages
Salary	Health care providers are employed on salaries for the government	No incentive to provide excessive treatment and deny access of patient	Can lead to under-provision of services, excessive referrals, lack of attention to patient preferences Less incentive to pay attention to quality of care
Capitation	Providers are paid for each patient on their "list", usually with adjustments for factors such as age and gender Unit of output is the coverage of all predefined services for an individual for a fixed period, usually one month or one year	Predictable expenses for the fund holder Provider has incentive to operate efficiently Eliminates supplier-induced demand	High registration but under-served patients Financial risk may bankrupt provider Provider may seek to minimize risk by "cream skimming" - enrolling low-risk patients Provider may under-provide services
Fee for Service (no fee schedule)	Reimbursement for specific, individual services provided to a patient	Incentives to provide services	Unpredictable expenses for fund holder Cost escalating: strong incentives for supplier-induced demand
Fee for Service with fixed fee schedules	Reimbursement for specific, individual services provided to a patient	Incentives to operate efficiently Efficiency is greatly enhanced when combined with a global budget cap	Unpredictable expenses for fund holder Cost escalating: incentives for supplier-induced demand Higher administrative costs (price controls must be established, revised periodically and enforced)
Line Item Budget	Allocation of a fixed amount of funds to a health care provider to cover specific line items (or input costs), such as personnel, utilities, medicines, and supplies, for a certain period	Allows strong central control, desirable where local management is very weak Predictable expenses for fund holder (unless supplemental budgets provided)	No direct incentives for efficiency Provider may under-provide services Imposes fixed resource use, directly impeding efficiency Unnecessary spending at end of year, “use it or lose it” attitude
Global Budget	Allocation of a fixed (global) amount of funding is distributed to each hospital, to pay for all hospital-based services for a fixed period of time (commonly one year).	Predictable expenses for fund holder, low administrative costs Unified budget permits resources to be used efficiently	No direct incentives for efficiency Provider may under-provide services Difficult to reallocate resources across hospitals or departments

Payment Method	Definition	Main Advantages	Main Disadvantages
Per diem	Payer reimburses the provider a fixed rate for each day a patient is hospitalized	Incentives to reduce services per day	Incentives to increase length of stay and increase admission rate
Case-based	Providers receive a fixed, preestablished payment for each case. Cases are patients who receive health services for a condition or disease. Patients classified to the same group have similar diagnoses and treatments, consumption of resources, and lengths of stay	Strong incentives to operate efficiently Association with a reduction in the average length of hospital stay	Unpredictable expenses for fund holder, high administrative costs (but less than fee for service Provider has incentives to select low-risks within case categories ("cream skimming") intentionall regrouping of patients to more resource intensive DRG classifications in order to increase hospital income ("DRG creep") Less suitable for outpatient care (difficult to define case) Cost shifting to non-DRG patients
Pay for performance (also known as "P4P" or "value-based purchasing")[4]	Payment or financial incentive (for example, a bonus) associated with achieving defined and measurable goals related to care processes and outcomes, patient experience, resource use, and other factors	Increased motivation for specific objectives Ability to take account of quality, quantity, and outcome Potential to penalize caregivers for poor outcomes, medical errors, or increased costs Potential to encourage collaboration and promote accountability among providers and to encourage improvement by emphasizing outcomes of care	Can mislead if only use outcome measurement Provider has incentives to select low-risks within case categories ("cream skimming") Programs with rigid measures and standards could create incentives for physicians to avoid high-risk patients and drop noncompliant ones Administrative work associated with data collection and reporting may take time that otherwise could be devoted to direct patient care

Source: Adapted from Barnum et al. 1995

[4] Examples of pay for performance programs used for GP payments (*Quality and Outcomes Framework)* and for hospital payment (*Value-Based Purchasing Program*) are presented in Appendix 1

(vi) Monitoring and audits

40. All parties (the regulatory agencies, the purchasers, and the care providers) need to play a part in ensuring that citizens' money is effectively spent and their health is protected. This includes undertaking control measures, which can be prospective (before mistakes are made) or retrospective actions (after mistakes are made). The control measures can be external (meaning that actions are taken by the central agencies) or internal (meaning that the care providers take steps to control their own work). The various approaches are mutually dependent, and a mix is needed. Some potential domains for introducing control measures are listed below (Table 4). At present, physicians and hospitals in Latvia must report a large amount of data to different agencies, including information that could form the basis of control measures for the domains listed in Table 4, but it is not clear whether such data are being systematically used for monitoring purposes.

41. The information required to monitor domains 2, 4, 5, 6, 7, 8, and 9 can come directly from the payment data of the NHS. The NHS would have to define a measurement protocol for each domain (which includes any specific ICD-10 codes or patient profiles that should be monitored separately) and then write code for extracting this information from existing databases. These kinds of activities are ideally completed by people who know the payment data well. Tracking the appropriateness of hospital admissions (domain 1), failure to admit when medically necessary (domain 3), and the correctness of DRG assignment (domain 10) requires both the payment data and chart reviews by physicians. Finally, establishing whether an NHS funded service provides high value care requires careful data analysis of a number of databases (inpatient and outpatient payment data, along with mortality data). This type of analysis is best carried out by a team specializing in the analysis of health care data. While the NHS could hire a firm for this kind of activity, an in-house team trained to do this could not only provide real-time analysis of the situation in Latvia but could also evaluate the effectiveness of any strategies that are piloted to increase the value of care.

Table 4: Potential domains for introducing control measures

	Domain	Responsible institution
1	Appropriateness of hospital admissions	NHS + team of physicians
2	Number of hospital admissions relative to prospective volume targets	NHS
3	Failure to admit to hospital when medically necessary	NHS + team of physicians
4	Intensive care admissions and lengths of stay	NHS
5	Inter-hospital acute inpatient transfers	NHS
6	Intra-hospital transfers	NHS
7	Inward and outward referrals	NHS
8	Diagnostic procedures such as pathology tests and imagings	NHS
9	Therapeutic procedures such as surgical operations and drugs prescribing	NHS
10	Categorization of acute inpatient episodes (DRG assignment)	NHS + team of physicians
11	Value of care (quality, health outcomes, and utility)	NHS + data analytics team

IV. Lessons from international experience

42. This section describes recent provider payment reforms and the current mechanisms used to pay for the provision of health services in a set of European countries (Estonia, Lithuania, Hungary, Denmark, Finland, United Kingdom, and Germany), which may be of interest to Latvia, either because of direct comparability (for example, Estonia) or because the country is currently implementing what could be considered best practice (for example, Germany). The review is based on the Health Systems in Transition (HiT) series and on the country reports of Assessing Chronic Disease Management in European Health Systems. Each Health Systems review is produced by country experts in collaboration with the European Observatory on Health Systems and Policies. In order to facilitate comparisons between selected countries, each country-specific sub-section has been divided into 6 parts focused on primary care, outpatient specialist care, acute hospitals, inpatient long-term care, and health care reforms of relevance to chronic disease (where applicable). Appendix 2 presents a summary of provider payment models in a larger set of European countries.

Estonia

43. The health care system of neighboring Estonia is an obvious comparator for Latvia. While Estonia and Latvia share a number of similarities in the basic set-up for various levels of care, Estonia appears to have made more progress in implementing financial incentives for improving primary care and for managing chronic diseases.[5]

Primary care

44. The payment system for family doctors has been designed to provide general practitioners with incentives to take more responsibility for diagnostic services and treatment, to provide continuity of care, and to compensate them for the financial risks of caring for older people and working in more remote areas. Family doctors and nurses contracted by the Estonian Health Insurance Fund (EHIF) are paid through a combination of a basic allowance to cover costs of premises and transport for doctors or nurses (11%), capitation payments (67%), fee for service (20%), a quality bonus scheme (1%), and other remuneration types (<1%) that together make up the budget for each practice. As in Latvia, the capitation fee is age-adjusted, forming five capitation payment groups: patients aged up to 3 years, 3–7 years, 7–50 years, 50–70 years and over 70 years. Practices receive monthly pre-payments, which are recalculated twice a year to reflect changes in the patient list (as patients can change family physicians).

45. The Quality Bonus Scheme (QBS) was introduced in 2006. It focuses on three domains of care: (i) disease prevention, (ii) chronic disease management, and (iii) other services, which together generate a total of 45 indicators. Family physicians earn points for reaching performance targets for each indicator. The points are awarded on an “all or nothing” basis. If the physician reaches the target, she or he is awarded all of the points. If the physician

[5] The following sections are based on Lai T, Habicht T, Kahur K, Reinap M, Kiivet R, van Ginneken E. Estonia:health system review. Health Systems in Transition, 2013; 15(6):1–196

fails to reach the target, no points are awarded. Family physicians are eligible for bonus payments if they achieve at least 80% of all possible points.

Outpatient specialist care

46. Ambulatory specialist care is provided by health centers, hospital outpatient departments, and specialists practicing independently. Outpatient specialist care is payed by EHIF on a fee-for-service basis. Patients generally need a referral to be admitted as a non-emergency inpatient, but some ambulatory specialties are accessible directly and without referral.

Acute hospitals

47. The EHIF implemented a NordDRG-based payment system for inpatient services in 2004. To minimize any financial risk, the proportion of DRG payment for each case was gradually raised from 10% in 2004 to 70% in 2009. All inpatient care cases, as well as outpatient care cases involving surgical procedures, come under DRGs. However, some types of care - such as psychiatric, rehabilitation, and follow-up care - are not reimbursed using DRGs. There are also some exemptions according to the principal diagnosis (for example, chemotherapy), services provided (for example, organ transplantations), and referred cases. In addition, cases that are either too low or too high in cost are reimbursed through fee-for-service.

48. In 2003, the EHIF started reviewing the pricing principles of health care services in order to improve transparency. The project involved representatives of all major medical professions and medical specialties. It was agreed that health service pricing will be conducted according to activity-based costing, and every year, the costs of one or two specialties are updated. Since July 2003, capital costs have also been included in the prices paid to providers by the EHIF, and since 2012, e-health management has been as well. Since capital cost funds are now allocated on the basis of activity, there may be little link to capital investment needs.

Inpatient long-term care

49. The Nursing Care Network Development Plan 2004–2015 (Ministry of Social Affairs, 2003) was prepared to provide nursing care targets to match the hospital targets set out in the Estonian Hospital Master Plan of 2015. The main changes recommended by the Hospital Master Plan were to turn small hospitals into nursing care homes and to develop non-institutional nursing care services that provide home nursing and day-care nursing. The EHIF funds health care services, while the state budget and municipalities are responsible for social services.

Health care reforms relevant for chronic diseases

50. Chronic disease management is not specifically addressed by the National Health Plan 2009–2020, although the document does address the prerequisites and general principles for structured approaches. Overall, there are three main forms of chronic disease management in Estonia: quality management in primary health care, chronic disease management at the interface between primary and secondary care, and other activities within primary care (for all other diseases). The central disease management role of GPs is supported by the bonus payment that encourages the prevention and management of chronic conditions.

51. The public system covers all diagnosed diabetes cases in GP practices. The quality of diabetes care is continuously monitored by the EHIF and GP practices according to GP diabetes care quality management and practice evaluation framework. The framework sets specific rules on the number of consultations, the nature, volume and frequency of tests required by various age-gender-disease severity groups of type 2 diabetes. Disease management in primary care is also linked to specialist diabetes centers that provide additional support for more severe cases. These specialist care units combine out- and inpatient care with nurse-led "foot clinics" and collaborate closely with dieticians and social care workers.

52. The public system also covers all diagnosed cardiovascular diseases cases in Estonia. The main setting is the GP practice, but it also includes specialist care, community (patient groups), and the social care system. As for the case of diabetes, a quality management and practice evaluation framework guides the EHIF and GP practices in monitoring the quality of cardiovascular diseases care. The EHIF also provides additional financial incentives in line with the framework, which sets specific rules for the number of nurse consultations, the nature, volume and frequency of tests required by various age-gender-disease severity groups of cardiovascular diseases.

Lithuania

53. Lithuania also shares some broad similarities with Latvia with respect to the payment methods used in different levels of care. It may be worth tracking their progress on developing a financing mechanism for integrating various types of care (nursing and social, disease management in primary care, and public health and primary care) and current pilots to provide integrated health and social care. [6]

Primary care

54. Payment on a capitation basis accounts for around 82% of the total revenues in primary care, fee for service 7%, pay for performance 6%, and project financing 4%. Payment for prevention services can be covered from several sources - for example, capitation payments, fee for service payments within prioritized services, or prevention program funding.

55. In 2000, financial incentives for primary care were developed, aimed at reducing hospitalization rates for the catchment population and meeting the targets for childhood immunization rates. In 2005, a new list of bonus payments was established, including care for pregnant women, children and the disabled; selected diagnostic tests and nursing at home procedures; and emergency care for the non-registered population. In 2009, the focus of bonus payments was to reduce hospitalization of patients with chronic diseases, to create incentives for more outpatient care provision, and to improve the implementation of preventive programs. In order to retain access to primary health care during the financial crisis, the bonus payments for good performance as well as bonus payments for registered rural populations were not reduced in 2009, in contrast to other services, which saw a reduction in financing. Outpatient specialist care

[6] The following sections are based on Murauskiene L, Janoniene R, Veniute M, van Ginneken E,Karanikolos M.Lithuania: health system review. Health Systems in Transition, 2013; 15(2):1–150.

56. Outpatient services are reimbursed on a per-case basis and fee for service for diagnostic tests. A case is defined as an episode consisting of up to three visits to a specialist related to the same illness and is called a consultation. Almost all recurrent costs of outpatient institutions, including the majority of laboratory tests, are covered by the price of the consultation. The reimbursement system moved from a single outpatient consultation fee to differentiated secondary and tertiary setting of fees.

Acute hospitals

57. The National Health Insurance Fund (NHIF) pays for ambulance services according to population numbers and for transport related to child deliveries (per case). In addition, health-care providers pay for patients' transportation. Call centers are paid per capita, according to the size of the catchment area.

58. Before the introduction of DRGs in 2012, hospitals were paid for admitted patients according to the volume of services delivered or the cases aggregated by major specialty (surgery, intensive care, long-term nursing, etc.). Mental health care and TB treatment were paid per bed-day. Acute cases were paid according to an indexed reference price (30%, 50%, 100%, 200%), depending on fulfilment of the treatment plan (30%, 50% or 100%) or length of stay (200%). Since 1999, ceilings on the quantity of services provided within the contracts between hospitals and territorial NHIF branches have been introduced, followed by ceilings to the global hospital budgets transferred from NHIF, which led to minor reductions in inpatient admission rates.

59. In order to encourage a shift to day surgery/care and services in outpatient settings, the following categories of payments for inpatient admissions have been gradually introduced since 2002: (1) services for which full reference price is reimbursed according to the contracted volume of provision, with partial reimbursement for services delivered above the contracted volume; (2) prioritized services with no volume restrictions; (3) selected set of services reimbursed at a rate of half the reference price when rendered in an inpatient setting.

60. Since 2012, a new DRG system – the *Australian Refined Diagnosis Related Groups*, version 6.0 (Australian Department of Health and Ageing, 2008) – has been used in hospitals for reimbursement of acute inpatient care and day surgery services. The classification, which includes 698 DRGs, allows for inclusion of intensive care and high-cost tests and procedures and takes into account comorbidities and complications, as well as interventions, a patient's age, discharge status, and some other variables. The classification does not distinguish between secondary and tertiary hospitals. In 2012, the DRG system was launched in 68 hospitals across the country, as well as in 2 polyclinics and 13 private facilities rendering day surgery services. Making payments according to DRGs, however, was postponed until 2014 to allow hospitals to adapt to the new system. After one year, it was reported that the average length of stay (6.92 days) did not change significantly, and there have also been issues with the costing and coding fields.

Inpatient long-term care

61. Long-term and nursing hospitals are reimbursed on a bed-day basis. Patients may be treated in these hospitals for up to 120 days and later should be transferred to homes for the elderly, where a co-payment for services may be applied.

62. Medical rehabilitation is paid according to reference prices, and since 2010, these prices per bed-day, outpatient visit, and rehabilitation at home for adults and children have been applied.

Health care reforms relevant to chronic disease

63. There is no explicitly documented strategy for chronic disease management in Lithuania. Recent activities have aimed to strengthen the framework for more structured chronic disease control and management, which include the 2008‑2010 National Family Health program, targeting the health of families, prevention and early diagnostics, and good quality and accessible health care services. Assessment criteria for program implementation included, among others, a reduction in the number of new mothers diagnosed with postpartum depression, and an increase in the scope of palliative care and nursing services provided at home or in health care units. The latter includes more systematic efforts towards the development of continued care models for people with chronic diseases. The program also identified the need for the management of mental health problems through the development of new services, including occupational, social and home based services, patient advocacy, and the involvement of family members.

64. Also in 2008, the government adopted the chronic noncommunicable disease research program. Targeting cardiovascular diseases, cancer and diabetes, the program aimed at providing insights into the management of morbidity and mortality from chronic diseases. More recently, the 2011 Lithuanian Health System Development Dimensions (2011‑2020) set out a strategic direction for health promotion, disease prevention, and the reduction of morbidity and mortality. It aims to improve health management and financing, as well as the accessibility, quality, and safety of care. The document foresees the creation of a financing mechanism for the integration of nursing and social care, piloting an integrated primary care model based on case management, and the integration of public health services into the provision of personal primary care services.

65. Gaps in inter-sectoral collaboration, especially between the health and social care sectors, have led the Ministry of Health and the Ministry of Social Security and Labour to issue rules on integrated health and social care, to be implemented at the municipality level, in all 60 municipalities. The routine assessment of problems and accomplishments is carried out by multidisciplinary teams of physicians, nurses and social workers, who are responsible for defining and addressing patient needs, and considering clinical, social and financial dimensions. Different types of care are provided and financed, mainly, from public sources. In terms of delivery system design, case finding is the most common tool considered for chronic disease management at the community level. Case management is being piloted for patients with HIV/AIDS and selected mental health problems. Other examples include the provision of psychosocial rehabilitation for people with chronic mental disorders, seeking their re-integration into the labor market. Inter-sectoral collaboration is further supported by the adoption of guidelines on joint nursing and social services, issued in 2007, by the

Ministry of Health and the Ministry of Social Security and Labour. These identify major target groups, and define responsibilities and mechanisms for long-term care.

Hungary

66. While Hungary faces a number of challenges similar to Latvia's, such as the integration of care across various levels and sectors, a number of recent reforms related to cost containment and experimentation with clinical pathways may provide valuable learning experiences for Latvia as it seeks to simultaneously expand accessibility of services and improve quality of care. [7]

Primary care

67. Family doctors are financed with mixed payment methods that include prospective and retrospective elements. Practice income is made up mainly of capitation payments with an additional fixed amount depending on the size and location of the practice as well as case payments for non-registered patients.
68. Capitation payments are adjusted to the age composition of the patient pool and the qualification and work experience of the physician. The population is divided into five groups: for a person up to 4 years of age, family doctors receive 4.5 points; between 5 and 14 years 2.5 points; between 15 and 34 years 1 point; between 35 and 60 years 1.5 points; and over 60 years 2.5 points. Above a certain number of points (2400 for adult or child practice, and 2600 for mixed practice), the family doctor does not receive the full capitation payment, to prevent the negative impact of an unmanageable practice size on quality of care. Different limits apply for group practices. The total number of points is multiplied by 1.2 if the family doctor has a relevant qualification (specialization in family medicine or internal medicine for adult practices or paediatrics for child practices). The factor is 1.1 if the family doctor has no relevant qualification, but has at least 25 years of work experience in primary care.

69. In 2009, the government introduced a performance bonus payment system for family doctors, based on quality indicators. Family doctor services have to reach a certain minimum score measured by the National Health Insurance Fund Association (NHIFA) by means of selected quality indicators in order to get rewarded.

Outpatient specialist care

70. Most outpatient specialist services are financed by fee-for-service points, based on the German point system. Each procedure is assigned a number of points on the basis of its complexity and resource requirements. Providers report their monthly activity data with patient-level detail, including codes of procedures performed. Beginning in 2004, volume regulation aimed to contain output inflation. Providers were eligible for full reimbursement for only 98% of their performance in the preceding year. If a provider in a given month produced more points than that, the excess points up to 5% were reimbursed at 60%, between 5% and 10% at 30%, and above 10% at 10% of the monetary value of 1 point. This system was in place until 2006, when the government introduced an even stricter cost-

[7] The following sections have been largely based on Gaál P, Szigeti S, Csere M, Gaskins M, Panteli D. Hungary: Health systemreview. Health Systems in Transition, 2011; 13(5):1–266.

containment measure. Since 2007 excess points above a provider's own output limit are not reimbursed at all. A transition period was allowed for outpatient specialist care providers.

Acute hospitals

71. Inpatient services are reimbursed according to the type and severity of the case. Since 1993, a homogeneous disease group (HDG) based retrospective payment system has been used to reimburse acute-care, same-day surgery, certain types of treatment (such as chemotherapy), and emergencies (> 24 hours), with the exception of some tertiary care services, which are paid by the central government. A few high-cost medical interventions, such as bone marrow transplantation, are reimbursed on a case basis. Chronic (long-term) care is paid on the basis of patient-days adjusted for the complexity of the case.

72. The current version of Hungarian HDGs has 26 main groups, which are themselves divided into hundreds of smaller groups. Hospitals have to report their discharged cases monthly, and the reported cases are grouped into HDGs at the Department of Financing Informatics of the NHIFA, which operates the system. This procedure determines the hospitals' monthly output in terms of HDGs, and the NHIFA pays according to the total number of HDG points multiplied by the monetary value of 1 point, the so-called national base rate. The national base rate is set in advance by the NHIFA for one year and it applies to all hospitals equally.
73. In order to facilitate cost-containment, the acute inpatient care sub-budget of the Health Insurance Fund is also capped nationally, and the same techniques have been used to prevent overspending as in the case of outpatient specialist services.

Inpatient long-term care

74. Long-term care is provided both by the health and the social sectors. In principle, the location of service provision is determined based on the patient's health needs. In practice, however, the boundaries between the two sectors are quite unclear. Indeed, service categories can overlap and people can be assigned to the wrong setting, such as when long-term social care for the elderly is provided in acute wards due to the shortage of places in residential homes. Providers are payed on a per-diem basis.

Health care reforms of relevance to chronic disease

75. This lack of coordination among sectors also appears to be a bottleneck more generally for chronic disease management, hampering various national-level programs that focus on system delivery and the integration of different levels of care. Recent approaches to chronic disease management have attempted to integrate existing dispensaries (single-specialty institutions providing outpatient specialist services) into newly established regional oncology centers, regional pulmonary networks, or national diabetic networks.

