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Using patient-level information

Costing extension (formerly IR3)

Version1, March 2022

Using patient-level information[1]

Purpose: To set out the uses for costed patient-level information in providers and the wider health economy, and for healthcare development.[2]

Objectives

1. To ensure providers use the patient-level information and costing system (PLICS) outputs as part of the toolkit of information for operational, strategic, improvement and value-based decisions about patient care. Value-based healthcare combines cost and outcome of patient care to provide more useful information for clinicians and service managers than cost alone.

2. To ensure senior management – including the trust board members on behalf of their organisations – understand how the PLICS outputs can contribute to short and long-term planning and participate in review and use of the information.

3. To ensure all finance professionals and wider stakeholders can understand and use the PLICS outputs effectively.

4. To provide appropriate information for local contracting arrangements for NHS and non-NHS commissioners[3] of patient care.

[1] This document is a learning extension, formerly IR3. The basic requirements in the standard are the minimum recommended levels. Those elements suggested to be 'superior methods' are given separately: use of these indicates a higher-level for the use of cost data.
[2] This includes use of the publicly released data for research, pricing, etc.
[3] For example, the PLICS data may contribute to private patient pricing.

Scope

5. This document covers all data in the costing system: including reporting patient care, and clinical, non-clinical and functional services such as pathology, catering and estates.

6. The document specifies the recommended local uses of the PLICS output information. We recommend that over time, and to work towards best practice, trusts use the 'superior methods' of reporting to extend the output and help meet their local needs. All paragraphs show the minimum recommended uses, unless stated to provide a superior method.

7. PLICS information should provide the source data for the mandated, annual, National Cost Collection (NCC) where a provider is required to submit PLICS for in-scope services.

8. To reduce duplication in the costing process, where services are costed and submitted to the NCC at average cost per unit level (services out of scope of the patient-level collection[4]), this data will also come from the PLICS.

Overview

9. This document is a framework for the use of PLICS outputs. The recommended elements will ensure organisations achieve both technical understanding of the cost data and make use of the data to inform service management, commissioning discussions and strategic direction.

10. The technical elements will include an organisation gaining a minimum understanding of cost drivers to support their work to identify and achieve economic and effective efficiencies, to improve their data quality (where needed), and to review and challenge their patient-level cost data. Best practice enhancements are suggested and identified as 'superior methods'.

11. Making use of the data takes the organisation into a service line management[5] model, using cost as one tool in the toolkit for NHS decision making.

[4] The collection format formerly known as reference costs.
[5] A costing learning extension document on service line management will be available in mid 2022.

12. Trusts can use this framework as a basis for their use of PLICS, developing it further in locally agreed and sector-relevant areas, as required.

13. PLICS data should be used regularly by the trust to provide value-added information and not used solely for the annual national submission of cost and activity.

14. PLICS for service decision-making should be used in conjunction with other decision-making criteria, such as safety and outcome metrics.

15. Understanding the costs of delivering services is fundamental to managing and improving patient care, managing financial position and ensuring effective business planning. Therefore, cost information should be considered in conjunction with the organisation's regular management information systems and processes to an agreed local timetable of inclusion.

16. PLICS data should be a central source of patient service cost information and should be used in conjunction with financial management processes.

17. PLICS data should be used for benchmarking against relevant parties within and external to the organisation, using local and national tools as relevant to understand opportunities.

18. Shared outputs should be presented in appropriate formats and levels of detail to meet different user needs. For example:

    - aggregated information for executives and finer detail for consultants
    - graphical and case study illustrations to support different learning styles.

19. Reports/dashboards should be user friendly, clear and concise, and show other relevant metrics and comments for context. We do not specify the layout of dashboards as this will vary by software, sector relevance and local agreement.

20. The content of reports/dashboards should be agreed with the costing steering group.[6]

[6] Or other named group of senior stakeholders as established locally. This group is described in costing extension: Assurance of cost data.

21. Costing teams are known to be a limited resource; therefore, the wider organisation will need to be involved in implementing this document, with the costing steering group liaising with the board to obtain support and engaging financial management and informatics colleagues. This will help ensure the information is used.

Approach

22. The provider should have a plan to make PLICS data available to agreed local stakeholders on a regular basis and to fulfil ad-hoc enquiries: for example, quarterly service-line management reports for executives and deep-dive information on a particular procedure or detailed data quality reviews requested by a service manager or lead clinician.

23. To facilitate PLICS data use, the costing team should contribute data to dashboards, reports and tools. As a superior method, data will be included through the trust's main dashboard for business intelligence and performance information.

24. Benchmarking information – as available via national tools such as the National Cost Collection index – should be reviewed annually and discussed at board level using appropriate comparator services or organisations. As a superior method, the PLICS portal or other benchmarking tools for PLICS information should be used when reviewing regular and detailed PLICS information. Also, as a superior method, benchmarking information should be made available to service managers and clinicians to support their review of costs.

25. Table IR3.1 shows examples[7] of how the PLICS data can be used as part of the decision-making toolkit.

[7] These examples are not recommended elements – but can be used to formulate a plan to roll out PLICS information.