76. In 2005, treatment protocols were introduced in oncology, and their main aim was to control the costs of treatment, such as the use of expensive drugs in cancer care. The principal approach is the use of care pathways. Other conditions currently targeted by treatment protocols include asthma/COPD and cardiovascular diseases, including chronic heart failure, ischemic heart disease, and stroke. These treatment protocols are funded through social health insurance, but there are no special financial rewards or penalties for protocol adherence on the provider side. The extent to which physicians adhere to

treatment protocols is not known. Although treatment protocols should in principle cover all persons with a given diagnosis, there is a lack of information confirming that this is indeed the case. Documented regional inequalities in terms of access to care and distribution of medical capacity suggest that patient coverage by treatment protocols is likely to vary (Gaal et al., 2011).

Denmark

77. Denmark's ongoing experiences with integrated care – specifically, clinical pathways and disease management – and with strategic purchasing for acute care offer ample learning opportunities for the Latvian health system as it starts to tackle challenges related to care coordination and the quality of care within hospitals and clinics.[8]

Primary and outpatient specialist care

78. Income of GPs is derived from a mixture of capitation (on average, a third of income) and fees for services rendered (consultations, examinations, out-of-hours consultations, telephone consultations, e-mail consultations, home visits, etc.), making up the remaining two-thirds. An explicitly stated objective of the national government and regions within the country is to encourage GPs to employ more supporting personnel (secretaries and other supporting personnel, such as nurses or laboratory technicians) so that the GPs themselves can concentrate on tasks that only medical doctors are authorized to perform.

79. Practicing specialists derive their income from fees paid by the regions. For each specialty, contracts specify a number of services and the fee associated with each service. If a specialist reaches a specified turnover, the fees for further services provided are reduced by 40%.

Acute hospitals

80. In 1982 prospective global budgets were introduced as the predominant method for allocating resources to hospitals. During the 1980s and 1990s, after the introduction of global budgeting, subnational units (counties) developed target and performance management within the global budgeting framework by including non-financial measures for clinical production (for example, discharges, bed-days and the number of ambulatory visits) and service levels (for example, standards for various measures of waiting times) in budget assessments for hospitals and hospital departments. These performance measures supplemented the global budgets, which continued to constitute the main component of the counties' target and performance management system.

81. Activity-based financing was introduced at the department and hospital levels in the 1990s. At the time, hospitals were obliged to distribute 10% or more of their budget through activity-based financing. Since then, the mandatory share of activity-based financing has been increased, at first to 20% in January 2004 and then to 50% in January 2007. These increases have meant that the financial consequences of production below a specified level

[8] The material in the following sections have been largely based on Olejaz M, Juul Nielsen A, Rudkjøbing A, Okkels Birk H, Krasnik A, Hernández-Quevedo C. Denmark: Health system review. Health Systems in Transition, 2012, 14(2):1 – 192.

(the individual department's baseline) have become stronger for the department over time, and it has thereby become more and more important for each department to avoid undershooting the so-called baseline, which is the clinical production (measured by DRG points) associated with the hospital department's expected financial budget. These budgets are fixed through annual negotiations between the regions, hospital administrators, and department managers.

Inpatient long-term care

82. In addition to conventional nursing homes, there are psychiatric nursing homes, small apartments (providing basic medical care and located adjacent to nursing homes), group homes, and foster homes. The municipalities deliver social services, which are financed through taxes and run primarily by salaried professionals employed by the municipal health authorities. Contracting with private non-profit-making agencies, however, is becoming increasingly common in an attempt to provide services that are more cost-effective.

Health care reforms relevant for chronic disease

83. Improving care coordination and quality of care was an important driver behind a 2007 structural reform (Olejaz et al., 2012). The reform envisioned an emphasis on chronic conditions as a "new focus area for the Danish health care system" and introduced mandatory health care agreements between municipalities and regions to promote coordination across municipal care services, primary care, and hospital care (Vrangbak, 2013). These agreements include a number of mandatory topics related to admission and discharge from hospitals, rehabilitation, prevention, psychiatric care, and IT support systems. The performance of regions and municipalities in reaching the targets as outlined in the agreements is measured by national indicators, which are made available to the public through the website "e-health", operated by the Danish State Serum Institute (Esundhed, 2014).

84. In 2007, the government and the Danish Regions also agreed on the implementation of mandatory integrated cancer pathways (Olejaz et al., 2012). In 2009, the Danish Institute for Quality and Accreditation in Healthcare (IKAS) established the Danish Healthcare Quality Program (DDKM), which it currently manages.

85. A range of policies and strategies are specifically aimed at organizing approaches to chronic disease management in Denmark (Frolich et al., 2008; Schiotz, Frolich & Krasnik, 2008). The 2002 government-endorsed national strategy *Healthy throughout life – the targets and strategies for public health policy of the Government of Denmark 2002–2010* placed a special focus on efforts to reduce major preventable diseases and disorders, in particular type 2 diabetes, preventable cancer, cardiovascular diseases, osteoporosis, musculoskeletal disorders, hypersensitivity disorders (asthma and allergy), mental disorders, and COPD. The main strategies of these disease management programs involve elements of self-management support, delivery system design, decision support, and clinical information systems.

Finland

86. As argued earlier, history and context strongly influence the institutional design of health systems, and the organization of the Finnish and Latvian systems varies considerably.

Nevertheless, given the high share of private health expenditures in Latvia and the degree of self-employment among physicians, Finland's experiences with public financing of private services, physician outsourcing, and hospital districts could offer insights for decreasing financial burdens among households and addressing multi-practice and physician shortages in Latvia (See accompanying review on Human Resources).[9]

Primary care and outpatient specialist care

87. The Finnish system can be described as one of the most decentralized in the world. Even the smallest of the 342 municipalities are responsible for arranging and taking financial responsibility for a whole range of "municipal health services." Another unique characteristic of the system is the existence of a secondary public finance scheme (the National Health Insurance scheme, NHI), which partly reimburses the same services as the tax based system, in addition to services which are provided by the private sector. NHI also partly reimburses the use of private hospital care.

88. Municipal health centers provide primary curative, preventive, and public health services. They offer a wide variety of services: outpatient medical care, inpatient care in inpatient wards (in larger cities these can be classified more as GP-run hospitals), preventive services, dental care, maternity care, child health care, school health care, care for older people, family planning, physiotherapy, and occupational health care.
89. In primary health care, municipalities prospectively fund the budget of the health centers they maintain on their own. Usually budgets are set based on previous budgets. The traditional payment method, which currently applies to about 45-50% of health center physicians, is through a monthly salary with some extra fee-for-service payments for selected time-consuming service items or minor procedures. In those health centers where something called the personal doctor system has been introduced, doctors are paid a combination of a basic salary, capitation payment, and fee-for-service payment for visits.

90. In the late 1990s, the outsourcing of the physician workforce began, (Vuorenkoski and Mikkola 2007), and since then new firms have emerged which lease physicians to public sector primary health care centers. These firms are mainly owned by the physicians themselves. In these firms, physicians are employed by the company and their salary is negotiated within the company. Municipalities use these services mainly when they have difficulties in recruiting physicians, especially for out-of-hour duties, although recently physicians have been leased by long-term contract for office-hour duties as well. These firms can offer better salaries and more flexible working conditions than municipalities and are therefore an attractive alternative for physicians.

Acute hospitals

91. Secondary care is mainly provided through municipality-owned hospital districts. There are 21 hospital districts in the country. Each hospital district has a central hospital, and in some districts care is supplemented by small local hospitals. Hospital districts provide specialized outpatient care, inpatient care and day surgery, usually in the same facilities. In addition to services provided through health centers and hospital districts, municipalities may purchase services from a private provider. Tertiary care is provided in five university hospitals, which

[9] This section is largely based on Unto Häkkinen (2010), "Financing of hospital care in Finland"

also act as central hospitals for their hospital district. Hospital districts are managed and funded by the member municipalities.

92. There are different contractual or negotiation mechanisms between hospital districts and municipalities for reaching agreement on target volumes and payments, which serve to separate the purchaser and provider functions. Both the volumes and costs are planned based on the previous year. Usually, there are no explicit sanctions if there are deviations from agreed plans and targets, and municipalities cover any deficits and retain any savings in their accounts. Each hospital district determines the payment methods used to reimburse its hospitals, and because payment methods are district based, they may vary from district to district. Among districts, the pricing trend has been consistently moving away from the bed-per-day price towards case-based prices, as currently 13 out of 21 districts use DRG-based pricing. The principles and rules for DRG usage, however, also vary greatly between hospital districts because there are no national guidelines.

93. Private services can be offered in public hospitals during weekends and after 4 p.m. during weekdays. The system aims to compensate physicians for the loss of special payment category fees but in a way that will distribute earnings more equally among physicians and other hospital staff.

94. In 1996, the National Research and Development Centre for Health and Welfare (STAKES) launched the Hospital Benchmarking project in co-operation with the hospital districts. The main purpose was to provide hospital managers with benchmarking data to improve and direct hospital activities. The project designed and implemented an internet-based information system that supports continuous data gathering and processing, as well as displays benchmark measures at the desired level of aggregation. Productivity and efficiency calculations are made with traditional activity measures, such as DRG admissions and outpatient visits, and with a more advanced DRG-weighted episode of care measure. The quality as well as efficiency of specialized care has been evaluated in the PERFECT project (PERFormance, Effectiveness and Cost of Treatment episodes, (www.thl.fi/fi_ FI/web/fi/tutkimus/hankkeet/ perfect) since 2004. In this project, protocols for eight health issues (acute myocardial infarction, revascular procedures (percutanous transluminal coronary angioplasty, coronary artery bypass grafting), hip fracture, breast cancer, hip and knee joint replacements, very low birth weight infants, schizophrenia, and stroke) have been developed. DRGs are used for calculating the costs of diseases.

England

95. As in Latvia, the National Health Service in England aims to purchase the majority of health care services to meet all of the health care needs of the population. It is the oldest and largest single-payer healthcare system in the world. It has been reforming itself since its inception in 1948 – most recently in 2013 – and a number of contractual design features remain relevant for Latvia, even if they no longer apply in England. In particular, there are lessons to be learned for greater use of risk stratification in determining payments; commissioning services from groups of providers rather than individual providers; linking payments to performance in both primary and hospital settings; setting uniform tariffs across providers; and improving case management and care coordination in primary care. [10]

[10] The following sections are largely based on Seán Boyle: United Kingdom (England): Health system review. Health Systems in Transition, 2011; 13(1):1–486.

Primary care

96. Prior to the major reorganization of England's NHS following the Health and Social Care Act of 2012, there were four possible contract types for GP services in England, all through primary care trusts (PCTs) or administrative bodies responsible for spending 80% of England's NHS's total budget, mainly though commissioning primary, community, and secondary health services from providers and sometimes offering community health services directly:
    (i) *general medical services*, where practices contracted with their PCTs on a nationally negotiated basis (covered about 50% of GPs);
    (ii) *personal medical services*, where practices contracted with their PCTs on a locally negotiated basis, so that service requirements and quality indicators were agreed between practice and PCT (covered about 45% of GPs);
    (iii) *alternative provider medical services*, where PCTs contracted with providers other than GP practices for the provision of GP services (for example, private health care companies); and
    (iv) *PCT medical services*, where GP practices were run directly by the PCT.

97. The key features of the contracts were payments for essential services (global sum), enhanced services, out-of-hours care, and the Quality and Outcomes Framework (QOF).

Global sum

98. Payment for a core set of essential services was allocated to practices through a formula, which aimed to link practice funding to patient needs based on a statistical model taking account of sex and age distribution of patient population, additional needs relating to morbidity and mortality of the population, the number of newly registered patients to reflect increased usage in their first year, numbers of patients in nursing or residential homes to reflect extra costs, extra costs associated with London, and the unavoidable costs of delivering services in rural areas and in areas of higher living costs. The core set of essential services was not stated specifically, but GPs were expected to cover the management of patients who were ill or believed themselves to be ill, including management of chronic disease and terminally ill cases. Practices were also given a Minimum Practice Income Guarantee to ensure there was no loss of income in the first few years of the contract, with an intention that it would gradually be phased out.

Enhanced services

99. These services were intended to go beyond the essential features of general practice, such as services requiring specialist skills. The PCT was given a "spending floor" for the commissioning of these services, which could be exceeded. Three types of services had been defined:
    - *directed services* that all PCTs had to commission to cover their population (although individual practices were not obliged to offer them) including, for example, services such as child immunization as well as the development of better patient access;
    - *national services* that PCTs could choose to commission - for example, minor injury treatment - but that individual practices were not obliged to offer;
    - *local services* that PCTs could choose to design and commission, with room for local negotiation of standards and prices – for example, services for people with learning difficulties – and that individual practices were not obliged to offer.

Out-of-hours care

100. GPs were not responsible for out-of-hours care (that is, providing care outside of core hours, defined as 8 am to 6.30 pm). Practices could choose to provide out-of-hours care under a separate contract.

Quality and Outcomes Framework

101. The Quality and Outcomes Framework (QOF) was implemented in 2004 and introduced a voluntary payment program that linked up to 25% of GP practice income to performance (Doran & Roland, 2010). The contract was an agreement with the general practice rather than the individual physician, awarding "achievement points" for practices demonstrating that they have met several stages in the management of a given, usually chronic, condition, for a proportion of the relevant population, typically between 40% and 90% (National Audit Office, 2008). Although this was primarily a financing scheme linking payments to performance, it featured a set of strategies that also targeted delivery system design, decision support, and clinical information systems. While assessments of QOF success are mixed, substantial improvements have been noted, particularly in the maintenance of disease registries and screening of risk factors for older patients with cardiovascular disease in the community. Appendix 1 provides more details on QOF indicators.

Other funding for GP practices

102. Additional funding was made available to GP practices for increased expenditure on premises, information technology, pensions, payments to recognize seniority, and assistance with recruitment and retention.

GPs in rural and deprived areas

103. As mentioned above, the formula allocating funds to practices included a specific adjustment for rural practices. The contract also recognized the additional workload involved in providing care in deprived inner city areas through a morbidity factor in the formula. Areas with fewer doctors also gained from the allocation of money on the basis of patient need rather than the number of doctors.

Outpatient specialist care

104. NHS consultants (specialists) in England were salaried employees of the NHS. Following a 2003 reform, new contracts contained the following elements:

- a full-time commitment of 40 hours per week;
- voluntary evening and weekend non-emergency work and extension of annual leave after seven years of service;
- a salary consisting of five elements: basic pay, additional programmed activities, on-call supplements, clinical excellence awards payments and other fees and allowances; and
- no restriction on earnings from private practice.

105. A full-time commitment consisted of 10 "programmed activities" per week, each four hours long (three hours in premium time, defined as between 7 pm and 7 am). The clinical excellence awards, allocated by a peer-review process, supplemented (often substantially) the salaries of NHS consultants. However, they were not allocated on the basis of any objective measure of activity or impact.

Acute hospitals

106. The Payment by Result (PbR) system was introduced in 2003–2004, which set a regulated national tariff price. The government proposed to use new Healthcare Resource Groups (HRGs) to establish a standard tariff for the same treatment regardless of provider. However, mental health services, critical care, community health services and ambulance services remained outside the scope of PbR, and even within the acute hospital setting, many activities were excluded. A set of currencies for measuring mental health activity was introduced in 2010–2011, but not as part of the mandatory PbR system.

107. PbR actually tended to reinforce the delivery of care in acute hospital settings. To promote unbundling of care pathways that led directly to acute hospital spells, so that care could be delivered in different settings, the Department of Health issued sets of indicative unbundled tariffs relating to both care pathways and the use of diagnostics and offered guidance in support of unbundling of services. For example, in 2009–2010, indicative unbundled tariffs were introduced relating to the rehabilitation aspects of conditions such as stroke, pneumonia and hip replacement). However, unbundling remained a non-mandatory part of the system.

Inpatient long-term care

108. In 2009, the government published the Green Paper, *Shaping the Future of Care Together,* addressing the funding of long-term care. Three main approaches to funding were considered for consultation:

- a *partnership* approach that involved sharing the cost of care between individuals and the state;
- a voluntary *insurance* approach that allowed individuals to choose to take out protection against the risk of having high care and support costs; and
- a compulsory *comprehensive insurance* approach.

109. All three options involved an element of means-testing. Funding would cover only basic care and support costs (that is, to meet an individual's assessed needs) with an option that people may pay for additional care if they wish. Hotel costs would not be covered. However, the government proposed a universal deferred payment mechanism to meet these costs, which would put a charge on an individual's estate upon his/her death rather than result in a home sale when they needed residential care.

Health care reforms relevant for chronic disease

Nurse-led case management ("community matron")

110. In the early 1990s, under the General Medical Services contract, GPs were beginning to be reimbursed for providing chronic disease clinics and other services such as immunizations, triggering a rapid expansion in the number of practice nurses involved in some form of chronic disease management (Sibbald, 2008). The 2004 NHS Improvement Plan sought to strengthen the role of nurses in the management of patients with complex

needs by introducing the role of the "community matron," conceived as a specialized, senior nursing role undertaking intensive, home-based case management for older people at risk of hospitalization and other high-intensity service users, and which was expected to lead to fewer (emergency) admissions and, ultimately, reduced health care costs.

Case management in primary care

111. To reduce unnecessary emergency admissions to secondary care, the 2014/15 GP contract introduced a new "unplanned admissions enhanced service", to promote proactive case management of at-risk patients, which is funded through reallocation of points within the QOF. The service requires that at least 2% of the patient population of a GP practice aged 18 years and older be covered by this scheme (BMA, 2014) and stipulates that practices must also provide:

- same-day telephone consultations or with follow-up arrangements for identified vulnerable patients who have urgent queries;
- timely access to accident and emergency (A&E) clinicians, ambulance staff and care, and nursing homes to support decisions relating to hospital admissions and transfer to hospital;
- personalized care plans (with a named accountable GP and care-coordinator) for patients on the case management register following a national template that are reviewed regularly as clinically necessary. The care plan should also identify a care co-coordinator (if different to the named accountable GP) who will be responsible for ensuring that the agreed care plan is being delivered, and to inform the patient or their care-giver of any changes;
- contact by an appropriate person following discharge from hospital for patients identified as vulnerable.
- review of emergency admissions and accidence and emergency attendances of their patients from care and nursing homes; and regular reviews of all unplanned admissions and readmissions for vulnerable patients to identify factors which could have avoided the admission.

Germany

112. While its level of funding and overall institutional design varies considerably from what one can observe in Latvia, the German health system offers a number of best-practice policies and approaches that warrant attention given Latvia's current disease profile and challenges related to the purchasing of services. In particular, it may be worth experimentally piloting morbidity-based pricing, greater flexibility in quotas and reimbursement ceilings, and more strategic purchasing to make care more primary-care centered and integrated across levels. Disease management programs (DMPs) offer the opportunity not only to incorporate quality and integration into contracts (see accompanying reviews on quality assurance and the benefits package and service delivery model) but also to improve self-management among patients, ensure uniform accessibility of the benefits package, and generate data for quality assurance activities. [11]

[11] The following sections are largely based on Busse R, Blümel M. Germany: health system review. Health Systems in Transition, 2014, 16(2):1–296.

Primary care and outpatient specialist care

113. In Germany, through social health insurance (SHI), providers receive payments from sickness funds. First, the sickness funds make total payments to the regional associations of SHI physicians for the remuneration of all SHI-affiliated doctors, instead of paying the doctors directly (The only exception to this are selective contracts to promote integration of care). Second, the regional associations of SHI physicians have to distribute these total payments among SHI-accredited physicians according to something called the Uniform Value Scale.

Overall remuneration

114. Since January 2009, overall remuneration has had three components:

(i) morbidity-based overall remuneration, which is based on the treatment requirements of patients, a regional guideline value, and the number of insured people per sickness fund;

(ii) the ability to increase payments by the sickness funds to overall remuneration if an unforeseeable need for provision of treatment arises (for example, an epidemic);

(iii) remuneration of individual services that the sickness funds are required to pay at fixed prices over and above the morbidity-based overall remuneration, where particularly eligible services, such as immunizations, screening tests or ambulatory surgery, are not subject to volume ceilings

115. In contrast to a fixed per capita system, one guided by morbidity-based overall remuneration should transfer morbidity risks from the SHI-affiliated physicians to the sickness funds. However, SHI physicians' remuneration remains subject to a ceiling, although allocation to the individual funds is on the basis of the treatment needs of their members in comparison with the amount in the preceding period.

Payment of fees

116. The regional associations of SHI physicians share overall remuneration among their members in accordance with the national Uniform Value Scale and the "fee allocation scales" agreed at the regional level with the sickness funds in the individual "fee allocation contracts". A maximum of points was established, which differed by disease groupings, and thus different specialized fields had different numbers of total points. If services above these ceilings were offered, the excess was remunerated at a lower point value. The more services offered, the lower the point value and, therefore, the payment. The aim was, on the one hand, to offer the physicians a stable price for a specified quantity of services and, on the other hand, to effectively reduce the incentive to increase volumes. At the same time, services outside the budget ceiling, such as immunizations or care of terminally ill patients, were agreed and financed.

117. Since January 2009, a practice-based volume of standard services has been calculated for each SHI physician and quarter. The volumes of standard services set the volume of services that a physician can bill in a defined period and that are payable under the Euro Fee Code (87 SGB V). The physician is notified of the prospective volume of standard services at the beginning of each quarter. The volumes of standard services differ from the expenditure

ceilings that previously applied in that the care requirements of the insured are taken into consideration not only with regard to the specific group of physicians but also to the individual practice. A volume of standard services is calculated by multiplying the case rate specific to the physicians group by the number of cases of the physician and the morbidity-based weighting factor. The number of cases that a physician can cover is subject to a quantity limit in advance. Cases that are above 50% of the specialist group average are only included in the calculation of the volume of standard services in a graduated form. If a physician exceeds the volume of standard services, this has a regressive effect on the amount that he or she receives for the service in question.

118. Prior to 2010, discretionary services were paid for out of morbidity-based overall remuneration, but without a volume limit, at fixed prices. As a result, the number of discretionary services, such as acupuncture and urgent house calls, steadily rose, leaving less money available for standard services. So that the extension of specialist physician services does not come at the expense of family physicians and vice versa, nearly all services paid for out of limited morbidity-based overall remuneration have since then been subject to a volume ceiling using qualification-based additional volumes (QZV).

119. The regional associations of SHI physicians can also create qualification-based additional volumes for services that were previously contained in the volume of regular services but only billed by some of the physicians in the group of physicians in question (for example, bronchoscopy or allergology). Fees for such services are specifically directed towards those physicians who provide such services. The case value surcharges (for example, for ultrasound and psychosomatics at GPs, radiology offered by specialists in other fields) have also been replaced by qualification-based additional volumes. Distribution volumes specific to groups of physicians were formed for volumes of standard services and qualification-based additional volumes to allocate fees as equitably as possible.

120. The regional association of SHI physicians and sickness funds have leeway at the regional level to decide the services for which they will form qualification-based additional volumes and how they calculate payment of these services. Each SHI physician is allotted a volume per quarter that consists of the volume of standard services allocated to the medical practice and any qualification-based additional volume allocated. It is based on the volume of services of the practice in the same quarter of the preceding year. The volume is a quantity limit up to which a practice receives payment for its services at the prices of the Uniform Value Scale. Volumes of standard services or qualification-based additional volume services are remunerated at a graduated price, which depends on how many standard services and qualification-based additional volume services all specialist physicians and family physicians have billed beyond these limits: 2% of the volume allocable to specialists and family physicians are set aside for payment of these services.

121. There are flexible offsetting possibilities between the volume of standard services and the qualification-based additional volume. If a practice does not exhaust its volume of standard services, correspondingly more qualification-based additional volume services can be billed at the prices set out in the Euro Fee Code, and vice versa. Services such as routine check-ups and ambulatory surgery that the sickness funds pay outside the morbidity-based overall remuneration are still paid for at the prices of the Euro Uniform Value Scale without limitation.

Acute hospitals

122. Since the Hospital Financing Act of 1972, hospitals have been financed by two different sources, with investments financed through the state (Länder) and running costs through the sickness funds, private health insurers, and self-paying patients. Sickness funds finance the majority of operating costs, including all costs for medical goods and personnel (with the exception of affiliated physicians and midwives). They also finance the replacement of assets with an average economic life of up to three years or maintenance and repair costs. Individual hospitals and the sickness funds negotiate the financing of running costs, which are primarily financed through DRGs. Starting in January 2004, all acute hospitals were required to gradually implement the German modification of the Australian Refined DRG system.

123. The DRGs are meant to cover medical treatment, nursing care, pharmaceuticals and therapeutic appliances as well as board and accommodation, but not capital costs. Additionally, contracting parties in the German system of self-governance are authorized to negotiate for reimbursements that are not covered by DRGs via supplementary fees for certain complex or cost-intensive services, and/or for very expensive drugs.

124. The stepwise introduction of DRGs represented an innovative approach to policy implementation, which has been characterized as a "learning spiral", outlining long-term roles, objectives and time frames but allowing governmental actors and corporatist organizations within the self-governance of SHI to issue and refine regulations and to further develop the German DRG (G-DRG) system on a continuous basis. The G-DRG system is used in all acute hospitals for all service types, and since 2013 also for care in departments of psychiatry, psychotherapy and psychosomatic medicine.

125. In the Case Fees Catalogue for 2012, there were 1148 DRGs with national uniform cost weights, 40 DRGs without national cost weights, and 150 supplementary fees. The 40 DRGs and 64 supplementary fees without national cost weights are individually negotiated with each hospital as they were excluded from the DRG national cost weights because their sample size was insufficient for calculation, or their cost variance was too large. In addition, the contracting parties have been authorized since 2005 to negotiate additional reimbursement by means of case-based or per diem remuneration for highly specialized services if it can be proved that the service in question cannot yet be appropriately reimbursed through DRGs or resolved using the supplementary fees section of the Case Fees Catalogue. In addition, there are a number of surcharges that are negotiated between the contracting parties and are especially relevant for university hospitals. For example, it is possible to negotiate surcharges for innovative diagnostic and treatment procedures and to even exclude certain special facilities and hospital departments completely from the G-DRG system and finance them through individually negotiated fees.

126. The uniformly weighted DRGs in addition to all reimbursement components outlined above and additional reimbursements for accompanying people, quality assurance, and he fee for the continuous development of the DRG payment system account for approximately 20% of the total reimbursement for non-psychiatric inpatient care. A political objective, however, is to reimburse hospitals solely through uniformly weighted DRGs. The regional

SHI Medical Review Boards regularly review the assignment of cases to DRGs and their respective service utilization. They send teams to randomly selected hospitals, which have to disclose their medical and coding practice. Case reviewing serves as a preventive measure against low-quality service provision, or "upcoding", which is a known threat to DRG systems. In instances where unintended upcoding is revealed, the hospitals must reimburse the corresponding revenues. If it is demonstrated that a hospital has intentionally used upcoding as a means to increase profits, then in addition to their reimbursement fee they are required to make a penalty payment equal to the sum of their reimbursement fee. Disputes are dealt with in joint arbitration committees at the state level.

Integrated care

127. German hospitals have traditionally concentrated on inpatient care, with strict separation from ambulatory care, although things have become more flexible in recent years now that hospitals are authorized to provide outpatient services and to participate in integrated care models and disease management programs (DMPs). New provisions for so-called integrated care were introduced as part of the SHI Reform Act of 2000. The aim of these provisions was to improve cooperation between ambulatory physicians and hospitals on the basis of contracts between sickness funds and individual providers or groups of providers belonging to different sectors. Because of legal and financial barriers, only a few initiatives were established on the basis of these legal provisions. With the SHI Modernization Act, in force from 2004, integrated care has been further strengthened and the rules of accountability have been clarified. Integrated care contracts do not need to extend across sectors now but have to involve at least different categories of providers within a sector, for example family physicians and long-term care providers. Integrated care contracts do not require the approval of the regional associations of SHI physicians.

128. In order to finance integrated care, sickness funds had a clear right (between 2004 and 2008) to deduct 1% of the resources for ambulatory physicians and hospital care once integrated care contracts had been concluded. These resources were only to be used for integrated care purposes in the respective region of the physicians' association and had to be paid back if not fully used. In addition, prescription volumes for pharmaceuticals and medical aids had to be adapted, taking the morbidity of the insured population in the integrated care contracts into account.

129. Integrated care contracts, therefore, constitute a new sector with new regulations and financial resources. In order for integrated care contracts to be initiated, sickness funds are required to negotiate selective contracts with single providers or a network of providers, for example physicians, hospitals, rehabilitative institutions or other health care professionals. While all of them need to be accredited within their sector, they may provide services across sectors within the scope of the integrated care contract (for example, a hospital may provide outpatient services if it has a joint contract with an ambulatory physician). In addition, the contracting parties of an integrated care contract may decide to take over the guarantee of service provision for the insured population from the regional associations of SHI physicians. The guarantee of service provision may be shifted to the participating sickness funds and/or to the contracted network of preferred providers.

Inpatient long-term care

130. The duty to guarantee access to professional ambulatory long-term care has been legally entrusted to long-term care funds that are responsible for administering the statutory long-term care scheme, while the states secure access to institutionalized care. In the case of long-term care, the principle of "dual financing" means that investment expenditure for institutional long-term care is to be financed by the states, while recurrent costs are financed by social or private long-term insurers. In contrast to SHI (where ambulatory private providers depreciate their investments via recurrent costs), the states may also finance investments for long-term care in the ambulatory sector. Professional long-term care in the ambulatory sector is paid on a fee-for-service basis, while institutionalized care is based on per diem charges.

Health care reforms of relevance to chronic disease

131. During the 2000s, Germany introduced various legal and regulatory measures to better address chronic diseases, although it has yet to develop an overarching, integrated national strategy that spans the continuum from health promotion and disease prevention to the management of complex conditions and palliative care. Currently, structured care or Disease Management Programs (DMPs), as introduced by the 2001 Risk Structure Compensation Reform Act, represent the principal regulatory and policy framework for chronic disease management in Germany. Indeed, the nationwide introduction of DMPs has been viewed as one of the most important developments with regard to the care of patients with chronic health problems in the German health care system (Ettelt et al., 2006).

132. Parallel developments aimed to strengthen integrated care from 2004, which enabled SHI funds to designate financial resources, totaling 1% of income, for selective contracting with single providers or networks of providers (Busse & Riesberg, 2004) - start-up funding (*Anschubfinanzierung*) that could only be used for integrated care contracts concluded by the end of 2008. First, strengthening GP-centered care through GP contracts intended to enhance coordination and continuity of care, and, ultimately, save costs by reducing duplication of services in the ambulatory care sector. Patients sign up voluntarily with a family doctor as the first point of contact for a period of at least one year; this was tied to financial incentives for the joining doctor. Since 2007, all SHI funds have to offer GP-centered care.

133. Second, the promotion of medical care centers aimed at enhancing care coordination through teams that typically include at least one GP but may also involve various specialists, nurses, pharmacists, psychotherapists and other health care professionals (Ettelt et al., 2006).

134. Third, since 2007, patients with chronic disease and older patients are entitled to receive care management following discharge from hospital. Providers and SHI funds are required to organize individual and suitable follow-up care, which can be provided through integrated care contracts or through regional contracts between the various actors. In addition, the legal framework provides opportunities to explore new approaches to care and treatment options through pilot projects and provisions for selective contracting in areas of special ambulatory care.

135. Finally, the regulatory framework further stipulates that citizens have the right to early detection of chronic disease. Since January 2008, SHI funds are required to inform their

members about all available preventive care measures, involving the issuing of a "prevention passport" to document counselling sessions on cancer screening when the recommended age for screening is reached.

Disease management programs

136. German DMPs are structured care approaches for people with chronic conditions that have been approved by the Federal Insurance Office. DMPs involve the coordinated treatment and care across different providers and on the basis of scientific and up-to-date evidence. The overarching aims of DMPs are to improve quality of care for people with chronic disease, in particular the prevention of long-term consequences and complications, and to ultimately reduce the costs of care.

137. DMPs are anchored in legislation, with the Federal Joint Committee tasked with the development of their content, while the Federal Insurance Office is responsible for the accreditation and oversight of programs. The implementation of DMPs has been limited to a selected set of common and costly conditions that require a coordinated approach to treatment and for which there are evidence-based clinical guidelines (Siering, 2008). Following these criteria, between 2003 and 2006 DMPs were introduced for six conditions: breast cancer, type 1 and type 2 diabetes, coronary heart disease, asthma, and COPD. A special module for chronic heart failure was recently added to the DMP for coronary heart disease.

138. DMPs are principally offered by SHI funds, based on contracts between SHI funds and providers, usually represented by the regional SHI physician associations. Participation in DMPs is voluntary for patients and providers. Physicians were initially opposed because of concerns about data confidentiality and interference with and restrictions on clinical decision-making (Siering, 2008). The DMPs offer incentives for providers and funders, and participating physicians receive financial compensation for, among other things, the documentation of patient data and patient education. Patients wishing to take part have to choose a physician (usually their family physician) who then acts as the coordinating physician.

139. The main strategies of DMPs involve elements of self-management support, delivery system design, decision support and clinical information systems:

- *Self-management support* involves access to a free education program which is usually composed of four to five 90-minute group sessions (Siering, 2008). Patients are followed up at regular intervals, with patient reminders for missed sessions. Some SHI funds offer telephone services to further support their members participating in DMPs.
- *Delivery system design* includes the coordination of three care levels: the coordinating physician, specialized medical care and inpatient care, with the conditions for referral between levels of care set out by regulation. For example, within the diabetes DMP, the coordinating physician should be a family physician, although in certain cases (for example, the doctor has already been treating the patient) this can be a specialist, for example, a cardiologist in coronary heart disease DMPs. Gynecologists usually act as coordinating physicians in the breast cancer DMP. Patient follow-up is ensured by the requirement to document a range of indicators (see below) at regular intervals of three to six months.

- *Decision support* involves the use of evidence-based clinical guidelines as developed by the Institute for Quality and Efficiency in Health Care (IQWiG). Participating physicians have to meet defined training standards and may have to attend further training to qualify for participation in a DMP. Providers are obliged to attend further training events or quality circles on a regular basis.
- *Clinical information systems* include the standardized documentation of the course of treatment, including information on a patient's condition and test results, medication regime, and agreed treatment goals. Data are submitted to the SHI funds and the DMP partners who produce quality reports. Providers receive feedback reports on a number of parameters including information on how their patient data compare with the average of all practices treating at least 10 DMP patients. Since 2008, it has been mandatory to use electronic documentation forms.

V. Policy recommendations

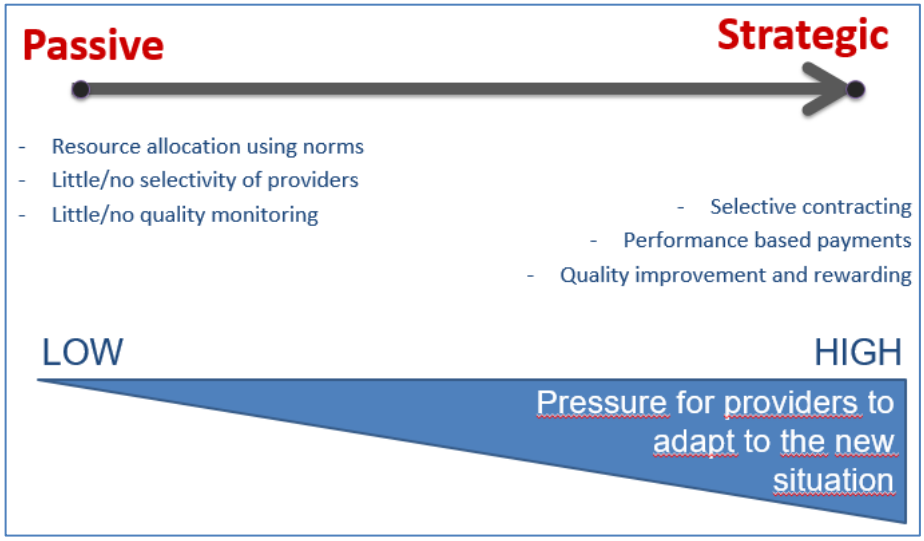
140. Given the importance of payment and organization on the cost, quality and equity of health care, evidence-based decision making is as important in the policy and management arena as it is in medicine (Kovner et al., 2001). In choosing among alternative methods for financing and organizing health care, it is critical for policymakers to have recent evidence on the impact of differing payment methods and organizational structures, and in particular on how these variables affect cost, quality and equity of health care. The previous section on international experience demonstrated a wide range of strategies used in other countries to contain costs and improve the accessibility and quality of care through financing mechanisms. It will be important to identify promising strategies and implementation requirements for Latvia through rigorous experimentation. The remaining sections of this review focuses on key areas where such experimentation would be critical.

Greater use of strategic purchasing to pursue broader health system objectives

141. Purchasing goes well beyond the mere contracting of providers by a purchaser. Citizens, their governments, and provider organizations all must play a central role as well. Purchasing entities allocate money to health care providers on behalf of patients for the exchange of health services. This includes a set of relationships (for example - purchaser – provider, government – purchaser, purchaser – patient) and a set of mechanisms (or "tools") to achieve certain objectives in the purchasing process, such as contracting, aligning incentives, and assessing health needs.

142. Strategic purchasing should lead to a maximization of overall health gain from available resources (that is, increased allocative efficiency) as it is depicted in Figure 2. Moving from passive to strategic purchasing in the Latvian context should include use of care pathways as a basis for contracting (see accompanying review of the benefits package and service delivery model), inclusion of quality in contracts (see review of quality assurance), incentives and rewards for performance improvement (see review of human resources) and more factors in risk adjustment in capitation formula as will be argued below.

Figure 1: Moving from passive to strategic purchasing



Care pathways as a basis for contracting

143. An integrated care pathway (also called clinical pathway) has been defined as "a multidisciplinary outline of anticipated care, placed in an appropriate time frame, to help a patient with a specific condition or set of symptoms move progressively through a clinical experience to positive outcomes" (Bandolier, 2011). Care pathways are also discussed in the review of the benefits package and service delivery model, and Appendix 3 presents an example from Australia for acute coronary syndrome. They are fundamentally important because they are able to improve efficiency and quality of care at the same time.

144. In the context of hospital payments for inpatient services, an episode of care would be the package of care provided between admission and discharge, and a clinical pathway might cover only part of the episode, or the entire episode from admission to discharge. It could even cover care that occurs in two or more settings. For example, a single clinical pathway could be used to cover pre-admission outpatient care for a pregnant woman, confinement in hospital, and post-discharge care for mother and baby. The best pathways cover as much of the required care as possible.

145. A well-designed pathway will usually make several references to discharge planning (see an example from the United States in Appendix 4). For example, the pathway could require possible discharge problems to be noted at the time of admission, investigations to be undertaken, and steps to be taken to overcome the potential problems. On each subsequent day of inpatient care, the pathway will prompt care providers to check whether the problems have been resolved, or whether new problems have occurred that could affect the discharge. On the last day of inpatient care, there is likely to be a checklist of issues that help ensures that primary care providers are ready for follow-up and that the patient has received and understands how to use discharge medications.

146. Care pathways can be used as the basis for contracting between a purchasing agency and a health care provider (such as a hospital). They can also be used to support selective contracting (where NHS invites competing bids for a particular type of service) because they accurately specify the likely costs of care and the quality of the service to be provided. Evidence shows that the correct use of care pathways is one of the best ways of improving cost-effectiveness and equity of service provision (Bernabei et al, 1998; Tummers et al, 2012). After an initial pilot exercise, the NHS could consider financial incentives to encourage adoption among providers in Latvia. For example, providers who assist in developing, implementing, and promoting a pathway could receive a financial award, or contracts could offer bonus payments for the correct use of a pathway. A randomized control trial could help identify the optimal form of such a bonus. For example, providers could be randomly divided into various groups: (i) a group that receives the average expected bonus upfront, which then gets adjusted (upward or downwards) based on actual performance at the end of the period and (ii) a group that receives the bonus at the end of the period based on actual performance. These bonus variants could be in turn implemented among groups that are randomly divided between (iii) those for whom the bonus is structured as a pure top up to current remuneration and (iv) those who have a portion of existing remuneration dependent on use of pathways. [12]

Quality of services specified in contracts

147. There are many ways of incorporating quality of service into contracts. Common approaches include requiring care providers to report incidents (often called adverse events), conducting opinions surveys of clients (patients), auditing a sample of providers by external inspectors, and prospective setting of standards of care provision (with a low level of external audit). Prospective setting of standards focuses on avoiding errors rather than punishing retroactively. In a well-run health system, this is done by specifying good methods of care in clinical practice guidelines and requiring care providers to implement the clinical practice guidelines using care pathways.

148. Current approaches to the management of quality are unsatisfactory in Latvia at present (see also review of quality assurance mechanisms). While GPs are entitled to annual additional payments based on the number of quality points reached (P4P scheme), there is scope for including additional items related to health prevention and for increasing access to primary care services. For example, under the assumption that GPs cannot reject new patients based on their pre-existing health conditions, GPs can be rewarded based on changes in the percentage of all of their patients who are not overweight or obese, the percentage of all patients with blood pressure that is under control, and the percentage of patients with normal cholesterol. This information can be reported by GPs themselves, and either the NHS or the Health Inspectorate can organize audit exercises to both assess the degree of misreporting and provide an incentive to report accurately. Ideally this information would be found in an electronic health record, however, as not only would this type of clinical information help predict which patients might require inpatient services

[12] A bonus scheme corresponding to what has been suggested for group (i) successfully improved test scores in poor performing schools in the United States (Fryer et al, 2012) more than a variant corresponding to group (ii). For more information on conducting randomized control trials for identifying effective social policies, including on how to cross cut groups (i) and (ii) with variants (iii) and (iv), please see Glennerster and Takavarasha (2013), Gertler et al (2010), and Haynes et al (2012).

when combined with usage patterns from the existing payment data, but it would also decrease reporting requirements for GPs.

149. A number of countries also include financial incentives for GPs for after-hours care. Denmark, for example, offers special fees for out-of-hours consultations, telephone consultations and home visits. In Belgium in 2002, a lump sum of €125 per 24-hour period was assigned to GPs on duty during the weekend or public holidays, while in the Netherlands, GPs can receive hourly compensation for after-hours care. While at first glance, such schemes may seem to require additional funding, it is important to consider that providing primary care services for such patients through emergency services or in hospitals, as is currently done, is a much more expensive method of maintaining access to services.

150. Key performance indicators and quality indicators that are linked to payment or accreditation for hospitals have not been developed yet. The set of indicators for hospital quality that the NHS currently posts on its website may be a good starting point.[13] Based on these indicators, the NHS could consider conducting a hospital benchmarking exercise and invite hospitals to discuss the results. Such consultations could help the NHS refine its quality indicators and at the same time initiate important discussions about quality improvement in hospitals. In the future, the focus would ideally be on encouraging care providers to manage their own quality by promoting a culture of continuous quality improvement. In the present, this process can be encouraged by providing clear rewards (financial incentives, an explicit quality rating) for providers who improve their cost-effectiveness and quality of care.

Incentives and rewards for performance improvement

151. The most important objective of any payment formula is to give incentives and rewards to care providers for improvement of their performance. We can never design and implement the ideal system, and the goal must be to empower and stimulate managers to seek continual improvements. An example of a payment method that does not encourage improvements in care provision is payment for each inpatient day of stay because it results in lengths of stay that are longer than necessary. Another example is where a lower payment is made if the patient is treated using same-day surgery when global evidence (Munnich et al., 2013) shows this is more cost-effective and results in better quality for many kinds of procedures.

152. Per case payments offer stronger incentives. However, there is a danger that hospitals will discharge patients too early and fail to provide diagnostic services that may be necessary. Latvia therefore should not solely rely on per case payments. Other features are

[13] Currently the NHS posts information about the following indicators: patient mortality within 30 days of hospitalization for acute myocardial infarction; patient mortality within 30 days of hospitalization with hemorrhagic or ischemic stroke; urgent rehospitalization in the same hospital within 30 days for patients with schizophrenia, schizoid disorders, or delusions; injuries following procedures or foreign objects left inside the body for every 100 discharges; post-operative pulmonary embolism or deep vein thrombosis for every 100 discharges; degree III and IV perineal tears for vaginal deliveries; number of patients and percentage of all births for cesarean deliveries and complications; average number of bed days for patients and average bed occupancy; and the proportion of hospital admissions from the casualty department.

essential, including the provision of specific financial incentives to improve quality of care. The initial emphasis could be on encouraging changes in methods of care that are both cost-saving and quality-enhancing – for example, the use of care pathways, reduced duplication of diagnostic services, and avoidance of drug prescriptions that could be unnecessary or dangerous.

Better risk adjustment

153. In Latvia, the capitation formula is very rudimentary, as it is based only on age (6 age groups: under the age of 1 year, 1 to 7 years, 7 to 18 years, 18 to 45 years, 45 to 65 years, 65 years and older). Clearly age is an important determinant of expenditure variations, as disease profiles vary across the lifecycle, but there are many other potential risk adjusters that are just as easy to measure. Factors that are typically included in risk adjustment formulas in different countries are listed below, some of which are already included in the set of fixed payments that also support GPs.