Table IR3.1: Examples of how PLICS data can be used as part of the decision-making toolkit

To underpin and provide more detail on clinical and operational performance reviews, such as Getting It Right First Time (GIRFT), Use of Resources project and Model Hospital/Model Mental Health/Model Community metrics.
To identify cost savings and efficiencies.
Business cases – such as those for patient service investment, and reviews of past business cases.
Clinical reconfiguration of pathways and patient services.
Integrated care system and sustainable transformation partnership reviews.
Access to income information.
Regular service-line reporting (SLR) comparisons between income and cost at service level – to include profitability information.[8]
Commissioning/contracting including local requirements where there is no national pricing structure.
Benchmarking performance by site, service or consultant – for example, in terms of profitability, patients treated or number of cataracts on a theatre list.
Facilitating reviews of new innovations and working towards improved health outcomes.
Reviews of private patient cost recovery and to support pricing discussions.
Use of artificial intelligence (AI) can mine the PLICS information to look at trends and highlight key areas for review.

26. PLICS may also contribute to the understanding of other metrics; for example, enabling:

[8] Service line reporting, as part of service line management will be included in a new costing learning extension due for publication in mid 2022.

- clinicians to see coded data and have the opportunity to discuss coding and data quality
- clinicians and managers to understand the impact of cost as part of value-based healthcare reviews (in conjunction with outcome data)
- trusts to improve the accuracy of national metrics such as the hospital standardised mortality ratio.

27. Data users should be trained adequately for the level at which they view and manipulate the dashboard/reports. Different users may require different levels of training – to be defined locally.

28. A support mechanism for data queries should be provided.

29. PLICS data uses should be showcased to the trust board at least twice a year, eg local case studies. This is additional to the reporting for assurance of quality and process described in costing extension: Assurance of cost data[9].

30. Trusts should have a plan in place for making PLICS data available to clinical and service leads. As a superior method, a range of information should be shared with regular and/or ad hoc users at directorate/division/ service level.

Information governance

31. Reporting systems should comply with local and national information governance regulations. The provider should agree what level of detail is appropriate in reports.

Dashboards and reports

32. PLICS data should be presented in a format appropriate for local users.

33. A superior method of presentation is a dashboard format – or another agreed graphical format/tool, either within the PLICS or as an output from the PLICS data. Where used, dashboards should have a simple ‘front page’ with options for high-level views of the data, as well as being able to bring up detail on subsets of the data.

[9] Costing extensions can be found on our website here.

34. PLICS data may be shared in different ways depending on its content and the licensing arrangements in place.[10]

35. The available aggregated PLICS data should include a range of the examples shown in Table IR3.2 (the superior method is to include all but the last two examples).

Table IR3.2: Data items that are useful for reporting

Trust-level information.
Service-level information, including main specialty and/or treatment function codes (TFCs) where relevant to the sector. Bespoke service-level information is recommended, especially where specialty/TFCs are insufficient.
Point of delivery information, eg elective, non-elective, outpatient, community or mental health care contact.
Healthcare resource group (HRG) information or other currency appropriate for the sector. Mandated currencies should be available. Local currencies should be included for best practice. For example, critical care currencies are mandated at HRG level, but local information may provide greater understanding at a more granular acuity level.
Consultant/named healthcare professional recorded as responsible in the data
Patient-level aggregated data – anonymised/pseudonymised for reporting[11] but retaining identification for use by relevant clinicians, or grouped into patient cohorts as per local need, eg orthopaedic patients grouped into 'hips', 'knees', 'shoulders', 'feet', 'other', etc.
Patient-level anonymised and/or patient identifiable report showing the detailed cost of an individual patient event.[12]
Geographical, site, commissioner or service team-based analysis.
The period the data covers.
PLICS resources and/or collection resources.

[10] Reporting platforms may have separate licensing arrangements from the PLICS itself.
[11] See also costing extension: Assurance of cost data, and collection guidance.
[12] This analysis is sometimes referred to as the 'hotel bill' presentation concept.

PLICS activities and/or collection activities.
General ledger cost centre and/or expense code, showing where the costs are allocated.
Fixed, semi-fixed and variable costs – see Standard CM15: Cost classification for more information.
Commissioner/funding stream, incorporating the private patient identifier.
Patient pathway linkages, if available.
Other items within the PLICS from the master dataset, eg clinic code.
Part cost flag – to show where some costed records do not represent the total cost of the patient event.

36. The information shown in reports or dashboards should be updated annually, but the superior method is to update it quarterly. This ensures the most recent data is available; the information will degrade in usefulness over time.

37. Where provided, benchmarking data should be presented in a way that meets local user requirements. For example:

    - the same period from the previous year
    - the previous period in the same year (eg 'this quarter and last quarter' for a quarterly reporting cycle) for time-bound comparison.

38. Deep-dive exercises should be agreed locally with users and a range of different analytical tools may be used; for example, to show historical trend information for a service area in more detail and with a three-month rolling average.