- *demography*: age and sex groups;
- *employment/disability status*: social security categories – for example, employed, permanently sick, temporarily unable to work, unemployed, pensioner (as in the Netherlands);
- *geographical location*: urban/remote status, population density, provider costs that vary geographically
- *morbidity and mortality*: mortality rates, low birth weight in infants, past diagnoses;
- *social factors*: homelessness, educational attainment, unemployment, welfare status, marital status, family structure, housing quality, housing tenure, cohabitation, income.

Better management of all sources of provider incomes

154. Often the purchaser or agency operating a health insurance scheme is not the only party making payments. For example, a local government might provide buildings at no cost, and patients might have to make co-payments. In Latvia, for example, out-of-pocket payments accounted for nearly 37 percent of total health expenditure in Latvia in 2014 (WDI, 2016).

155. It is important to consider the entire picture when designing the payment model for each purchaser. If only one source of payment is considered, there may be confusion later regarding the responsibility for payment. Moreover, if there are multiple payment sources, they might create conflicting incentives for care providers. In some countries, including Latvia, there may also be informal payments – payments made by patients that are not official and do not appear in the official accounts. This is undesirable because it means the payments cannot be managed in the interests of fairness and cost-effectiveness.

156. In the future, the aim should be to have a better understanding of all sources of providers' revenues. It will be difficult to ensure that the new method of per case payments through DRGs is having the desired effect if the payments cover only a part of providers' incomes. The change will be difficult to make and will require the collaboration of all concerned parties - not only government agencies from multiple sectors, care providers, and the clinical associations, but also consumer representatives.

157. Ideally, the NHS would observe all visits and manipulations, along with prices paid by patients, for all providers with an existing NHS contract, regardless of whether or not the NHS has paid for the service. With this information on the prices and volumes of non-contracted services, the NHS could estimate the total value of non-contracted (and privately financed) care and thus the fraction of provider payments contributed by the NHS for each service. If the NHS accounts for a small fraction of total payments for a particular service, then its influence through financial incentives may be limited. Currently, however, the NHS does not have access to this type information but rather only aggregated information on the total volume of non-contracted services (from the Center for Disease Prevention and Control) and total earnings for each provider (from the State Revenue Service).

158. If there is reason to believe that informal payments also provide strong financial incentives for providers, then the NHS or the Health Inspectorate may consider audit exercises through the use of unannounced standardized patients (see, for example, Das et al (2016)) or patient exit surveys.

Fuller implementation of DRGs

159. The introduction of per case payments through DRGs represents a major change in the way that Latvian hospitals are paid. First, a far more complicated classification will be applied and there could be more financial risks from a lack of understanding of the details. Second, payment rates will be fairer and will consequently increase the distinction between well-managed and poorly managed hospitals. Put another way, a hospital's revenue will more closely reflect the cost of good care. Third, the new payment method may have other features – such as more effective ways of auditing, and the introduction of new types of payment for intensive care and non-acute inpatient care – that would further increase the complexity and fairness of payments.

160. In Latvia hospitals are still payed through a combination of "earmarked service programs" and DRGs. 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. Under earmarked service programs, different clinical conditions (diagnoses) and different hospital services (procedures) are bundled into one program as shown in Table 5 below. As a result, hospitals performing only simple procedures are paid the same as those hospitals that perform the most complicated procedures. This single earmarked service program corresponds to 14 different DRGs.

Table 5: Diagnoses and procedures associated with the hepatobiliary program in Latvia

Name of the program	Diagnosis	Procedure
Hepatobiliary surgery	B18.0; B67.0; B67.3; B67.5; B67.6; B67.8; C22.0-C22.2; C22.7; C22.9; C24; C78.7; K75.0; K76.0; K76.8; K83.0-K83.3	60070 + 21015; 60070 + 21021; 60070 + 21046; 60070 + 21066; 60070 + 21068; 60070 + 21079; 60070 + 24126; 60070 + 30058; 60070 + 50118; 60070 + 50130; 60,070 + 50,144 to 50,146; 60070 + 50720; 60070 + 50724

161. Fuller implementation of the DRG system and cancellation of earmarked service programs would provide fairer payment conditions for all hospitals, as would extending DRGs to surgical services in day hospitals. More complete DRG implementation also means

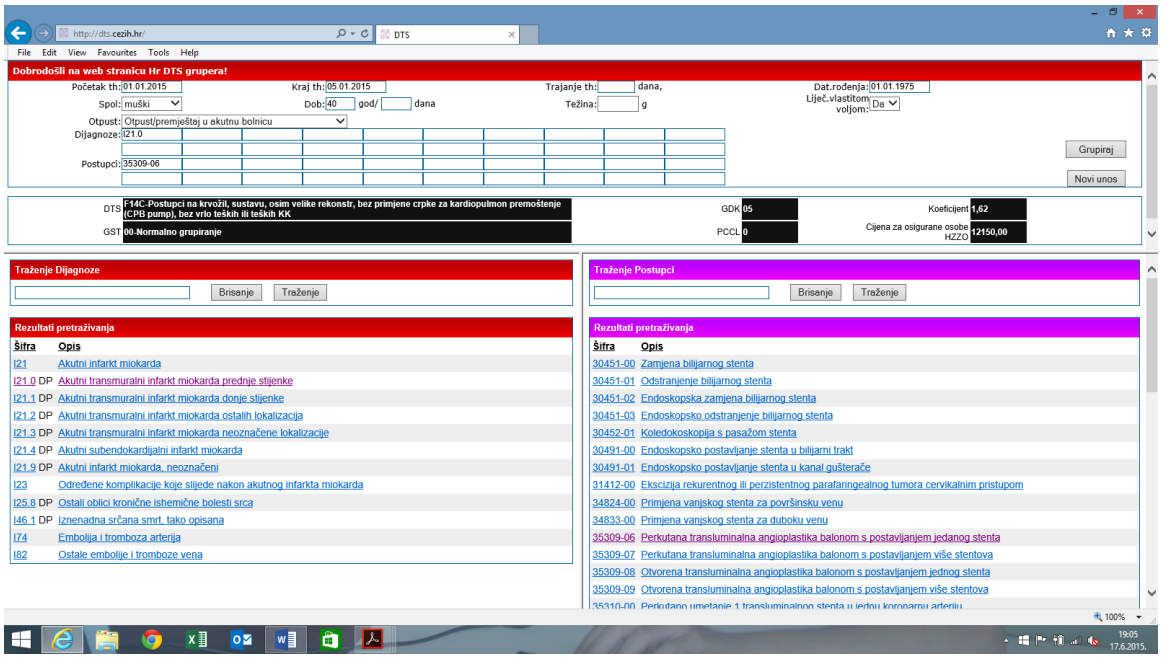
creating prices based on the costs of cases treated by hospitals, which entails costing and data collection and the development of a base/reference price and DRG price list. Countries that are just starting out on DRGs, however, usually borrow cost-weights from another environment which is deemed to best resemble their inpatient care costing structure. The development of national cost-weights from first principles at the beginning of a DRG implementation program is generally not feasible as it requires the ability to allocate actual expenditures accurately to each case that is assigned to a particular DRG and then relating the costs of all DRGs to one another in order to build a cost-weight index.

162. Latvia may also benefit from implementing additional instruments alongside DRGs, such as the following:

- *rules for admission*, given the risk that patients could be admitted without good reason when a more cost-effective alternative (for example, outpatient clinic care or home care) is available;
- *rules for readmission*, when it is possible to combine two stays and the payment of one patient into one;
- *additional fees or reduction of payments* according to DRG-specific calculated length of stays (Upper Length of Stay Margin and Lower Length of Stay Margin);
- *adjustment for transfers*, where payments for some DRGs may be reduced following relocation from one hospital to another; and
- *fees for high cost patients* (outliers).

163. Another critical parallel activity to further DRG implementation would be the development of an interactive mode of the grouper software ("grouper"). Currently in Latvia, only batch mode of the DRG grouper is currently available. With an interactive grouper, a user can enter the data for a case directly to a data entry screen and obtain immediate onscreen feedback on the DRG assignment or on problems with the source data, which facilitates DRG education and improves familiarity with the new system. An interactive screen of the Croatian DRG Grouper is shown in Figure 2. Note the box on the left side labeled "GST." This displays a code indicating the type of error if the assignment process cannot be completed. Note also the box labeled „Grupiraj" in the upper right part of the screen. This box allows the user to activate the grouping process, save and report the results.

Figure 2: The interactive screen for a Croation DRG grouper



164. Implementing per case payment by DRG will provide an opportunity to make much-needed improvements in reporting. The DRG system provides valuable data that can be used for the analysis of hospital inpatient episodes of care across the hospital system. This data would allow external agencies (and citizens at large) to judge for themselves the efficiency and quality of care that is being provided. The data can be also used for producing the following information:
    - comparisons of DRGs and procedures across hospitals;
    - clinical profiles by procedures, diagnosis, patient age and outcome; and
    - reporting and benchmarking efficiency.

165. It is important to note, however, that great care is needed when designing or redesigning reporting systems. Mistakes, once made, are often hard to correct, and all changes in reporting requirements are expensive to make. The most significant cost, however, is the time that health care staff must consume in order to collect and record the information. At present, Latvian providers are required to provide a large amount of data to NHS and CDPC. Key informant interviews with individual physicians and representatives from the physicians' associations suggest that providers are unaware of how such data are being used.

Different payment methods for different types of care

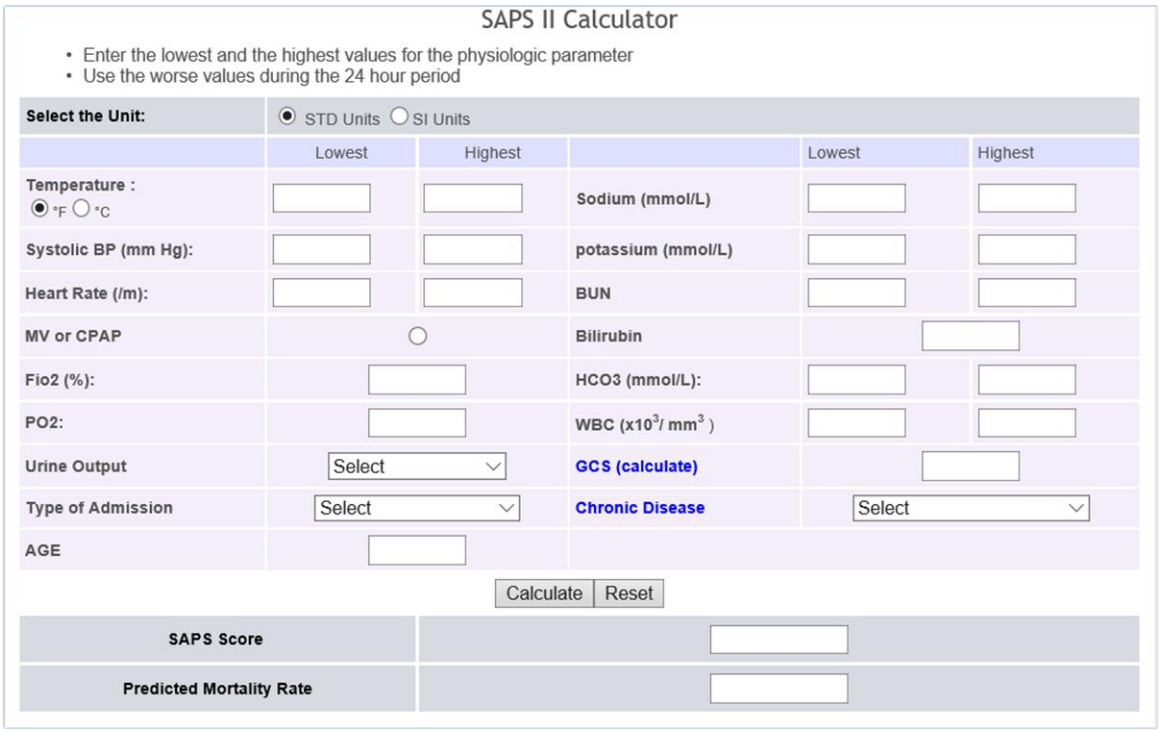
Intensive care

166. In some health systems, intensive care (ICU care) is treated as a component of the per case payment by DRG. This makes sense in some respects. Acute inpatient episodes include drugs costs, nursing costs, and so on – and they are not paid separately. However, in many hospital systems, ICU care is paid separately – and the DRG payment excludes any ICU costs.

In Latvia, currently only mechanical ventilation is separately paid for care patients who require prolonged ventilation.

167. There are two main reasons why it might be wise to pay separately for ICU care more generally in Latvian hospitals. First, separate payments could help manage ICU care better. When funding is not separate, it could be much more difficult to create specific incentives for improvement. Second, separation would help make payments to hospitals fairer. All hospitals do not have the same intensive care capabilities, and they do not treat the same types of patients who need ICU care. The best way to ensure fair payments for intensive care is to know the extent to which patients really need intensive care (and actually received it). In many countries, this is done by analysis of Acute Physiology and Chronic Health Evaluation (APACHE) or a Simplified Acute Physiology Score (SAPS) at admission and discharge to intensive care.

Figure 3: SAPS II calculator



168. The SAPS II calculator is shown in Figure 3. It is a clinically valid way of assessing the need for intensive care and is used in most well-managed health systems around the world.[14] Recording this information is clinically necessary, and therefore data for monitoring and payment of intensive care can be by-products of good clinical care. In other words, the APACHE or SAPS scores will allow NHS and the Ministry of Health to understand the kinds of intensive care that are actually being provided – and hence to decide how the available

[14] For example, Germany, Denmark, Finland, Netherlands, Belgium, France, Poland, United Kingdom, Italy, Spain, Portugal, and Croatia.

funds should be distributed among hospitals. The data will also allow the efficiency and effectiveness of intensive care to be measured. To see this, it is worth considering testing the APACHE or SAPS II instrument (or any other internationally recognized scoring system) among a random sample of hospitals.

Non-acute inpatient care

169. Another important subgroup of inpatients are the 'non-acute' or 'sub-acute'. They occupy a bed for one or more days, but they only need basic nursing and support for activities of daily living, and therefore could probably be provided with care in another setting – such as at home with home nursing support. At present, there is no formal distinction between this type of patient and acute inpatient episodes of care within Latvian hospitals, even though there are specific services for this type of patient, including "care in a care hospital or care bed" and ambulatory home care. This potentially leads to several problems:
    - a shortage of information for health sector planning because this subgroup of inpatients is not separately distinguished
    - inequitable funding for non-acute inpatient care, which could translate into unequal access to care for patients.

170. There are several approaches to deal with this issue that could be taken in Latvia. One is simply to ignore the issue and hope that the financial incentives for reduced inpatient care will encourage hospitals to transfer non-acute inpatient care to other care settings. As demand grows, there could be increased pressure to increase the availability of non-hospital care.

171. A second option would involve making strategic decisions to shift resources from hospital to non-hospital services. For example, NHS could decide to reduce hospital payment levels and transfer the savings to non-hospital services. A target could be set of a 5% shift per year for five years, for example.

172. A third option would involve starting a process of counting non-acute inpatient care services, on the assumption that a better understanding will support better decisions about resource allocation. This would not be an attractive option, however, if better information would require several years of study.

173. An approach used in many hospital systems applies the idea of *category change*, which involves recording the end of one type of episode of care and the start of another while the patient remains hospitalized. For example, in Slovenia all acute patients are statistically converted to long-term patients after 20 days of hospital stay. To see how this works, consider a case of an elderly patient who is admitted with a fracture due to a fall and has an acute inpatient episode lasting two days. After that, the responsible doctor believes it is no longer essential for her to be in hospital from a clinical point of view. However, she does remain in hospital because she would need home nursing which will not be available for four days. Using the idea of category change, the acute inpatient episode ends after two days. But the patient is then immediately admitted (as a statistical admission) as a non-acute inpatient care patient for four days. Thus the patient would count as two days of acute inpatient care (categorized by DRG) and a separate non-acute inpatient care episode

of four days. Each is counted separately, and each is paid separately. The sample principle can be applied to the circumstance where a patient is admitted for acute inpatient care and then remains in hospital for rehabilitation or palliative care.

Mental health care

174. Funding of hospital services on an activity basis where ever practicable has led to the development of different methods of payment for mental health care. In the United States, for example, Medicare (publicly financed insurance primarily for the elderly) introduced the use of DRG payments in 1983 but exempted specialty psychiatry inpatient care until 2005. Within single diagnostic categories, clinical need varied substantially, and DRGs could not reliably predict resource needs during a hospital stay or length of stay (Lien, 2001; Goldman and Grob, 2006). Because hospitals faced the possibility of considerable financial losses with unanticipated lengths of stay and clinical need, Medicare administrators also worried that that diagnoses could be altered or even falsified via "upcoding" to better remunerated conditions.

175. Payment for Results (P4R) is being pursued as a policy for commissioning mental health care in some European countries. For example, the new payment model for mental health care in England is based on a model of care clusters (Self et al 2008), where people needing mental health support are grouped based on their needs. There are three super clusters of these groupings, namely non-psychotic (clusters 1-8), psychotic (clusters 10-17), and organic (clusters 18-21). Allocation to the clusters is based on assessment using the Mental Health Clustering Tool, a framework of items based on the Health of the Nation Outcomes Scale (HoNOS) (Wing et al 1999) with additional questions. The mental health care clusters and the Mental Health Clustering Tool are presented in Appendix 5.

176. Latvia should undertake studies in consultation with care providers from all types of hospitals, and especially with staff who are involved in mental health care. In due course, this will allow a method of separate payment to be developed and implemented. However, a less complicated approach may need to be used in the initial stages of implementation of per case payments by DRG.

Rehabilitation

177. In Latvia, the International Classification of Functioning, Disability and Health (ICF) is used for an assessment of the degree of disability. Because ICF is not a measurement instrument, and it is not internationally recognized as payment tool, consultations should be initiated with rehabilitation care providers to develop a strategy for payment changes that will improve cost-effectiveness and equity of service provision. It is likely to involve evaluating and then selecting for adaptation one of the internationally used payment classifications such as Function Related Groups or the Sub-acute and Non-acute Patient Classification. Similarly, the strategy should also include selecting and adapting one of the standard measures of need for rehabilitation, such as the Functional Impairment Measure. Payment could then be a mix of per day, per visit, and per case depending on the circumstances.

Palliative care

178. Much work will be needed over several years to establish integrated services across the country for palliative care in Latvia. There are a few payment classifications in use in various countries, but no international standard has emerged. The same may be said of measures of need for care. In the near future, consultations should be initiated with palliative care providers to develop a strategy for payment changes that will improve cost-effectiveness and equity of service provision. It will be necessary to pay considerable attention to organization of services. International experience suggests that a good model involves establishing regional units that are able to coordinate or provide integrated care in a mix of settings from hospital to the home. In the short term, inpatient palliative care will likely remain a component of acute inpatient care paid on a per case basis by DRGs.

Distinct payments for high-level (tertiary) hospitals

179. In all countries, including Latvia, there is a set of hospitals that is intended to provide complicated treatments requiring the use of specialized equipment, technologies, and clinical staff. Because of their specialized facilities and staff, these hospitals usually play a major role in the education of clinical staff (especially doctors). They also play a major role in research related to clinical and health services. They are sometimes called 'tertiary' hospitals because they receive referrals of complicated cases from other less specialized (secondary) hospitals and from primary care providers. They are sometimes also called “teaching“ or “referral“ hospitals and, in a few countries, “academic medical centers“

180. DRG classification does not explain all of the higher costs per treated patient of tertiary hospitals. Most of their higher costs are indeed explained by DRGs – they have more cases with significant comorbidities and complication and more cases in the high-cost DRGs, such as organ transplants. However, a significant proportion of their costs remains unexplained, and this is found to be the case in all countries.

181. There are four additional factors that may need to be taken into account for payment purposes: hospital care for children, research, teaching, and “tertiary complexity.” Each one should be carefully defined, measured, and purchased in a transparent way.

Hospital care for children

182. DRG payments may require adaptation for use in the Children’s Hospital of Latvia. In general, DRGs do not work well for this type of care for a number of reasons. Average costs would likely underestimate the cost of pediatric care. Children require more nurses, for example, and more labor intensive services since staff must often perform certain therapies directly on children rather than teaching them to do it on their own. Many patients are transfers-in, which tend to have higher costs for a given DRG category (National Association of Children’s Hospitals and Related Institutions, 2010) and high outliers in terms of costs and lengths of stay.

183. To deal with these issues in Latvia, there are a few options. One approach would be to modify the existing DRG system with a blanket premium for pediatric care. Croatia, for example, has introduced an additional payment corresponding to 20 percent of the price of

the service for every patient below 18 years of age. Another approach would be to use the data coming from the current DRG system to incrementally adapt DRGs for children. An empirical study using pediatric cases from 34 children's hospitals and more than 250 other institutions suggests that such adapted DRGs can better explain variance in length of stay (Lichtig et al, 1989).

Separate payments for research

184. Tertiary hospitals might play a larger than average role in clinical and health services research. In most countries, including Latvia, they receive additional funding for some of their research activities. However, the additional funding might not cover all the costs (for example, overheads). Moreover, there is usually a significant part of research activity that is not funded from specific grants.

185. If research is not separately funded, its costs will have to be met from payments made to the hospital for its patient care – thus making the hospital appear excessively expensive. There is, of course, the option of discouraging hospitals from undertaking so much research and especially research that is not separately funded and therefore not subject to careful peer review. A related issue is whether the costs of research should be routinely measured and reported. If they are partly unknown, estimates of patient care costs will be imprecise.

186. Latvia should undertake studies in consultation with care providers from all types of hospitals, and especially with staff who are frequently involved in research. In due course, this will allow a method of separate payment to be developed and implemented.

Separate payments for teaching

187. Tertiary hospitals are almost certain to play a larger than average role in clinical staff education (which we will call teaching here). Note that there are three main components of teaching costs: the costs of the teachers, the costs of trainees, and what are usually called "indirect teaching costs" – which are mainly costs associated with inefficiencies due to the involvement of trainees in patient care. For example, many studies have shown that medical trainees order many more diagnostic tests than experienced doctors.

188. The problems are much the same as for research. In virtually all countries, including Latvia, tertiary hospitals receive additional funding for some of their teaching activities. However, the additional funding might not cover all the costs, and costs may therefore be met from payments made to the hospital for its patient care. Again, steps could be taken to reduce the costs of teaching – for example, by encouraging hospitals to control the diagnostic ordering practices of junior doctors.

189. As with funding research, studies in consultation with care providers from all types of hospitals, and especially with staff who are frequently involved in teaching would help in the development of a separate payment for teaching.

Separate payments for tertiary severity

190. Besides research and teaching, there are other factors that cause tertiary hospitals to be more expensive than other hospitals, and these additional costs are not described by output

classifications like DRGs or the presence of intensive care, or the additional teaching and research activities they undertake. The unexplained costs are likely a consequence of several factors: higher complexity or severity of illness than is indicated by a patient's DRG or by admission to an intensive care unit, the employment of highly specialized staff and equipment, and service capacity that cannot be fully used because of low and fluctuating volumes.

191. The main design decision is whether the outputs of tertiary hospitals should be unbundled and precisely identified and funded through explicit contracts. If so, there will have to be surveys of costs. If not, there will continue to be confusion and debate as to whether tertiary hospitals should be paid more or less. The debate has often been bitter in other countries. In the absence of evidence, tertiary hospitals will argue they are under-funded given the higher complexity of their patients and their claimed better quality of care. Other hospitals will argue that the tertiary hospitals are over-funded and that their additional costs for the same products are a consequence of their wasteful practices.

More systematic use of monitoring and audit

192. As discussed in the accompanying review of quality assurance mechanisms, the Latvian health system would benefit from more frequent and in-depth monitoring of quality of care. Similarly, better monitoring would also help gauge whether provider payment methods are providing appropriate incentives for hospital admissions and accurate billing.

Controlling hospital admissions by retrospective auditing of appropriateness

193. There will always be a risk that inpatient care might be provided when there was a more cost-effective alternative – such as outpatient clinic care or home care. The level of inappropriate admissions has not been measured in Latvia. It is therefore likely that audits will be required in future. If so, an instrument like the European version of the Appropriateness Evaluation Protocol (AEP) can be considered because it is the most widely used. The structure of the AEP is shown in Appendix 6 with an example for general acute inpatient care, but there are also special versions for pediatrics, obstetrics, and mental illness. A small test of the AEP in the near future among a sample of hospitals will give an indication of the overall magnitude of the problem in addition to its distribution across departments. Corrective measures might include an update of admission guidelines (with explicit criteria when a non-emergency admission will be eligible for reimbursement) and provision of basic training in admission practices.

Controlling categorization of acute inpatient episodes (DRG assignment)

194. Using DRGs as a payment method may lead to less than anticipated cost-containment if providers incorrectly classify acute inpatient episodes – for example, claiming the patient belonged to a DRG with a higher cost weight. To minimize this kind of misreporting, there are a few processes that may need to be audited. First, there could be incorrect *recording* of diagnoses and procedures used for DRG assignment. Second, there could also be incorrect *coding* of diagnoses and procedures used for DRG assignment (including selection of the principal diagnosis).These risks are closely related and can be managed by a single audit process. The main tool should be pattern monitoring (looking for unusual trends in a

hospital or large differences between similar hospitals) supported by chart audits (looking in detail at a sample of individual patient records).

Pattern monitoring

195. The main idea behind pattern monitoring is that the current situation should resemble the past, and therefore recent changes may suggest the process (in this case, clinical coding) has gone out of control. Such shifts should be identified as early as and routinely as possible, and therefore pattern monitoring is usually based on data that are routinely provided by hospitals to a central agency for other reasons. In the case of Latvia, this data would be the data sent routinely to NHS for payment purposes. Table 6 presents a starting list of reports that might be routinely generated for analysis. Note that the list is merely illustrative. The purpose of generating the tables is to suggest where there might be the most coding problems. Local knowledge will be crucial in this respect: important problems in one health system might be unimportant in another, and this year's priority problems may have been resolved by next year. These tables should be routinely generated for other reasons. Hospitals should generate their own reports, but the most useful approach involves the production of multi-hospital reports by a central agency (such as NHS) so that each hospital can compare itself with other similar hospitals.

Table 6: Examples of reports required for pattern monitoring

Report		Aspect of interest
1	Trends in length of stay (LOS) by diagnostic related group (DRG) within a hospital	Sudden changes in hospital's LOS for high-volume DRGs
2	LOS by DRG across hospitals	Differences in hospital's LOS for high-volume DRGs compared with other hospitals
3	Trends in same-day cases by DRG within a hospital	Sudden changes in hospital's % of same-day cases for high-volume DRGs
4	Same-day cases by DRG across hospitals	Differences in hospital's % of same-day cases for high-volume DRGs compared with other hospitals
5	Cost-weighted output trends	Sudden change in average cost weight of patients
6	Trends in cases with complicating or comorbid conditions (CCs)	% of cases in high-volume DRGs that have CCs
7	Trends in cases in edit DRGs	Sudden changes in % of total cases in each edit DRG
8	Trends in number of diagnoses within a hospital	Sudden changes in number of diagnoses per case for high-volume or high-cost DRGs
9	Comparative number of diagnoses across hospitals	Differences in number of diagnoses per case for high-volume DRGs compared with other hospitals
10	Trends in number of procedures within a hospital	Sudden changes in number of procedures per case for high-volume DRGs compared with other hospitals
11	Comparative number of procedures across hospitals	Differences in number of procedures per case for high-volume DRGs compared with other hospitals
12	Trends in complication rates within a hospital	Sudden changes in % of cases with complications as indicated by ICD-10 diagnosis codes
13	Comparative levels of complication rates across hospitals	% of cases with complications as indicated by ICD-10 diagnosis codes, compared with similar hospitals

Chart audit

196. Chart audits require examining data generated by a hospital during an episode of care. Most of the required data are stored in the patient's file or medical chart. Ideally, this kind of auditing would be a regular activity with one round every six months. Each chart audit would entail five basic steps:

- *Step 1: Specifying the target records:* Pattern monitoring will indicate those aspects of DRG assignment – in particular, the cases - that deserve most attention and the departments in the hospital that should be subjected to the highest level of inspection.
- *Step 2: Informing the departments of the intended audit*: It is important that the auditors inform the provider of the reason for the audit, including explanation of the concerns – why the provider was selected. The provider should also be asked to make sure that the selected patient files would be available when the auditors arrive.
- *Step 3: An analysis of patient files:* The audit staff should extract data from the patient files without looking at the data that were extracted previously by the department's staff. In other words, the audit coding should be "blinded" to avoid being steered by what the department's own staff have done.
- *Step 4: A report of the results:* The main purpose is to provide feedback to providers so they can avoid mistakes in the future, rather than to punish them.
- *Step 5: Feedback:* This serves as a training opportunity, but it can also uncover cases where the auditors rather than the routine coders made mistakes, or where a case was so complicated that both answers could be considered correct

Payment reforms of relevance to chronic diseases

185. As described earlier, several European countries have devised a variety of policy responses in an attempt to improve care for chronically ill patients and reduce the costs of care. While prevention policies are widespread, a newer initiative in Europe is chronic care management.

186. In a number of countries, the introduction of new approaches to enhance the care for people with chronic conditions has involved additional funding in the form of start-up funding to support infrastructure development (for example, administrative structures). These funds can be targeted at payers - for example, municipalities in Denmark; integrated care pilots in England; or integrated care contracts in Germany. In some cases, they have supported providers, such as in the case of provider networks in France. Typically, however, new approaches would involve some form of financial incentive for care, most frequently targeting individual providers or physicians, such as within disease management programs (DMPs) in Austria and Germany, provider networks in France, care groups in the Netherlands and Italy or GP practices in the United Kingdom and Denmark. Incentives for patients are also being used, but these are less common.

187. In Latvia, the NHS may consider piloting disease management programs linked to payments for priority chronic diseases in Latvia in the near future. Appendix 7 contains a sample form from Australia, which would ideally would be both filled out and submitted electronically. As can be seen from the fields in the form, DMPs also offer an opportunity to advance health promotion and prevention objectives through primary care services. For smokers, for example, the plan could focus on various smoking cessation strategies, while for the overweight or obese patients, the plan could contain various dietary and lifestyle changes, along with targets to measure success.

188. When implementing DMPs, the NHS could contract a consortium of providers (for example – a GP, specialist, and hospital) , where the contract in its entirety would need to define, for each provider in the chain, the levels of service to be delivered, the standards of care, the exact responsibilities of each provide, the mechanism for transferring patients,

and the administrative arrangements to cover the payment processes, communication, and processes for resolving disputes. The responsibility of each provider and the point of transfer to another provider would have to be exactly defined. An approach to minimizing uncertainty in this regard is to have agreed-on and well-defined protocols that map the patient's journey and clarify the role of each provider in it (that is, clinical pathways).

Summary

189. This section has discussed the key areas within the domain of provider payments that Latvia may wish to target for future reforms. Table 7 summarizes problems identified in this review and lists potential solutions, along with enabling actions that could facilitate their implementation. The order of the recommendations listed in the table represents a suggested prioritization that takes into account both the importance of the issue and the feasibility of immediate implementation with limited additional financial outlays.

Table 7: Pr oblems, potential solutions, and enabling actions

	Issue	Problem	Potential solution(s)	Enabling actions
1	Purchasing efficiency	NHS is still a passive, rather than strategic, purchaser	• Adding the following elements to contracting: (i) Adherence to clinical guidelines and care pathways (ii) Achievement of minimum quality criteria (iii) Incentives and rewards for performance improvement • Inclusion of more factors in risk adjustment in capitation formula.	1.Adaptation of standards, clinical guidelines, and pathways from international experience (e.g. NICE guidelines of the UK), starting with two or three diseases from priority diseases. 2. Experimental pilots (i.e. randomized control trials) among GPs, specialists, and hospitals to (i) test impact of clinical guidelines and pathways and compare modalities of implementation and (ii) troubleshoot implementation problems prior to scale up. 3. Identification of additional aspects of quality that can be easily measured by the NHS or an independent organization that can be routinely used as basis for contracting for both individual providers, outpatient facilities, and hospitals. 4. Identification of additional elements that can be used to make more accurate risk adjustments and an internal process (within the NHS) to maintain a database of information generated by the health system necessary for the revised risk adjustment 5. Data sharing agreements with other governmental departments in order to use socio-economic information (e.g. employment status, disability status, educational status, family structure, and income) for more accurate risk adjustment
2	Accountability	Potentially weak incentives from current contracts due to multiple sources of income for health care providers	• Consideration of all payment sources when designing the payment model for each provider.	1. Data collection of FTE working days and total income for each provider in each institution. 2. Systematic collection of information on multi-practice among physicians and nurses through both reporting requirements and consultation of all concerned parties: government agencies, care providers, clinical associations, and consumer representatives. Systematic collection of patient payments for all services (both contracted and non-contracted) by manipulation, including a protocol for auditing this data.
3	Purchasing efficiency	Incentives for prevention and management of chronic illnesses are weak	Development of Disease management programmes (DMP) in which GP acts as principal provider or care coordinator	1. Selection of two to three conditions for pilots 2. Development of basic template of a DMP for Latvia and how this information can be reported to the NHS 3. Experimental pilots among providers for select conditions.

	Issue	Problem	Potential solution(s)	Enabling actions
4	Payment mechanism	Current classification system is complex and possibly unfair, which could lead to financial risks, poor hospital managment, and inappropriate incentives for transfering patients to other facilities	• Cancellation of earmarked service programmes • Fuller implementation of DRGs and additional instruments accompanying DRGs	1. Improvement of costing and data collection, development of national cost-weights, development of a DRG base/reference price 2. Development of interactive mode of DRG software ("grouper") for easy use among providers 3. Extension of DRGs to payments for surgical services of day hospitals 4. Consultations among physicians, hospital managers, and relevant associations on implementation of additional instruments accompanying DRGs: • Rules for admission, rules for readmission • Additional fees or reduction of payments according to the DRG specific calculated length of stays • Adjustment of payments for some DRGs in the case of transfers • Fees for high cost patients
5	Costing	Current prices for various types of inpatient care may not reflect true costs	Development of new payment methods for: • Intensive care • Non-acute inpatient care • Mental health care • Rehabilitation • Palliative care	Consultations among current providers, hospital managers, and relevant associations to draft new payment classifications and develop a strategy for payment changes.
6	Costing	DRGs do not explain all of the costs of tertiary care.	Introduce separate payments for: • Research • Teaching • Tertiary severity	Consultations among current providers, hospital managers, and relevant associations to draft new payment classifications and develop a strategy for payment changes

	Issue	Problem	Potential solution(s)	Enabling actions
7	Monitoring and audits	Data from monitoring and audit activities are not systematically used	• Controlling hospital admissions by retrospective auditing of appropriateness • Controlling categorization of acute inpatient episodes (DRG assignment) through pattern monitoring and chart audits.	Piloting of pattern monitoring and chart audits among a sample of hospitals.

190. The development of clinical guidelines and clinical pathways and a method for linking them to provider payments should be considered one of the highest priorities for the health sector in Latvia. These guidelines and pathways would not only be a crucial component of quality assurance but they would also help anchor the benefits package and service delivery model to medical need, rather than the vagaries of a budget determined outside the health sector. Linking them to provider payments would help ensure their implementation. Given that the development of clinical guidelines has been relatively decentralized so far and that the NHS does not endorse the guidelines that have been developed nor commit to fund any of their elements, acting on this recommendation would likely require an entirely new effort with a multidisciplinary team with a mandate to consult various stakeholders within Latvia, adapt guidelines and pathways in use elsewhere (for example, the NICE guidelines from the United Kingdom) for use in Latvia, and identify indicators from the NHS payment databases that would trigger payments. This process, along with pilots to make refinements prior to nationwide scale-up, could easily require a time allocation of more than 2 years.

191. Given Latvia's heavy disease burden from non-communicable diseases, disease management programs would be a promising option to pilot in the near future, and a couple of these could conceivably be developed in conjunction with clinical guidelines and pathways.

192. More immediately, it should be possible to incorporate additional variables for risk adjustment in the capitation formula and for the existing quality-bonus scheme among GPs, provided that the NHS can easily enter into data sharing agreements with the Central Statistical Bureau and the State Revenue Service.

193. As argued earlier, financial incentives for providers need to take into account all sources of payment for the services rendered. One suggestion would be to collect data on all services from all providers with an NHS contract, regardless of whether or not the NHS has paid for the service. As this might double the volume of data that the NHS receives on a daily basis, such a recommendation would require additional server space and a team dedicated to the analysis of the data on non-contracted services.

194. After the development of clinical guidelines and pathways, the next major priority would be more complete implementation of the DRG system of hospital payments. To do this, the NHS would likely need to purchase technical assistance for improving costing and data collection, developing of national cost-weights, and estimating appropriate DRG base/reference prices, along with support for developing separate payments for different types of care, such as intensive care, care for mental health patients, and care provided in tertiary settings. Solving these issues would also require substantial stakeholder consultation, and again, ideally a separate and dedicated team within both the NHS and the Ministry of Health would be responsible for these activities.

195. Finally, the NHS and the Health Inspectorate could collaborate more on monitoring and auditing activities to ensure that the current system of provider payments is achieving its objectives of promoting access to high quality care and containing costs.

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Appendix 1: Examples of pay for performance programs

Quality and Outcomes Framework

Clinical domain

Atrial fibrillation (AF)

Indicator	Points	Achievement thresholds
Records		
AF001. The contractor establishes and maintains a register of patients with atrial fibrillation	5	
Ongoing management		
AF005. In those patients with atrial fibrillation in whom there is a record of a CHADS2 score of 1, the percentage of patients who are currently treated with anti-coagulation drug therapy or anti-platelet therapy. Based on NICE 2011 menu ID: NM45	6	57-97%
AF004. In those patients with atrial fibrillation whose latest record of a CHADS2 score is greater than 1, the percentage of patients who are currently treated with anti-coagulation therapy. Based on NICE 2011 menu ID: NM46	6	40-70%

Secondary prevention of coronary heart disease (CHD)

Indicator	Points	Achievement thresholds
Records		
CHD001. The contractor establishes and maintains a register of patients with coronary heart disease	4	
Ongoing management		
CHD002. The percentage of patients with coronary heart disease in whom the last blood pressure reading (measured in the preceding 12 months) is 150/90 mmHg or less	17	53-93%
CHD005. The percentage of patients with coronary heart disease with a record in the preceding 12 months that aspirin, an alternative anti-platelet therapy, or an anti-coagulant is being taken	7	56-96%
CHD006. The percentage of patients with a history of myocardial infarction (on or after 1 April 2011) currently treated with an ACE-I (or ARB if ACE-I intolerant), aspirin or an alternative anti-platelet therapy, beta-blocker and statin.	10	60-100%
CHD007. The percentage of patients with coronary heart disease who have had influenza immunisation in the preceding 1 August to 31 March	7	56-96%

Heart failure (HF)

Indicator	Points	Achievement thresholds
Records		
HF001. The contractor establishes and maintains a register of patients with heart failure	4	
Initial diagnosis		
HF002. The percentage of patients with a diagnosis of heart failure (diagnosed on or after 1 April 2006) which has been confirmed by an	6	50-90%

echocardiogram or by specialist assessment 3 months before or 12 months after entering on to the register		
Ongoing management		
HF003. In those patients with a current diagnosis of heart failure due to left ventricular systolic dysfunction, the percentage of patients who are currently treated with an ACE-I or ARB	10	60-100%
HF004. In those patients with a current diagnosis of heart failure due to left ventricular systolic dysfunction who are currently treated with an ACE-I or ARB, the percentage of patients who are additionally currently treated with a betablocker licensed for heart failure	9	40-65%

Hypertension (HYP)

Indicator	Points	Achievement thresholds
Records		
HYP001. The contractor establishes and maintains a register of patients with established hypertension	6	
Ongoing management		
HYP006. The percentage of patients with hypertension in whom the last blood pressure reading (measured in the preceding 12 months) is 150/90 mmHg or less	20	45-80%

Peripheral arterial disease (PAD)

Indicator	Points	Achievement thresholds
Records		
PAD001. The contractor establishes and maintains a register of patients with peripheral arterial disease. NICE 2011 menu ID: NM32	2	
Ongoing management		
PAD002. The percentage of patients with peripheral arterial disease in whom the last blood pressure reading (measured in the preceding 12 months) is 150/90 mmHg or less. NICE 2011 menu ID: NM34	2	40-90%
PAD004. The percentage of patients with peripheral arterial disease with a record in the preceding 12 months that aspirin or an alternative anti-platelet is being taken. NICE 2011 menu ID: NM33	2	40-90%

Stroke and transient ischaemic attack (STIA)

Indicator	Points	Achievement thresholds
Records		
STIA001. The contractor establishes and maintains a register of patients with stroke or TIA	2	
Initial diagnosis		
STIA008. The percentage of patients with a stroke or TIA (diagnosed on or after 1 April 2014) who have a record of a referral for further investigation between 3 months before or 1 month after the date of the latest recorded stroke or the first TIA	2	45-80%
Ongoing management		
STIA003. The percentage of patients with a history of stroke or TIA in whom the last blood pressure reading (measured in the preceding 12 months) is 150/90 mmHg or less	5	40-75%
STIA007. The percentage of patients with a stroke shown to be non-	4	57-97%

haemorrhagic, or a history of TIA, who have a record in the preceding 12 months that an anti-platelet agent, or an anti-coagulant is being taken		
STIA009. The percentage of patients with stroke or TIA who have had influenza immunisation in the preceding 1 August to 31 March	2	55-95%

Diabetes mellitus (DM)

Indicator	Points	Achievement thresholds
Records		
DM017. The contractor establishes and maintains a register of all patients aged 17 or over with diabetes mellitus, which specifies the type of diabetes where a diagnosis has been confirmed. NICE 2011 menu ID: NM41	6	
Ongoing management		
DM002. The percentage of patients with diabetes, on the register, in whom the last blood pressure reading (measured in the preceding 12 months) is 150/90 mmHg or less. NICE 2010 menu ID: NM01	8	53-93%
DM003. The percentage of patients with diabetes, on the register, in whom the last blood pressure reading (measured in the preceding 12 months) is 140/80 mmHg or less. Based on NICE 2010 menu ID: NM02	10	38-78%
DM004. The percentage of patients with diabetes, on the register, whose last measured total cholesterol (measured within the preceding 12 months) is 5 mmol/l or less	6	40-75%
DM006. The percentage of patients with diabetes, on the register, with a diagnosis of nephropathy (clinical proteinuria) or micro-albuminuria who are currently treated with an ACE-I (or ARBs)	3	57-97%
DM007. The percentage of patients with diabetes, on the register, in whom the last IFCC-HbA1c is 59 mmol/mol or less in the preceding 12 months. NICE 2010 menu ID: NM14	17	35-75%
DM008. The percentage of patients with diabetes, on the register, in whom the last IFCC-HbA1c is 64 mmol/mol or less in the preceding 12 months	8	43-83%
DM009. The percentage of patients with diabetes, on the register, in whom the last IFCC-HbA1c is 75 mmol/mol or less in the preceding 12 months	10	52-92%
DM012. The percentage of patients with diabetes, on the register, with a record of a foot examination and risk classification: 1) low risk (normal sensation, palpable pulses), 2) increased risk (neuropathy or absent pulses), 3) high risk (neuropathy or absent pulses plus deformity or skin changes in previous ulcer) or 4) ulcerated foot within the preceding 12 months. NICE 2010 menu ID: NM13	4	50-90%
DM014. The percentage of patients newly diagnosed with diabetes, on the register, in the preceding 1 April to 31 March who have a record of being referred to a structured education programme within 9 months after entry on to the diabetes register. NICE 2011 menu ID: NM27	11	40-90%
DM018. The percentage of patients with diabetes, on the register, who have had influenza immunisation in the preceding 1 August to 31 March	3	55-95%

Asthma (AST)

Indicator	Points	Achievement thresholds
Records		
AST001. The contractor establishes and maintains a register of patients with asthma, excluding patients with asthma who have been prescribed no asthma-related drugs in the preceding 12 months	4	
Initial diagnosis		
AST002. The percentage of patients aged 8 or over with asthma (diagnosed on or after 1 April 2006), on the register, with measures of variability or	15	45-80%

reversibility recorded between 3 months before or any time after diagnosis		
Ongoing management		
AST003. The percentage of patients with asthma, on the register, who have had an asthma review in the preceding 12 months that includes an assessment of asthma control using the 3 RCP questions. NICE 2011 menu ID: NM23	20	45-70%
AST004. The percentage of patients with asthma aged 14 or over and who have not attained the age of 20, on the register, in whom there is a record of smoking status in the preceding 12 months	6	45-80%

Chronic obstructive pulmonary disease (COPD)

Indicator	Points	Achievement thresholds
Records		
COPD001. The contractor establishes and maintains a register of patients with COPD	3	
Initial diagnosis		
COPD002. The percentage of patients with COPD (diagnosed on or after 1 April 2011) in whom the diagnosis has been confirmed by post bronchodilator spirometry between 3 months before and 12 months after entering on to the register	5	45-80%
Ongoing management		
COPD003. The percentage of patients with COPD who have had a review, undertaken by a healthcare professional, including an assessment of breathlessness using the Medical Research Council dyspnoea scale in the preceding 12 months	9	50-90%
COPD004. The percentage of patients with COPD with a record of FEV1 in the preceding 12 months	7	40-75%
COPD005. The percentage of patients with COPD and Medical preceding 12 months, with a record of oxygen saturation value within the preceding 12 months. NICE 2012 menu ID: NM63	5	40-90%
COPD007. The percentage of patients with COPD who have had influenza immunisation in the preceding 1 August to 31 March	6	57-97%