39. Where SLR is used to compare cost and income, it should be clear whether the data for both cost and income came from the PLICS.

40. As a superior method, SLR models based on actual values should come from the PLICS data,[13] using the same activity data for context and to reduce duplication in the costing process. This will ensure:

- SLR outputs gain PLICS drill down benefit
- SLR outputs are assured as compliant with the costing standards
- PLICS data can show the 'contribution to overheads', where the controllable costs can be separated from the support costs not controlled by service managers/clinicians.

41. For technical users of the data, eg finance professionals and analysts, the data should be available in an appropriate business intelligence tool or it should be possible to export it.[14] Advanced costing practitioners or data analysts can then perform other modelling tasks, including reviews of areas of specific need or deep-dive analyses.

42. A superior method of analysis will provide a forward projection with adjustments for known changes as well as showing a historical picture; for example, presenting historical maternity information along with the projected impact of a local birthing unit closing in another provider trust.

43. Costing extension document: Assurance of cost data requires that a 'costing steering group' with executive and clinical membership is established to support assurance around costing processes. This group should also provide oversight of the reporting and use of PLICS data.[15] The steering group should oversee the areas listed above that require a plan or local agreement. An example sample of key areas for discussion is:

- prioritisation of the development of the factors listed in Table IR3.2 above
- interface between the trust board and the PLICS data; for example, advising on the level of contact with services on performance management processes and to support the sharing of case studies
- locally agreed factors.

[13] This could be a link to the separate system or a tailored output sample. Models that use budgeted figures or standard costing are not consistent with this superior method.
[14] Further technical requirements for the PLICS are detailed in the minimum software requirements
[15] See costing extension: Assurance of cost data for more information on this group's assurance role.

44. We recommend that costing teams work first with individuals who embrace the concepts of PLICS to better manage services.

Financial analysis and benchmarking

45. Data for PLICS is often produced separately from that used by managers for budgetary management purposes. Costing teams should work with the wider finance team to present costed patient care information in conjunction with other types of financial information in a locally agreed format. A superior method is for PLICS, budget and income information all to be included in the decision-making toolkit[16] to give a full picture of the factors influencing financial performance.

46. The costing team should work with the financial management team to ensure that senior managers and users of PLICS data understand the differences between PLICS, budgetary and income information. A superior method includes the rolling out of this understanding to the wider finance team, and all service managers and clinical leads.

47. Finance professionals should understand the PLICS information for the service area for which they are responsible, so they can direct colleagues to relevant costing information and answer queries about it.

48. A superior method is for finance management staff job descriptions to include the ability to understand patient-level costing and activity data at a level appropriate to their grade. For the organisation to realise benefits from PLICS, finance management staff will also need to have objectives relating to working with the costed data outputs. While costing teams are varied and often small relative to finance teams, close working between the two is essential if data outputs are to be put to good use.

User engagement – clinical and service management

49. Service and clinical leader engagement with cost information is essential to ensure the PLICS is effectively used. If service leaders are confident about the quality of information provided (see costing extension: Assurance of cost data), they can use it in conjunction with other decision-making tools.

[16] It is recognised that budgetary management is presented in a different format to SLR information.

50. Training programmes should be designed to ensure service and clinical leaders understand what PLICS is and how it works. They should understand that because the costing process adopted by PLICS is a full absorption model, some of the costs included in the unit cost are easier to address than others. Getting a clinician to focus on looking at their contribution to overheads may be beneficial.

51. As reported by costing practitioners, best practice is achieved by first presenting information in a way that shows how patients will potentially benefit from PLICS. Patient events may draw more attention than the cost alone. Therefore, when sharing information, you should promote:

- an understanding of your organisation's activity data
- the benefit of good quality electronic patient record data for the patient, as well as the clinician in helping them understand how to improve it
- awareness of how the effective use of resources can make more funds available for patient care improvements.

52. Superior methods of presenting PLICS information that encourage clinical engagement include:

- outcome measures (where they exist) showing the value of the service to the patient, eg International Consortium for Health Outcome measures (ICHOM) or NHS Digital's patient-related outcome measures (PROMs). This progresses business intelligence and use of cost data towards the 'value-based healthcare' model.[17] We recognise that while costing practitioners are not responsible for the outcome data, they can meaningfully add to discussions
- link activity (and cost) to patient pathways
- link to clinical metrics – such as GIRFT or Care Quality Commission reviews
- include patient experience metrics – such as patient-related experience measures (PREMs). These are often only available by service or at a high level but can be used at service level.

[17] Porter ME, Olmsted Teisberg E (2006) *Redefining health care: creating value-based competition on results*. Harvard Business Review Press.

Functional services

53. It is important that managers of clinical and non-clinical functional services can view and understand the data for their areas, such as diagnostics, estates and facilities, HR, supplies and procurement.

54. You should engage regularly with these functional areas to show them how their information is used in PLICS, to better understand how the costs are included in the patient care cost and to identify opportunities for efficiencies.

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