Dementia (DEM)

Indicator	Points	Achievement thresholds
Records		
DEM001. The contractor establishes and maintains a register of patients diagnosed with dementia	5	
Ongoing management		
DEM002. The percentage of patients diagnosed with dementia whose care has been reviewed in a face-to-face review in the preceding 12 months	15	35-70%
DEM003. The percentage of patients with a new diagnosis of dementia recorded in the preceding 1 April to 31 March with a record of FBC, calcium, glucose, renal and liver function, thyroid function tests, serum vitamin B12 and folate levels recorded between 6 months before or after entering on to the register. NICE 2010 menu ID: NM09	6	45 80%

Depression (DEP)

Indicator	Points	Achievement thresholds
Initial management		
DEP003. The percentage of patients aged 18 or over with a new diagnosis of depression in the preceding 1 April to 31 March, who have been reviewed not	10	45-80%

earlier than 10 days after and not later than 56 days after the date of diagnosis. Based on NICE 2012 menu ID: NM50		

Mental health (MH)

Indicator	Points	Achievement thresholds
Records		
MH001. The contractor establishes and maintains a register of patients with schizophrenia, bipolar affective disorder and other psychoses and other patients on lithium therapy	4	
Ongoing management		
MH002. The percentage of patients with schizophrenia, bipolar affective disorder and other psychoses who have a comprehensive care plan documented in the record, in the preceding 12 months, agreed between individuals, their family and/or carers as appropriate	6	40-90%
MH003. The percentage of patients with schizophrenia, bipolar affective disorder and other psychoses who have a record of blood pressure in the preceding 12 months. NICE 2010 menu ID: NM17	4	50-90%
MH007. The percentage of patients with schizophrenia, bipolar affective disorder and other psychoses who have a record of alcohol consumption in the preceding 12 months. NICE 2010 menu ID: NM15	4	50-90%
MH008. The percentage of women aged 25 or over and who have not attained the age of 65 with schizophrenia, bipolar affective disorder and other psychoses whose notes record that a cervical screening test has been performed in the preceding 5 years. NICE 2010 menu ID: NM20	5	45-80%
MH009. The percentage of patients on lithium therapy with a record of serum creatinine and TSH in the preceding 9 months. NICE 2010 menu ID: NM21	1	50-90%
MH010. The percentage of patients on lithium therapy with a record of lithium levels in the therapeutic range in the preceding 4 months. NICE 2010 menu ID: NM22	2	50-90%

Cancer (CAN)

Indicator	Points	Achievement thresholds
Records		
CAN001. The contractor establishes and maintains a register diagnosis of cancer excluding non-melanotic skin cancers	5	
Ongoing management		
CAN003. The percentage of patients with cancer, diagnosed within the preceding 15 months, who have a patient review recorded as occurring within 6 months of the date of diagnosis. Based on NICE 2012 menu ID: NM62	6	50-90%

Chronic kidney disease (CKD)

Indicator	Points	Achievement thresholds
Records		
CKD001. The contractor establishes and maintains a register of patients aged 18 or over with CKD (US National Kidney Foundation: Stage 3 to 5 CKD)	6	
Ongoing management		
CKD002. The percentage of patients on the CKD register in whom the last blood pressure reading (measured in the preceding 12 months) is 140/85 mmHg or less	11	41-81%
CKD003. The percentage of patients on the CKD register with hypertension	9	45-80%

and proteinuria who are currently treated with an ACE-I or ARB		
CKD004. The percentage of patients on the CKD register whose notes have a record of a urine albumin:creatinine ratio (or protein:creatinine ratio) test in the preceding 12 months	6	45-80%

Epilepsy (EP)

Indicator	Points	Achievement thresholds
Records		
EP001. The contractor establishes and maintains a register of patients aged 18 or over receiving drug treatment for epilepsy	1	

Learning disability (LD)

Indicator	Points	Achievement thresholds
Records		
LD003. The contractor establishes and maintains a register of patients with learning disabilities	4	

Osteoporosis: secondary prevention of fragility fractures (OST)

Indicator	Points	Achievement thresholds
Records		
OST004 The contractor establishes and maintains a register of patients: 1. Aged 50 or over and who have not attained the age of 75 with a record of a fragility fracture on or after 1 April 2012 and a diagnosis of osteoporosis confirmed on DXA scan, and 2. Aged 75 or over with a record of a fragility fracture on or after 1 April 2014 and a diagnosis of osteoporosis. NICE 2011 menu ID: NM29	3	
Ongoing management		
OST002. The percentage of patients aged 50 or over and who have not attained the age of 75, with a fragility fracture on or after 1 April 2012, in whom osteoporosis is confirmed on DXA scan, who are currently treated with an appropriate bonesparing agent. NICE 2011 menu ID: NM30	3	30-60%
OST005. The percentage of patients aged 75 or over with a record of a fragility fracture on or after 1 April 2014 and a diagnosis of osteoporosis, who are currently treated with an appropriate bone-sparing agent. NICE 2011 menu ID: NM31	3	30-60%

Rheumatoid arthritis (RA)

Indicator	Points	Achievement thresholds
Records		
RA001. The contractor establishes and maintains a register of patients aged 16 or over with rheumatoid arthritis. NICE 2012 menu ID: NM55	1	
Ongoing management		
RA002. The percentage of patients with rheumatoid arthritis, on the register, who have had a face-to-face review in the preceding 12 months. NICE 2012 menu ID: NM58	5	40-90%

Palliative care (PC)

Indicator	Points	Achievement thresholds

Records		
PC001. The contractor establishes and maintains a register of all patients in need of palliative care/support irrespective of age	3	
Ongoing management		
PC002. The contractor has regular (at least 3 monthly) multidisciplinary case review meetings where all patients on the palliative care register are discussed	3	

Public health domain

Cardiovascular disease primary prevention (CVD-PP)

Indicator	Points	Achievement thresholds
Ongoing management		
CVD-PP001. In those patients with a new diagnosis of hypertension aged 30 or over and who have not attained the age of 75, recorded between the preceding 1 April to 31 March (excluding those with pre-existing CHD, diabetes, stroke and/or TIA), who have a recorded CVD risk assessment score (using an assessment tool agreed with NHS CBI of >20% in the preceding 12 months; the percentage who are currently treated with statins. NICE 2011 menu ID: NM26	10	40-90%

Blood pressure (BP)

Indicator	Points	Achievement thresholds
BP002. The percentage of patients aged 45 or over who have a record of blood pressure in the preceding 5 years. NICE 2012 menu ID: NM61	15	50-90%

Obesity (OB)

Indicator	Points	Achievement thresholds
Records		
OB001. The contractor establishes and maintains a register of aged 16 or over with the BMI >30 in preceding 12 months	8	

Smoking (SMOK)

Indicator	Points	Achievement thresholds
Records		
SMOK002. The percentage of patients with any or any combination of the following conditions: CHD, PAD, stroke or TIA, hypertension, diabetes, COPD, CKD, asthma, schizophrenia, bipolar affective disorder or other psychoses whose notes record smoking status in the preceding 12 months. NICE 2011 menu ID: NM38	25	50-90%
Ongoing management		
SMOK003. The contractor supports patients who smoke in stopping smoking by a strategy which includes providing literature and offering appropriate therapy	2	
SMOK004. The percentage of patients aged 15 or over who are recorded as current smokers who have a record of an offer of support and treatment within the preceding 24 months. Based on NICE 2011 menu ID: NM40	12	40-90%
SMOK005. The percentage of patients with any or any combination of the following conditions: CHD, PAD, stroke or TIA, hypertension, diabetes, COPD, CKD, asthma, schizophrenia, bipolar affective disorder or other psychoses who are recorded as current smokers who have a record of an offer of support and treatment within the preceding 12 months. NICE 2011 menu ID: NM39	25	56-96%

Public health domain – **additional services**

Cervical screening (CS)

Indicator	Points	Achievement thresholds
CS001. The contractor has a protocol that is in line with national guidance agreed with the NHS CB for the management of cervical screening, which includes staff training, management of patient call/recall, exception reporting and the regular monitoring of inadequate sample rates	7	
CS002. The percentage of women aged 25 or over and who have not attained the age of 65 whose notes record that a cervical screening test has been performed in the preceding 5 years	11	45-80%
CS004. The contractor has a policy for auditing its cervical screening service and performs an audit of inadequate cervical screening tests in relation to individual sampletakers at least every 2 years	2	

Contraception (CON)

Indicator	Points	Achievement thresholds
CON001. The contractor establishes and maintains a register of women aged 54 or under who have been prescribed any method of contraception at least once in the last year, or other clinically appropriate interval e.g. last 5 years for an IUS	4	
CON003. The percentage of women, on the register, prescribed emergency hormonal contraception one or more times in the preceding 12 months by the contractor who have received information from the contractor about long acting reversible methods of contraception at the time of or within 1 month of the prescription	3	50-90%

Value-Based Purchasing Program

The Total Performance Score (TPS) is derived from four domains in FY 2015—Clinical Process of Care, Patient Experience of Care, Outcome, and Efficiency domains.

- The Clinical Process of Care domain is comprised of 12 clinical process measures and accounts for 20 percent of a hospital's TPS.
- The Patient Experience of Care domain is composed of 8 dimensions derived from the HCAHPS Survey and accounts for 30 percent of a hospital's TPS.
- The Outcome domain contains 3 mortality measures, 1 AHRQ Patient Safety Measure, and 1 healthcare associated infections measure and accounts for 30 percent of a hospital's TPS.
- The Efficiency domain contains 1 Medicare Spending per Beneficiary measure and accounts for 20 percent of a hospital's TPS.

Clinical process of care domain

Indicator
Acute myocardial infarction (AMI or heart attack)
AMI-7a: Heart attack patients given fibrinolytic medication within 30 minutes of arrival
AMI-8a: Heart attack patients given PCI within 90 minutes of arrival
Heart failure (HF)
HF-1: Heart failure patients given discharge instructions
Pneumonia (PN)
PN-3b: Pneumonia patients whose initial emergency room blood culture was performed prior to the administration of the first hospital dose of antibiotics
PN-6: Pneumonia patients given the most appropriate initial antibiotic(s)
Surgical Care Improvement Project (SCIP)
SCIP-Card-2: Surgery patients who were taking heart drugs called beta blockers before coming to the hospital, who were kept on the beta blockers during the period just before and after their surgery
SCIP-VTE-2: Patients who got treatment at the right time (within 24 hours before or after their surgery) to help prevent blood clots after certain types of surgery
Healthcare associated infections (HAI)
SCIP–Inf–1: Surgery patients who are given an antibiotic at the right time (within one hour before surgery) to help prevent infection
SCIP–Inf–2: Surgery patients who are given the right kind of antibiotic to help prevent infection
SCIP–Inf–3: Surgery patients whose preventive antibiotics are stopped at the right time (within 24 hours after surgery)
SCIP–Inf–4: Heart surgery patients whose blood sugar (blood glucose) is kept under good control in the days right after surgery
SCIP–Inf–9: Surgery patients whose urinary catheters were removed on the first or second day after surgery

Patient Experience of Care domain

Indicator
Communication with nurses
Shown as percentage of patients who reported that their nurses "Always" communicated well. This means nurses explained things clearly, listened carefully, and treated the patient with courtesy and respect.
Communication with doctors
Shown as percentage of patients who reported that their doctors "Always" communicated well. This means doctors explained things clearly, listened carefully, and treated the patient with courtesy and respect.
Responsiveness of hospital staff
Shown as percentage of patients who reported that hospital staff were “Always” responsive to their needs. This means the patient was helped quickly when he or she used the call button or needed help in getting to the bathroom or using a bedpan.
Pain management
Shown as percentage of patients who reported that their pain was "Always" well controlled. This means the patient’s pain was well controlled and hospital staff did everything they could to help.
Cleanliness and quietness of hospital environment
Shown as percentage of patients who reported that the hospital environment was “Always” clean and quiet. This means the patient’s hospital room and bathroom were kept clean and the area around the patient’s room was quiet at night.
Communication about medicines
Shown as percentage of patients who reported that staff "Always" explained about medicines. This means the staff told patient what the medicine was for and what side effects it might have before they gave it to the patient.
Discharge information
Shown as percentage of patients who reported they were given information about what to do during their recovery at home. This means the hospital staff discussed the help patient would need at homeand patient was given written information about symptoms or health problems to watch for during recovery.
Overall rating of hospital
Shown as percentage of patients whose overall rating of the hospital was '9' or '10' on a scale from 0 (low) to 10 (high).

Outcome domain

Indicator
Acute myocardial infarction (AMI) 30-day mortality rate
The death (mortality) rate indicates whether a patient with an AMI diagnosis died within 30 days of their hospitalization.
Heart failure (HF) 30-day mortality rate
The death (mortality) rate shows whether a patient with a HF diagnosis died within 30 days of their hospitalization.
Pneumonia (PN) 30-day mortality rate
The death (mortality) rate shows whether a patient with a PN diagnosis died within 30 days of their hospitalization.
Central line-associated bloodstream infection (CLABSI)
The CLABSI measure compares the actual number of CLABSIs with the predicted number of infections based on the baseline U.S. experience.
AHRQ (PSI-90) patient safety for selected indicators (composite)
The AHRQ PSI-90 is a composite of eight underlying component indicators

Efficiency domain

Indicator
Medicare spending per beneficiary (MSPB-1) measure

This measure of efficiency based on an assessment of payment for services provided to a beneficiary during a spending-per-beneficiary episode that spans from three days prior to an inpatient hospital admission through 30 days after discharge. The payments included in this measure are standardized and adjusted so that variation in geographic costs are removed, as well as variation in patient health status.

Appendix 2: Summary of provider payment models in selected European countries

Primary health care

Country	Structures of payments in use			
	Fee for service	Pay for performance (year introduced)	Bundled payments (episode-of-care payment)	Capitation
Austria	X	None	None	None
Belgium	X	None	Care pathways	None
Bulgaria	X	None	None	X
Croatia	X	Reward for prevention and management of chronic disease (2013)	None	X
Czech Republic	X	None	None	X
Denmark	X	None	None	X
England	X	QOF (process and outcome) (2004), CQUIN (2009)	None	X
Estonia	X	Reward for prevention and management of chronic disease (2006)	None	X
Finland	X	None	None	X
France	X	CAPI (2009)	None	X
Germany	X	*Kinzigtal* (rewarding structural and quality measures)	None	DMP
Greece	X	None	None	X (only some insurance companies)
Hungary	X	Related to quality Measures (2009)	None	X
Iceland	X	None	None	None
Italy	X	CReG (Lombardy)	None	X
Lithuania	X	Reduction of hospitalizations of patients with chronic diseases (2000)	None	X
Netherlands	X	„Integrated care groups'. Some insurers can reward performance	For some diseases „integrated care groups'	X
Norway	X	None	None	X
Poland	X	None	None	X
Portugal	X	Specific surveillance activities, with respect to vulnerable or high-risk patients (2006)	None	X

Country	Structures of payments in use			
	Fee for service	Pay for performance (year introduced)	Bundled payments (episode-of-care payment)	Capitation
Slovakia	X	None	None	X
Spain	None	None	None	X
Sweden	X (for each visit)	Promoting prevention and efficient prescribing	None	X

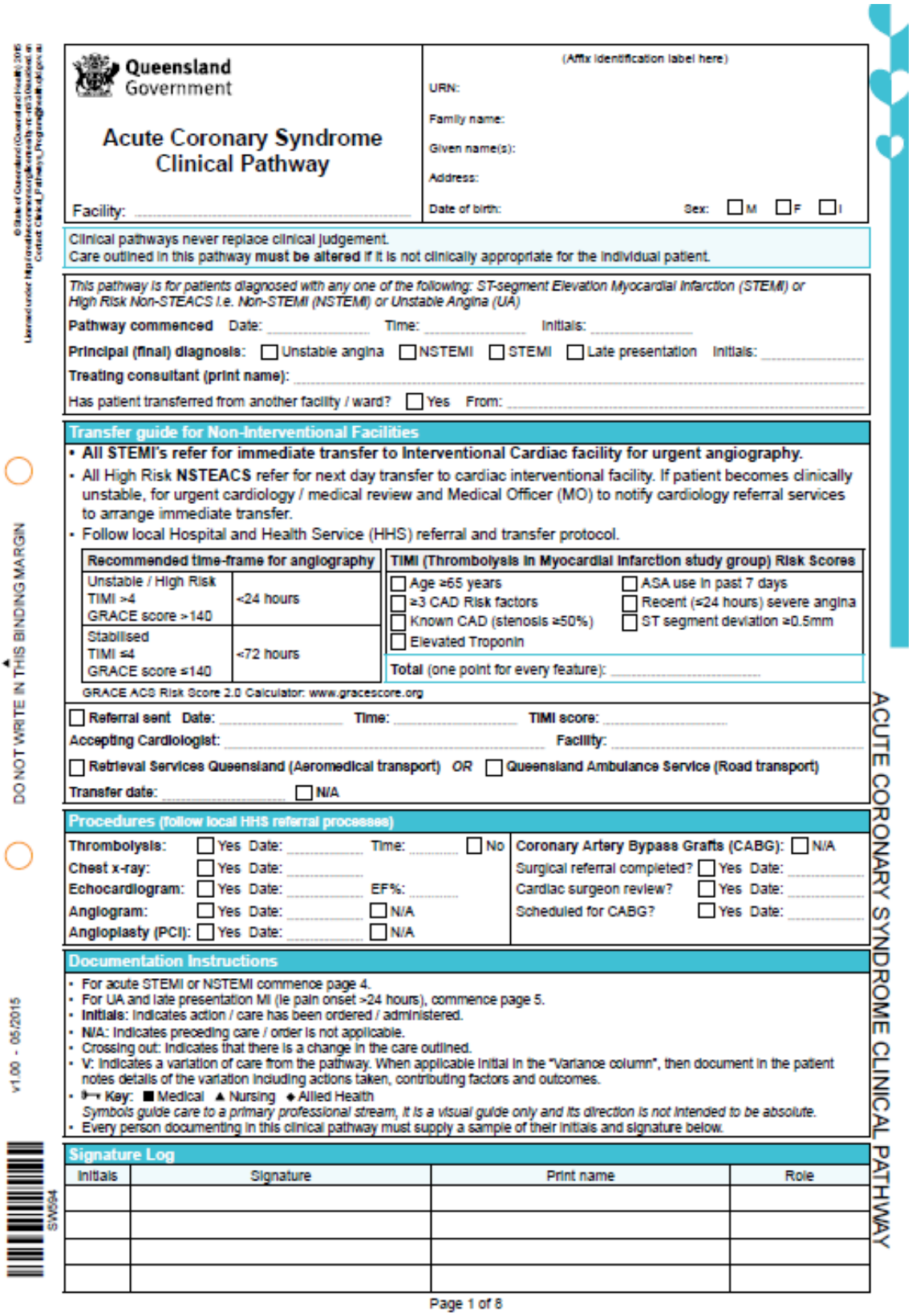
Acute hospitals

Country	DRG variants currently in use	Additional payments	Outliers
Austria	LKF	No	- Outliers are included in the DRG-system
Belgium	APR-DRG	No	- Outliers are financed by a DRG-logic. - Hospitalisation outliers are defined in terms of length of stay, as well on the lower as upper side of the distribution. - Outliers are paid by their real length of stay and not by a standardised/accepted/justified length of stay.
Bulgaria	-	-	-
Croatia	AR-DRG	Very expensive drugs and implants are paid via a mark-up above the DRG-prices.	- Outliers are included in the DRG-system
Czech Republic	IR-DRG	No	- Outliers are included in the DRG-system
Denmark	DkDRG	No	- Outliers are included in the DRG-system
England	HRG	Where patient pathways are split between providers, services may be provided on a fee for service basis, negotiated between providers (e.g. rehab elements).	- Under HRG's after a certain trim point there is additional funding on a daily basis. - Each individual HRG has a trim point.
Estonia	NordDRG	Psychiatric, rehabilitation and follow-up care, are not reimbursed using DRGs. There are also some exemptions according to the principal diagnosis (e.g. chemotherapy), services provided (e.g. organ transplantations) and referred cases.	- Outliers are not reimbursed through a DRGsystem
Finland	NordDRG	No	- Outliers are not reimbursed through a DRGsystem
France	GHM	Very expensive drugs and implants are paid via a mark-up above the GHM-prices.	- The rules for financing outliers within the GHM-system are based on length of stay. - They apply to high and low end of the distribution

Country	DRG variants currently in use	Additional payments	Outliers
Germany	G-DRG	Additional fees for expansive services.	- The rules for financing outliers within the DRGsystem are based on length of stay. - They apply to high and low end of the distribution.
Greece	KEN-DRGs	No	- Outliers are included in the DRG-system
Hungary	HDG	High-cost medical interventions, such as bone marrow transplantation, are reimbursed on a case basis.	- Outliers are included in the DRG-system
Iceland	-	-	-
Italy	HCFA 10th revision	Activities that require specific evaluation of programs and of cost utilization review.	- There is a daily tariff specific for each DRG, which is used for financing days of inpatient stay for outliers - As per short "in hospital stay" (from zero to one day in-hospital stay), the DRG specific tariff is the one used for day hospital or day surgery.
Lithuania	AR-DRG	No	- Outliers are included in the DRG-system
Netherlands	DBC	No	- Prices of DBCs on the list A are calculated on basis of a median in stead of a mean. Consequently, the prices are less biased by outliers.
Norway	NordDRG	Block grants (60% of hospital financing for somatic care)	- Outliers are included in the DRG-system
Poland	JGP	Major investment costs and particularly complicated and/or expensive procedures, such as transplant surgery, are paid directly from the state budget	- Outliers are included in the DRG-system
Portugal	HCFA 16	Unusual and expensive treatments are not paid according to DRG. With the new version of DRG (AP-21) will include these procedures.	- Short stay cases are partial reimbursed (part of the DRG price). - The DRG price is paid between a low and a maximum trim. - The days above the maximum trim are paid on a per diem basis.
Slovakia	-	-	-
Spain	There are two DRG groupers in use AP-DRG (versión 21.0) and CMS-DRG (versión 22.0).	Outpatient visits, emergencies and other hospital services are funded based in other parameters or pricing systems.	- Only in some regions they are taken into account and only for high length of stay outliers

Country	DRG variants currently in use	Additional payments	Outliers
Sweden	NordDRG	Unusual and expensive treatments which can not be described in a proper way in the DRG-system, like burns or special treatments at the teaching hospitals.	- The national DRG-weights are based on individual patient related costs. The outlier limits are also based on individual patient costs. - In addition outlier limits are calculated based on length of stay as a service to those hospitals that don't have case costing (or individual patient related costs) yet. - The rules for outliers apply only on the high end of the distribution.

Appendix 3: Inpatient Clinical Pathway example



Queensland Government

Acute Coronary Syndrome Clinical Pathway

Facility: _____

(Affix identification label here)

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Clinical pathways never replace clinical judgement.
Care outlined in this pathway **must be altered** if it is not clinically appropriate for the individual patient.

This pathway is for patients diagnosed with any one of the following: ST-segment Elevation Myocardial Infarction (STEMI) or High Risk Non-STEACS i.e. Non-STEMI (NSTEMI) or Unstable Angina (UA)

Pathway commenced Date: _____ Time: _____ Initials: _____

Principal (final) diagnosis: ☐ Unstable angina ☐ NSTEMI ☐ STEMI ☐ Late presentation Initials: _____

Treating consultant (print name): _____

Has patient transferred from another facility / ward? ☐ Yes From: _____

Transfer guide for Non-Interventional Facilities

- **All STEMI's refer for immediate transfer to Interventional Cardiac facility for urgent angiography.**
- All High Risk **NSTEACS** refer for next day transfer to cardiac interventional facility. If patient becomes clinically unstable, for urgent cardiology / medical review and Medical Officer (MO) to notify cardiology referral services to arrange immediate transfer.
- Follow local Hospital and Health Service (HHS) referral and transfer protocol.

Recommended time-frame for angiography	
Unstable / High Risk TIMI >4 GRACE score >140	<24 hours
Stabilised TIMI ≤4 GRACE score ≤140	<72 hours

TIMI (Thrombolysis in Myocardial Infarction study group) Risk Scores

☐ Age ≥65 years
☐ ≥3 CAD Risk factors
☐ Known CAD (stenosis ≥50%)
☐ Elevated Troponin
☐ ASA use in past 7 days
☐ Recent (≤24 hours) severe angina
☐ ST segment deviation ≥0.5mm

Total (one point for every feature): _____

GRACE ACS Risk Score 2.0 Calculator: www.gracescore.org

☐ **Referral sent** **Date:** _____ **Time:** _____ **TIMI score:** _____

Accepting Cardiologist: _____ **Facility:** _____

☐ **Retrieval Services Queensland (Aeromedical transport)** *OR* ☐ **Queensland Ambulance Service (Road transport)**

Transfer date: _____ ☐ N/A

Procedures (follow local HHS referral processes)

Thrombolysis: ☐ Yes Date: _____ Time: _____ ☐ No
Chest x-ray: ☐ Yes Date: _____
Echocardiogram: ☐ Yes Date: _____ EF%: _____
Angiogram: ☐ Yes Date: _____ ☐ N/A
Angioplasty (PCI): ☐ Yes Date: _____ ☐ N/A

Coronary Artery Bypass Grafts (CABG): ☐ N/A
Surgical referral completed? ☐ Yes Date: _____
Cardiac surgeon review? ☐ Yes Date: _____
Scheduled for CABG? ☐ Yes Date: _____

Documentation Instructions

- For acute STEMI or NSTEMI commence page 4.
- For UA and late presentation MI (ie pain onset >24 hours), commence page 5.
- **Initials:** Indicates action / care has been ordered / administered.
- **N/A:** Indicates preceding care / order is not applicable.
- Crossing out: Indicates that there is a change in the care outlined.
- **V:** Indicates a variation of care from the pathway. When applicable initial in the "Variance column", then document in the patient notes details of the variation including actions taken, contributing factors and outcomes.
- Key: ■ Medical ▲ Nursing ◆ Allied Health
  Symbols guide care to a primary professional stream, it is a visual guide only and its direction is not intended to be absolute.
- Every person documenting in this clinical pathway must supply a sample of their initials and signature below.

Signature Log

Initials	Signature	Print name	Role

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Contact Clinical_Pathways_Program@health.qld.gov.au

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ACUTE CORONARY SYNDROME CLINICAL PATHWAY

v1.00 - 05/2015
SW094

Queensland Government

Acute Coronary Syndrome Clinical Pathway

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Signature Log *(continued)*

Initials	Signature	Print name	Role

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Estimated Discharge Date (EDD): ____ / ____ / ____

All care givers who initial are to sign signature log 🗝 Key: ■ Medical ▲ Nursing ◆ Allied Health

🗝	Discharge Checklist	Initial	Date
	Rehabilitation / Education		
■ ▲ ◆	• Review with patient and carer:		
	» Resumption of lifestyle activities (sexual activity, physical activity, return to work)		
	» Driving / pilot / commercial licensing		
	» Current status, diagnostic and therapeutic options and general prognosis		
	» Chest pain home management plan		
	» Education and counselling for all current medications		
	• Given:		
	» Written and personalised risk factor control information: ☐ smoking ☐ nutrition ☐ diabetes ☐ stress management ☐ high blood pressure ☐ cholesterol		
	» Information on disease process (e.g. atherosclerosis)		
	» 'My Heart My Life' book or similar		
	» Information to access Heart Foundation website or phone / tablet app for further patient resources and information		
	» Written medication information: ☐ Consumer Medicines Information ☐ Discharge Medication Record (DMR)		
	• Smoking cessation pathway ☐ Yes ☐ No ☐ N/A		
	• Stress / Depression identified? ☐ Yes ☐ No *(If Yes, consider psychologist / social worker review)*		
	• Cardiac rehab OPD referral completed? ☐ Yes ☐ No		
	• Heart Failure Service referral completed? ☐ Yes ☐ No ☐ N/A		
	• Aboriginal and Torres Strait Islander Liaison Officer referral ☐ Yes ☐ No ☐ N/A		
	Medications		
■ ▲ ◆	• Discharge medications for review: ☐ ACE Inhibitor ☐ Aspirin ☐ Beta Blocker ☐ Ticagrelor or Clopidogrel (or alternative) ☐ Statin		
	• Sublingual Glyceryl Trinitrate (GTN) PRN: Patient has supply at discharge? ☐ Yes ☐ No		
	• Discharge script completed and sent to pharmacy? ☐ Yes ☐ No *If No, reason:* ____		
	Appointments		
■ ▲	• Patient to make appointment with General Practitioner (GP) within one week		
	• Cardiologist		
	• Other (specify): ____		
	Forms		
■ ▲	• Medical discharge summary (copy to GP and patient)		
	• Travel forms ☐ N/A		
	• Medical certificate ☐ N/A		
	• Other (specify): ____		

Additional Comments

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Category	🗝	DAY 1 (first 24 hours) Date: ____ / ____ / ____ Ward: ____ ☐ Acute STEMI ☐ Acute NSTEMI Commence page 5 if unstable angina or late presentation MI	ND	AM	PM	V
Investigations	■ ▲	• **Non-interventional facilities: STEMI and clinically unstable patient refer for immediate transfer to interventional cardiac facility**				
		• ECG on arrival to CCU *(right side ECG V4R if inferior STEMI)*, repeat with pain or clinical deterioration and review by MO				
		• Post Thrombolysis ECG ☐ 90 mins and review by MO ☐ N/A				
		• Continuous cardiac monitoring (ST segments if available)				
		• ☐ Troponin (6 hours after presentation) ☐ CHEM 20 / CHEM 7 ☐ FBC ☐ COAGS ☐ BGL ☐ HbA1C				
		• Request for next day: ☐ Fasting glucose / lipids ☐ TFT				
Medication	■ ▲	• Record weight and height on medication chart				
		• Confirm Aspirin given				
		• Confirm Ticagrelor or Clopidogrel (or alternative) given ☐ N/A				
		• Confirm prescription of beta blocker (in absence of acute heart failure or heart block)				
		• Confirm prescription of PRN medication: ☐ Sublingual Glyceryl Trinitrate (GTN) ☐ IV analgesia ☐ IV anti-emetic				
		• Review need for: ☐ Enoxaparin (caution for renal impairment, elderly and low body-weight); *or* ☐ IV Heparin				
Observations Treatments	■ ▲	• 4 hourly if stable *(or as per MO order**) TPR, BP, breath sounds (BS), SaO_2, rhythm, circulation and pain assessment. ☐ Neurological observations post-lysis **Record alternate frequency:* ____				
		• ☐ Post Angiography / PCI observations (follow local HHS protocol) ☐ N/A				
		• Assess, manage and report chest pain				
		• Assess, manage and report arrhythmia				
		• ☐ Blood glucose level (BGL) monitoring ☐ N/A *(If newly diagnosed diabetes, refer to Diabetic Educator)*				
		• IVC site(s) patent and no signs of inflammation - resite if inserted by QAS or ED/DEM within 24 hours (remove if not required) Resite due: ___ / ___ / ___ ☐ Resited ☐ Removed				
		• Oxygen if evidence of hypoxia (SaO_2 <93%), or shock				
		• Fluid balance chart				
		• Emotional assessment / reassurance ☐ N/A				
Nutrition	▲	• ☐ Healthy Heart ☐ Other *(specify)*: ____				
		• If for fasting lipids / glucose, no food after 8pm *(may have H_2O)*				
Mobility / Elimination / Hygiene	▲ ◆	• Strict rest in bed with commode privileges 12 hours post MI *(>12 hours if clinically stable and post MO review can be supervised to toilet with telemetry on wheelchair)* *Record alterations in mobility:* ____				
		• Sponge at bedside				
		• Falls and Pressure Injury risk assessment				
		• Mouth care after meals and PRN				
Other Care *(specify)*		____ ____				
Education and Discharge Plan	▲ ◆	• Commence discharge planning checklist (page 3) • Discuss treatment plan with patient / carer				

Expected Outcomes *(complete at end of 24 hour period)*	▲	**Patient demonstrates: A - Achieved V - Variance**	A	V
		• Anginal pain controlled with rest / medication / intervention		
		• Patient can verbalise understanding of condition and verbalise concerns		
		• Successful PCI or thrombolysis of acute STEMI		
		• At non-interventional facilities - Acute STEMI prepared for urgent transfer to interventional cardiac facility		
		• NSTEACS patient referred and prepared for next day transfer to interventional cardiac facility and / or scheduled for angiography within 24–72 hours of presentation		

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Category	🗝	DAY ____ of pathway Date: ___/___/___ Ward: ___ Commence pathway for ☐ Unstable Angina ☐ Late presentation MI	ND	AM	PM	V
Investigations	■ ▲	• ECG performed daily, repeat with pain or clinical deterioration and review by MO				
	▲	• ☐ Continuous cardiac monitoring				
		• ☐ CHEM 7 ☐ FBC ☐ APTT *(if applicable)* ☐ TFT *(on admission only)* ☐ Fasting glucose / lipids (request for next day if Day 1) ☐ Other: ___				
		• ☐ Echocardiogram ☐ Other tests: ___				
		• If for angiography: ☐ N/A ☐ Preparation and education as per local HHS protocol ☐ N/A ☐ Prepare for transfer to interventional facility as per local HHS protocol ☐ N/A				
Medications and Pain Management	■ ▲	• Record weight and height on medication chart				
		• Confirm prescription of Aspirin, Ticagrelor or Clopidogrel (or alternative), Beta blocker (in absence of acute heart failure and heart block), ACE Inhibitor, Statin and Sublingual Glyceryl Trinitrate				
		• Review AM Enoxaparin and Metformin on day of planned angiography ☐ N/A				
		• Review need for: ☐ Enoxaparin (caution for renal impairment, elderly and low body-weight); *or* ☐ IV Heparin				
Observations Treatments	■ ▲	• 4 hourly if stable *(or as per MO order*)* TPR, BP, breath sounds (BS), SaO_2, rhythm check, circulation and pain assessment. **Record alternate frequency:* ___				
		• Post Angiography / PCI observations (follow local HHS protocol) ☐ N/A				
		• Assess, manage and report chest pain				
		• Assess, manage and report arrhythmia				
		• ☐ Blood glucose level (BGL) monitoring - frequency: ___ ☐ N/A *(If newly diagnosed diabetes, refer to Diabetic Educator)*				
		• Daily weight and / or fluid balance chart if evidence of heart failure ☐ N/A				
		• IVC site(s) patent and no inflammation - resite if inserted by QAS or in DEM / ED within 24 hours (remove if not required) Inserted: ___/___/___ Resite due: ___/___/___ ☐ Resited ☐ Removed				
		• Oxygen if evidence of hypoxia (SaO_2 <93%) or shock				
		• Falls and Pressure Injury risk assessment				
		• Emotional assessment / reassurance ☐ N/A				
Nutrition	▲	• ☐ Healthy Heart ☐ Other *(specify)*: ___				
		• If for fasting lipids, confirm blood collection before breakfast ☐ N/A				
Mobility / Elimination / Hygiene	▲ ◆	• Gentle mobilisation, shower with supervision and toilet privileges permitted with telemetry (if pain free and clinically stable) *Record alterations in mobility:* ___				
Other Care *(specify)*		___				
Education and Discharge Plan	▲ ◆	• Discuss treatment plan with patient / carer				
		• Review and continue discharge planning checklist (page 3)				
Expected Outcomes *(complete at end of 24 hour period)*	▲	**Patient demonstrates: A - Achieved V - Variance**			A	V
		• Anginal pain controlled with rest / medication / intervention				
		• Patient can verbalise understanding of condition and verbalise concerns				
		• NSTEACS patient referred and prepared for transfer to interventional cardiac facility and / or booked for angiography within 24–72 hours of presentation				
		• Other: ___				

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Category	🗝	DAY ____ of pathway Date: ____ / ____ / ____ Ward: ____	ND	AM	PM	V
Investigations	■	• ECG with pain or clinical deterioration and review by MO				
	▲	• ☐ Continuous cardiac monitoring (cease if clinically stable post 48 hours)				
		• Blood pathology if required as per MO				
		• ☐ Echocardiogram ☐ Other tests: ____				
		• If for angiography: ☐ N/A ☐ Preparation and education as per local HHS protocol ☐ N/A ☐ Prepare for transfer to interventional facility as per local HHS protocol ☐ N/A				
Medications and Pain Management	■	• Confirm prescription of Aspirin, Ticagrelor or Clopidogrel (or alternative), Beta blocker, ACE inhibitor, Statin and Sublingual Glyceryl Trinitrate				
	▲	• Review AM Enoxaparin and Metformin on day of planned angiography ☐ N/A				
		• Review need for: ☐ Enoxaparin (caution for renal impairment, elderly and low body-weight); *or* ☐ IV Heparin (cease at 48 hours if clinically stable)				
Observations Treatments	■	• QID or BD as indicated *(or as per MO order*)* TPR, BP, breath sounds (BS), SaO_2, rhythm check, circulation and pain assessment. **Record alternate frequency:* ____				
	▲	• Post Angiography / PCI observations (follow local HHS protocol) ☐ N/A				
		• Assess, manage and report chest pain				
		• Assess, manage and report arrhythmia				
		• ☐ Blood glucose level (BGL) monitoring - frequency: ____ ☐ N/A *(If newly diagnosed diabetes, refer to Diabetic Educator)*				
		• Daily weight if evidence of heart failure ☐ N/A				
		• IVC site(s) patent and no inflammation (remove if not required) Inserted: ___ / ___ / ___ Resite due: ___ / ___ / ___ ☐ Resited ☐ Removed				
		• Emotional assessment / reassurance ☐ N/A				
Nutrition	▲	• ☐ Healthy Heart ☐ Other *(specify)*: ____				
		• If for fasting lipids, confirm blood collection before breakfast ☐ N/A				
Mobility / Elimination / Hygiene	▲	• Increase mobilisation if pain free and clinically stable				
	◆	• Self care				
		• Other - *record alterations in mobility / hygiene:* ____				
Other Care *(specify)*		____				
Education and Discharge Plan	▲	• Discuss treatment plan with patient / carer				
	◆	• Review and continue discharge planning checklist (page 3)				
Expected Outcomes *(complete at end of 24 hour period)*	▲	**Patient demonstrates: A - Achieved V - Variance**			A	V
		• Anginal pain controlled with rest / medication / intervention				
		• Patient can verbalise understanding of condition and verbalise concerns				
		• NSTEACS patient referred and prepared for transfer to interventional cardiac facility and / or booked for angiography within 24–72 hours of presentation				
		• Other: ____				

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Category	🗝	DAY ____ of pathway Date: ____ / ____ / ____ Ward: ____	ND	AM	PM	V
Investigations	■ ▲	• ECG with pain or clinical deterioration and review by MO				
		• ☐ Continuous cardiac monitoring (cease if clinically stable post 48 hours) Cease time: ____				
		• Daily bloods as requested				
		• ☐ Echocardiogram ☐ Other tests: ____				
		• If for angiography: ☐ N/A				
		☐ Preparation and education as per local HHS protocol ☐ N/A				
		☐ Prepare for transfer to interventional facility as per local HHS protocol ☐ N/A				
Medications and Pain Management	■ ▲	• Confirm prescription of Aspirin, Ticagrelor or Clopidogrel (or alternative), Beta blocker, ACE inhibitor, Statin and Sublingual Glyceryl Trinitrate				
		• Review AM Enoxaparin and Metformin on day of planned angiography ☐ N/A				
		• Review need for: ☐ Enoxaparin (caution for renal impairment, elderly and low body-weight); *or* ☐ IV Heparin (cease at 48 hours if clinically stable)				
Observations Treatments	■ ▲	• QID or BD as indicated *(or as per MO order*)* TPR, BP, breath sounds (BS), SaO_2, rhythm check, circulation and pain assessment. **Record alternate frequency:* ____				
		• Post Angiography / PCI observations (follow local HHS protocol) ☐ N/A				
		• Assess, manage and report chest pain				
		• Assess, manage and report arrhythmia				
		• ☐ Blood glucose level (BGL) monitoring - frequency: ____ ☐ N/A *(If newly diagnosed, refer to Diabetic Educator)*				
		• Daily weight if evidence of heart failure ☐ N/A				
		• IVC site(s) patent and no inflammation (remove if not required) Inserted: ___ / ___ / ___ Reside due: ___ / ___ / ___ ☐ Resited ☐ Removed				
		• Emotional assessment / reassurance ☐ N/A				
Nutrition	▲	• ☐ Healthy Heart ☐ Other *(specify)*: ____				
		• If for fasting lipids, confirm blood collection before breakfast ☐ N/A				
Mobility / Elimination / Hygiene	▲ ◆	• Increase mobilisation if pain free and clinically stable				
		• Self care				
		• Other - *record alterations in mobility / hygiene:* ____				
Other Care *(specify)*		____				
Education and Discharge Plan	▲ ◆	• Discuss treatment plan with patient / carer				
		• Review discharge planning checklist (page 3)				
Expected Outcomes *(complete at end of 24 hour period)*	▲	**Patient demonstrates: A - Achieved V - Variance**			A	V
		• Anginal pain controlled with rest / medication / intervention				
		• Patient can verbalise understanding of condition and verbalise concerns				
		• NSTEACS patient referred and prepared for transfer to interventional cardiac facility and / or booked for angiography within 24–72 hours of presentation				
		• Patient and carer will verbalise understanding of personalised discharge plan				
		• Other: ____				

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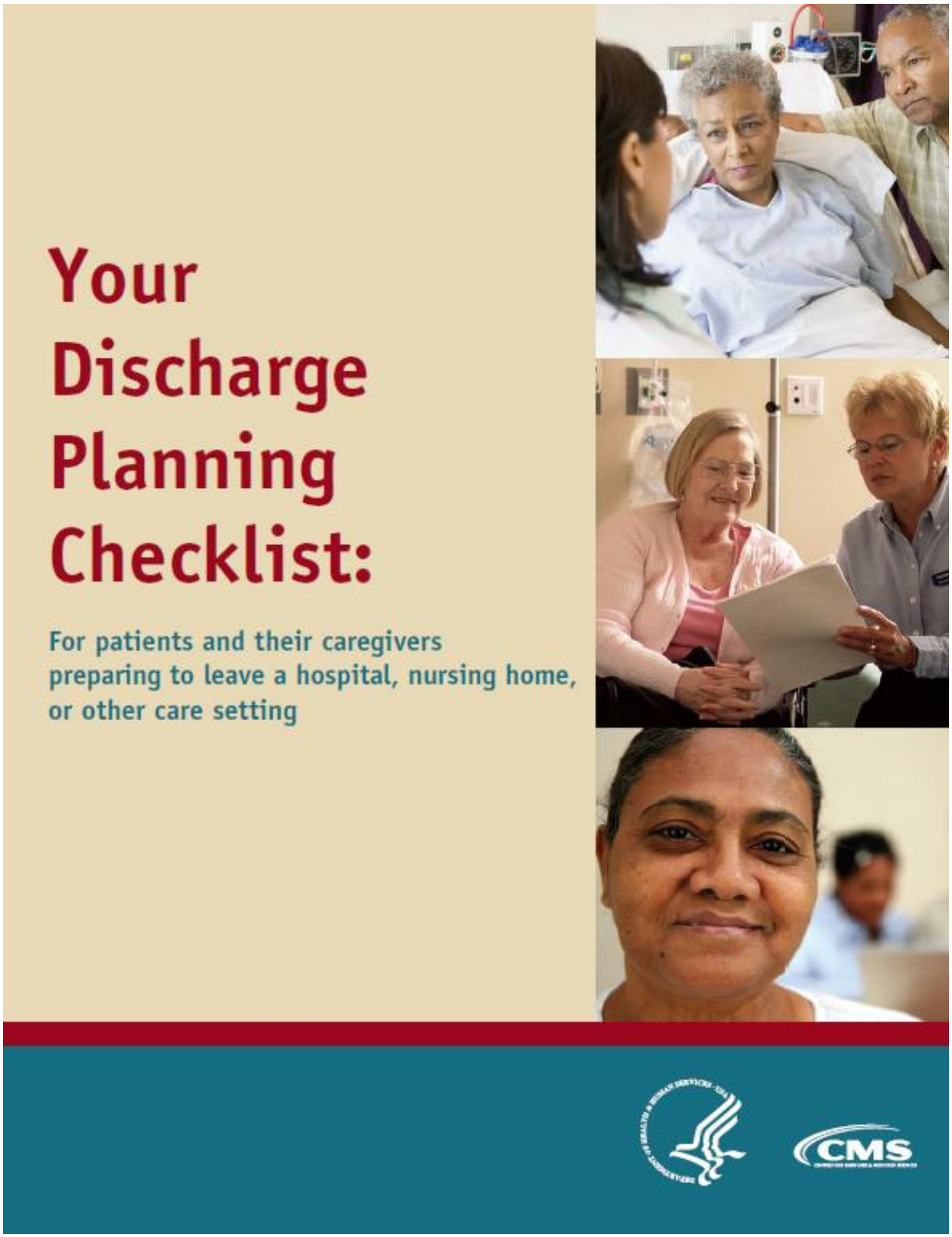
Category	🗝	DAY ____ of pathway Date: ____ / ____ / ____ Ward: ____	ND	AM	PM	V
Investigations	■ ▲	• ECG with pain or clinical deterioration and review by MO				
		• ☐ Continuous cardiac monitoring (cease if clinically stable post 48 hours) Cease time: ____				
		• Daily bloods as requested				
		• ☐ Echocardiogram ☐ Other tests: ____				
		• If for angiography: ☐ N/A ☐ Preparation and education as per local HHS protocol ☐ N/A ☐ Prepare for transfer to interventional facility as per local HHS protocol ☐ N/A				
Medications and Pain Management	■ ▲	• Confirm prescription of Aspirin, Ticagrelor or Clopidogrel (or alternative), Beta blocker, ACE inhibitor, Statin and Sublingual Glyceryl Trinitrate				
		• Review AM Enoxaparin and Metformin on day of planned angiography ☐ N/A				
		• Review need for: ☐ Enoxaparin (caution for renal impairment, elderly and low body-weight); *or* ☐ IV Heparin (cease at 48 hours if clinically stable)				
Observations Treatments	■ ▲	• QID or BD as indicated *(or as per MO order*)* TPR, BP, breath sounds (BS), SaO_2, rhythm check, circulation and pain assessment. **Record alternate frequency:* ____				
		• Post Angiography / PCI observations (follow local HHS protocol) ☐ N/A				
		• Assess, manage and report chest pain				
		• Assess, manage and report arrhythmia				
		• ☐ Blood glucose level (BGL) monitoring - frequency: ____ ☐ N/A *(If newly diagnosed diabetes, refer to Diabetic Educator)*				
		• Daily weight if evidence of heart failure ☐ N/A				
		• IVC site(s) patent and no inflammation (remove if not required) Inserted: ___ / ___ / ___ Resite due: ___ / ___ / ___ ☐ Resited ☐ Removed				
		• Emotional assessment / reassurance ☐ N/A				
Nutrition	▲	• ☐ Healthy Heart ☐ Other *(specify)*: ____				
Mobility / Elimination / Hygiene	▲ ◆	• Increase mobilisation if pain free and clinically stable				
		• Self care				
		• Other - *record alterations in mobility / hygiene:* ____				
Other Care *(specify)*		____				
Education and Discharge Plan	▲ ◆	• Discuss treatment plan with patient / carer				
		• Review and complete discharge planning checklist (page 3)				
Expected Outcomes *(complete at end of 24 hour period)*	▲	**Patient demonstrates: A - Achieved V - Variance**			A	V
		• Anginal pain controlled with rest / medication / intervention				
		• Patient can verbalise understanding of condition and verbalise concerns				
		• Patient and carer will verbalise understanding of personalised discharge plan				
		• Other: ____				

DOCUMENT ALL VARIANCES IN PATIENT NOTES

DO NOT WRITE IN THIS BINDING MARGIN

Appendix 4: Example of discharge planning checklist



Name: _____

Reason for admission: _____

During your stay, your doctor and the staff will work with you to plan for your discharge. You and your caregiver (a family member or friend who may be helping you) are important members of the planning team. You and your caregiver can use this checklist to prepare for your discharge.

Instructions:

- **Use this checklist early and often during your stay.**
- **Talk to your doctor and the staff (like a discharge planner, social worker, or nurse) about the items on this checklist.**
- **Check the box next to each item when you and your caregiver complete it.** ☑
- **Use the notes column to write down important information (like names and phone numbers).**
- **Skip any items that don't apply to you.**

Action items	Notes
What's ahead?	
☐ Ask where you'll get care after you leave (after you're discharged). Do you have options (like home health care)? Be sure you tell the staff what you prefer.	
☐ If a caregiver will be helping you after discharge, write down their name and phone number.	
Your health	
☐ Ask the staff about your health condition and what you can do to help yourself get better.	
☐ Ask about problems to watch for and what to do about them. Write down a name and phone number of a person to call if you have problems.	

Action items	Notes
☐ Use "My drug list" on page 5 to write down your prescription drugs, over-the-counter drugs, vitamins, and herbal supplements.	
☐ Review the list with the staff.	
☐ Tell the staff what drugs, vitamins, or supplements you took before you were admitted. Ask if you should still take these after you leave.	
☐ Write down a name and phone number of a person to call if you have questions.	
Recovery & support	
☐ Ask if you'll need medical equipment (like a walker). Who will arrange for this? Write down a name and phone number of a person you can call if you have questions about equipment.	
☐ Ask if you're ready to do the activities below. Circle the ones you need help with, and tell the staff: • Bathing, dressing, using the bathroom, climbing stairs • Cooking, food shopping, house cleaning, paying bills • Getting to doctors' appointments, picking up prescription drugs	
☐ Make sure you have support (like a caregiver) in place that can help you. See "Resources" on page 6 for more information.	
☐ Ask the staff to show you and your caregiver any other tasks that require special skills (like changing a bandage or giving a shot). Then, show them you can do these tasks. Write down a name and phone number of a person you can call if you need help.	
☐ Ask to speak to a social worker if you're concerned about how you and your family are coping with your illness. Write down information about support groups and other resources.	
☐ Talk to a social worker or your health plan if you have questions about what your insurance will cover, and how much you'll have to pay. Ask about possible ways to get help with your costs.	

Action items	Notes
☐ Ask for written discharge instructions (that you can read and understand) and a summary of your current health status. Bring this information and your completed "My drug list" to your follow-up appointments.	
☐ Use "My appointments" on page 5 to write down any appointments and tests you'll need in the next several weeks.	
For the caregiver	
☐ Do you have any questions about the items on this checklist or on the discharge instructions? Write them down, and discuss them with the staff.	
☐ Can you give the patient the help he or she needs?	
☐ What tasks do you need help with?	
☐ Do you need any education or training?	
☐ Talk to the staff about getting the help you need before discharge.	
☐ Write down a name and phone number of a person you can call if you have questions.	
☐ Get prescriptions and any special diet instructions early, so you won't have to make extra trips after discharge.	

More information for people with Medicare

If you need help choosing a home health agency or nursing home:

- Talk to the staff.
- Visit **Medicare.gov** to compare the quality of home health agencies, nursing homes, dialysis facilities, and hospitals in your area.
- Call **1-800-MEDICARE** (1-800-633-4227). TTY users should call 1-877-486-2048.

If you think you're being asked to leave a hospital or other health care setting (discharged) too soon:
You may have the right to ask for a review of the discharge decision by the Beneficiary and Family Centered Care Quality Improvement Organization (BFCC-QIO) before you leave. A BFCC-QIO is a type of quality improvement organization (a group of doctors and other health care experts under contract with Medicare) that reviews complaints and quality of care for people with Medicare. To get the phone number for your BFCC-QIO, visit **Medicare.gov/contacts**, or call **1-800-MEDICARE**. You can also ask the staff for this information. If you're in a hospital, the staff should give you a notice called "Important Message from Medicare," which contains information on your BFCC-QIO. If you don't get this notice, ask for it.

For more information on your right to appeal, visit **Medicare.gov/appeals**, or visit **Medicare.gov/publications** to view the booklet "Medicare Appeals."

My drug list

Filled out on: _____

Fill out this list with all prescription drugs, over-the-counter drugs, vitamins, and herbal supplements you take. Review this list with the staff.

If you have Medicare and limited income and resources, you may qualify for Extra Help to pay for your Medicare prescription drug coverage. For more information about Extra Help, visit **Medicare.gov/publications** to view the booklet "Your Guide to Medicare Prescription Drug Coverage."

Drug name	What it does	Dose	How to take it	When to take it	Notes

My appointments

Appointments and tests	Date	Phone number

Resources

The agencies listed here have information on community services, (like home-delivered meals and rides to appointments). You can also get help making long-term care decisions. Ask the staff in your health care setting for more information.

Area Agencies on Aging (AAAs) and Aging and Disability Resource Centers (ADRCs): Help older adults, people with disabilities, and their caregivers. To find the AAA or ADRC in your area, visit the Eldercare Locator at **eldercare.gov**, or call 1-800-677-1116.

Medicare: Provides information and support to caregivers of people with Medicare. Visit **Medicare.gov**.

Long-Term Care (LTC) Ombudsman Program: Advocate for and promote the rights of residents in LTC facilities. Visit **ltcombudsman.org**.

Senior Medicare Patrol (SMP) Programs: Work with seniors to protect themselves from the economic and health-related consequences of Medicare and Medicaid fraud, error, and abuse. To find a local SMP program, visit **smpresource.org**.

Centers for Independent Living (CILs): Help people with disabilities live independently. For a state-by-state directory of CILs, visit **ilru.org/html/publications/directory/index.html**.

State Technology Assistance Project: Has information on medical equipment and other assistive technology. Visit **resna.org**, or call 1-703-524-6686 to get the contact information in your state.

National Long-Term Care Clearinghouse: Provides information and resources to plan for your long-term care needs. Visit **longtermcare.gov**.

National Council on Aging: Provides information about programs that help pay for prescription drugs, utility bills, meals, health care, and more. Visit **benefitscheckup.org**.

State Health Insurance Assistance Programs (SHIPs): Offer counseling on health insurance and programs for people with limited income. Also help with claims, billing, and appeals. Visit **shiptacenter.org**, or call 1-800-MEDICARE (1-800-633-4227) to get your SHIP's phone number. TTY users should call 1-877-486-2048.

Medicaid: Helps with medical costs for some people with limited income and resources. To find your local office, visit **Medicare.gov/contacts**, or call 1-800-MEDICARE.

CMS Product No. 11376
Revised June 2015

The information in this booklet describes the Medicare program at the time this booklet was printed. Changes may occur after printing. Visit Medicare.gov, or call 1-800-MEDICARE (1-800-633-4227) to get the most current information. TTY users should call 1-877-486-2048.

"Your Discharge Planning Checklist" isn't a legal document. Official Medicare Program legal guidance is contained in the relevant statutes, regulations, and rulings.

Appendix 5: The Mental Health Care Clusters and the Mental Health Clustering Tool

The Mental Health Care Clusters

CARE CLUSTER 1: Common Mental Health Problems (Low Severity) This group has definite but minor problems of depressed mood, anxiety or other disorder but they do not present with any distressing psychotic symptoms.
CARE CLUSTER 2: Common Mental Health Problems (Low Severity with greater need) This group has definite but minor problems of depressed mood, anxiety or other disorder but not with any distressing psychotic symptoms. They may have already received care associated with cluster 1 and require more specific intervention or previously been successfully treated at a higher level but are re-presenting with low level symptoms.
CARE CLUSTER 3: Non Psychotic (Moderate Severity) Moderate problems involving depressed mood, anxiety or other disorder (not including psychosis).
CARE CLUSTER 4: Non-psychotic (Severe) This group is characterised by severe depression and/or anxiety and/or other increasing complexity of needs. They may experience disruption to function in everyday life and there is an increasing likelihood of significant risks.
CARE CLUSTER 5: Non-psychotic Disorders (Very Severe) This group will be severely depressed and/or anxious and/or other. They will not present with distressing hallucinations or delusions but may have some unreasonable beliefs. They may often be at high risk for suicide and they may present safeguarding issues and have severe disruption to everyday living.
CARE CLUSTER 6: Non-psychotic Disorder of Over-valued Ideas Moderate to very severe disorders that are difficult to treat. This may include treatment resistant eating disorder, OCD etc, where extreme beliefs are strongly held, some personality disorders and enduring depression.
CARE CLUSTER 7: Enduring Non-psychotic Disorders (High Disability) This group suffers from moderate to severe disorders that are very disabling. They will have received treatment for a number of years and although they may have improvement in positive symptoms considerable disability remains that is likely to affect role functioning in many ways.
CARE CLUSTER 8: Non-Psychotic Chaotic and Challenging Disorders This group will have a wide range of symptoms and chaotic and challenging lifestyles. They are characterised by moderate to very severe repeat deliberate self-harm and/or other impulsive behaviour and chaotic, over dependent engagement and often hostile with services.
CARE CLUSTER 10: First Episode Psychosis This group will be presenting to the service for the first time with mild to severe psychotic phenomena. They may also have depressed mood and/or anxiety or other behaviours. Drinking or drug-taking may be present but will not be the only problem.
CARE CLUSTER 11: Ongoing Recurrent Psychosis (Low Symptoms) This group has a history of psychotic symptoms that are currently controlled and causing minor problems if any at all. They are currently experiencing a period of recovery where they are capable of full or near functioning. However, there may be impairment in self-esteem and efficacy and vulnerability to life.
CARE CLUSTER 12: Ongoing or recurrent Psychosis (High Disability) This group have a history of psychotic symptoms with a significant disability with major impact on role functioning. They are likely to be vulnerable to abuse or exploitation.
CARE CLUSTER 13: Ongoing or Recurrent Psychosis (High Symptom & Disability) This group will have a history of psychotic symptoms which are not controlled. They will present with severe to very severe psychotic symptoms and some anxiety or depression. They have a significant disability with major impact on role functioning.

CARE CLUSTER 14: Psychotic Crisis They will be experiencing an acute psychotic episode with severe symptoms that cause severe disruption to role functioning. They may present as vulnerable and a risk to others or themselves.
CARE CLUSTER 15: Severe Psychotic Depression This group will be suffering from an acute episode of moderate to severe depressive symptoms. Hallucinations and delusions will be present. It is likely that this group will present a risk of suicide and have disruption in many areas of their lives.
CARE CLUSTER 16: Dual Diagnosis This group has enduring, moderate to severe psychotic or affective symptoms with unstable, chaotic lifestyles and co-existing substance misuse. They may present a risk to self and others and engage poorly with services. Role functioning is often globally impaired.
CARE CLUSTER 17: Psychosis and Affective Disorder – Difficult to Engage This group has moderate to severe psychotic symptoms with unstable, chaotic lifestyles. There may be some problems with drugs or alcohol not severe enough to warrant dual diagnosis care. This group have a history of non-concordance, are vulnerable & engage poorly with services.
CARE CLUSTER 18: Cognitive Impairment (Low Need) People who may be in the early stages of dementia (or who may have an organic brain disorder affecting their cognitive function) who have some memory problems, or other low level cognitive impairment but who are still managing to cope reasonably well. Underlying reversible physical causes have been rule out.
CARE CLUSTER 19: Cognitive Impairment or Dementia Complicated (Moderate Need) People who have problems with their memory, and or other aspects of cognitive functioning resulting in moderate problems looking after themselves and maintaining social relationships. Probable risk of self-neglect or harm to others and may be experiencing some anxiety or depression.
CARE CLUSTER 20: Cognitive Impairment or Dementia Complicated (High Need) People with dementia who are having significant problems in looking after themselves and whose behaviour may challenge their carers or services. They may have high levels of anxiety or depression, psychotic symptoms or significant problems such as aggression or agitation. The may not be aware of their problems. They are likely to be at high risk of self-neglect or harm to others, and there may be a significant risk of their care arrangements breaking down.
CARE CLUSTER 21: Cognitive Impairment or Dementia (High Physical or Engagement) People with cognitive impairment or dementia who are having significant problems in looking after themselves, and whose physical condition is becoming increasingly frail. They may not be aware of their problems and there may be a significant risk of their care arrangements breaking down.
CARE CLUSTER 0: Variance Despite careful consideration of all the other clusters, this group of service users are not adequately described by any of their descriptions. They do however require mental health care and will be offered a service.

Source: Department of Health (2010) Mental Health Care Clustering Booklet 2010/11. London

The Mental Health Clustering Tool

PART 1: Health of the Nation Outcomes Scale

1. Overactive, aggressive, disruptive or agitated behaviour (current) 2. Non-accidental self-injury (current) 3. Problem-drinking or drug-taking (current) 4. Cognitive problems (current) 5. Physical illness or disability problems (current) 6. Problems associated with hallucinations and delusions (current) 7. Problems with depressed mood (current) 8. Other mental and behavioural problems (current) 9. Problems with relationships (current) 10. Problems with activities of daily living (current) 11. Problems with living conditions (current) 12. Problems with occupation and activities (current) 13. Strong unreasonable beliefs occurring in non-psychotic disorders only.
PART 2: Historical questions, additional to HoNOS
A. Agitated behaviour/ expansive mood (historical) B. Repeat self-harm (historical) C. Safeguarding Children & Vulnerable Dependent Adults (historical) D. Engagement (historical) E. Vulnerability (historical)

Source: Department of Health (2010) Mental Health Care Clustering Booklet 2010/11. London

Appendix 6: AEP questionnaire for general acute admissions

Part A: patient identifiers			
A1	Patient name		
A2	Patient ID number		
A3	Hospital Department		
A4	Admission date and time	D ay M onth Y ear	Time
Part B: criteria			
1	Sudden onset of unconsciousness	Includes coma or unresponsiveness, which represent acute change in the patient's normal state. Includes loss of consciousness from trauma, which occurred during referral to hospital. Excludes disorientation or confusion.	
2	Abnormally high or low pulse rate	A rate below 50 bpm or above 140 bpm, recorded on at least two occasions five minutes apart.	
3	Abnormally high or low blood pressure	A systolic level below 90 or above 200 mmHg, and diastolic level below 60 or above 120 mmHg.	
4	Acute loss of sight or hearing	Loss which is severe or total, and which had a sudden onset, and which is present at time of admission.	
5	Acute loss of ability to move major body part	Includes injuries from serious trauma (fractured pelvis, paralysis, whole leg or arm), cervical spine fractures with risk of spinal cord injury, acute dysphagia with risk of inhalation). Excludes injuries of only foot or hand.	
6	Persistent fever	Fever for 5 days or more with temperature over 38°C.	
7	Active bleeding	Includes continuous hemorrhage from any site, not able to be treated in Casualty Department. Also includes suspicion of internal bleeding.	
8	Severe electrolyte or blood gas abnormality	Measure taken at time of arrival in Casualty Department, as follows: Sodium <123 or >156 mEq/L Potassium <2.5 or >6.0 mEq/L Bicarbonate <20 or >36 mEq/L Arterial pH <7.3 or >7.45 PCO2 >50 mmHg Serum Ca >3 mmol/L PO2 <50 mmHg	
9a	Electrocardiogram abnormality	Results of ECG taken on presentation that suggest acute myocardial ischemia, and that the change is recent.	

9b	Suspicion of acute myocardial ischemia	Medical judgment of acute myocardial ischemia, in the absence of ECG or biochemical enzyme changes.	
10	Wound dehiscence or evisceration	Only includes post-treatment complications of wound splitting or rupture requiring reclosure.	
11	Incapacitating pain	Severe pain with suspected medical emergency, unable to be diagnosed or adequately treated in the Emergency Department.	
12	Parenteral medications and/or fluid replacement	Includes IV, IM, IT, and intra-arterial at least 8-hourly. Also includes PRN order for IV medication at least 8-hourly. Also includes stabilization by insulin for young patients with brittle severe diabetes. Excludes order to keep vein open.	
13	Significant procedure within 24 hours of admission	Significant means requiring general or regional anesthesia, and performance in a specialized facility (such as operating room).	
14	Inpatient care required which is only available in acute hospital	Care requires the use of equipment or facilities, or the conduct of a procedure only available in an acute inpatient setting.	
15	Vital sign monitoring at least every 2 hours	Includes temperature, pulse, respiration, blood pressure, neurological observations on a coma scale, telemetry or bedside cardiac monitoring. Also includes nurse monitoring under medical orders at least five times daily for patients with history of coma, severe abdominal pain, or suspicion of internal bleeding.	
16	Intermittent or continuous use of a respirator	Intermittent means at least every 8 hours.	
17	Elderly frail patients with severe dyspnoea	Relates to the combination of frailty and the clinical diagnosis.	
18	Severe breathlessness due to bronchial asthma	Includes patients where the FEV1, after treatment, might not rise to 70% of predicted normal.	
19	Social admission, patient needs overnight accommodation	Includes patient who needs hospital care, and who cannot afford to accommodate self.	

20	Social admission, unsafe home	Includes fear of abuse of child or female. Includes elderly patient with problems of safety such as cold weather.	
21	Other social admissions	As defined by ICD codes.	
ONLY COMPLETE PARTS C AND D IF NO CRITERIA ARE MEET IN PART B			
Part C: care that should have been provided instead			
1	Hospital emergency department care (ambulatory)		
2	Hospital outpatient clinic (ambulatory)		
3	Nursing home (residential care)		
4	Primary care (family doctor, etc)		
5	Home care		
6	Other (write in):		
Part D: reasons for inappropriate admission			
1	Medical error (defensive medicine)		
2	No suitable alternative care available		
3	Other (write in):		

Appendix 7: Sample Disease Management Program form from Australia

CHRONIC DISEASE MANAGEMENT
COMBINED
PREPARATION OF A GP MANAGEMENT PLAN (GPMP) (MBS ITEM NO. 721) & COORDINATION OF TEAM CARE ARRANGEMENTS (MBS ITEM NO. 723)

SAMPLE FORMS

Date these services were provided:	

Patient's name and address:	
Date of Birth:	
Contact Details:	
Medicare No.	
Private health insurance details, if applicable:	

Details of patient's usual GP:	**Details of patient's carer (if applicable):**

If the patient has a previous or existing care plan, when was it prepared and what were the outcomes:

Other notes or comments relevant to the patient's care planning:

Medications:

Allergies:

Patient's Name:

I have explained the steps and costs involved, and the patient has agreed to proceed with the service

(GP's signature and date)

PREPARATION OF A GP MANAGEMENT PLAN (ITEM 721)			
Patient's health problems / health needs / relevant conditions	**Management goals with which the patient agrees**	**Treatment and services required, including actions to be taken by the patient**	**Arrangements for providing treatment/services (when, who, contact details)**

Copy of GPMP offered to patient? YES /NO

Copy/relevant parts of the GPMP supplied to other providers? YES / NO / NOT REQUIRED

GPMP added to the patient's records? YES / NO

Review date for this plan: dd/ mm / yy

Patient's Name:

I have explained the steps and costs involved, and the patient has agreed to proceed with the service

(GP's signature and date)

COORDINATION OF TEAM CARE ARRANGEMENTS (ITEM 723)		
Treatment and service goals for the patient / changes to be achieved	**Treatment and services that collaborating providers will provide to the patient**	**Actions to be taken by the patient**

Copy of TCAs offered to patient? YES / NO

Copy / relevant parts of the TCAs supplied to other collaborating providers? YES / NO / NOT REQUIRED

TCAs added to the patient's records? YES / NO

Referral forms for Medicare allied health services completed? YES / NO

The referral form issued by the Department can be found at www.health.gov.au/mbsprimarycareitems or a form can be used that contains all of the components of the Department's form.

Review date for these TCAs: dd/ mm / yy