

# Hospital pharmacist perspectives on the role of KPIs in Australian pharmacy practice

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## Background and Aim

To date, there is **no national or international consensus** on which key performance indicators (KPIs) should be used to measure hospital pharmacy performance. KPIs are quantifiable measures that reflect critical success factors and mirror the goals of an organisation.<sup>1</sup> More specifically, indicators are measures of the processes and outcomes of health care that can be used to monitor and improve service delivery.<sup>1</sup> The aim of this study was **to explore hospital pharmacists' perspectives** on the role of KPIs and to use their perspectives to **suggest a set of KPIs** for use in Australian hospital pharmacy practice.

## Methods

The study comprised of two parts:

**Part A** involved semi-structured interviews with hospital pharmacists from major Sydney metropolitan hospitals; interviews were conducted until theme saturation was attained.

**Part B** involved an online survey comprising Likert-scale responses and open-ended questions; the survey was distributed nationally to pharmacists via the Society of Hospital Pharmacists of Australia (SHPA) eNewsletter and Facebook page.

## Results

**Part A:** 19 hospital pharmacists were interviewed, four identified themselves as directors, four as senior divisional managers, three as clinical pharmacy specialists, four as rotational ward pharmacists and four as interns. The emergent themes identified:

### Theme 1: Blurred Lines – KPIs Versus Other Measurement Processes

There was a general lack of understanding about what constituted a KPI, often being confused with competency assessments, performance appraisal and other processes such as benchmarking, particularly among more junior pharmacists.

*'KPIs are very important, for example SHPA ClinCAT'. (Hospital Pharmacist 1)*

### Theme 2: KPIs Were Externally Set Without Concordance

There was a widespread opinion that KPIs were generally imposed by higher-level, over-arching organisations without any consultation from the pharmacy or engagement of those individuals involved in the collection of data.

*'[KPIs are] a set of guidelines ... that is outlined by New South Wales Health for a hospital setting'. (Hospital Pharmacist 5)*

*'KPIs are something that someone sets for us to try and achieve ... sometimes they are unrealistic and they're not set by people who are actually in those positions'. (Hospital Pharmacist 6)*

There was a lack of engagement in, and awareness of, KPI processes, particularly of junior level pharmacists. Most pharmacists did not feel that the purpose or the results of currently measured KPIs were communicated effectively back to them.

### Theme 3: Fears Surrounding the Use of KPIs

Perceived risks concerning the use of KPIs were identified by pharmacists, with many expressing that self measured data do not create relevant KPIs as they are often not recorded due to time restraints. Furthermore, a number of pharmacists added that robust collection of KPI data may interfere with clinical priorities, and that the time spent collecting it could be better spent on the clinical pharmacy activities that these KPIs were designed to assess and improve.

*'The data may not be reflective of what the actual pharmacists are doing because quite often they don't have time to [input the data]...if you don't have time to enter in the data, [the KPI] is not relevant'. (Hospital Pharmacist 8)*

A particular fear raised by many pharmacists was that KPIs were being used to create comparisons between peers and hospitals. It was repeatedly stressed that, because hospitals have different staff-to-patient ratios, we could not compare them in this way.

*'I also think that people are a bit scared of external comparisons'. (Hospital Pharmacist 11)*

### Theme 4: KPIs Are Quantitative Indicators Not Qualitative Outcomes

An overarching theme across the participants, particularly of more senior pharmacists, was the concern that KPIs were regarded by some (especially departments external to pharmacy) as qualitative outcome measures rather than what they truly are – quantitative indicators. There was a strong sentiment that the accuracy and relevance of KPIs were confounded by other external factors.

*'We should have KPIs but you can't use them to measure quality'. (Hospital Pharmacist 4)*

### Identification of relevant activities for KPI development

When asked to identify the potential KPIs for use in Australian hospital pharmacy, the major focus was on clinical interventions, medication reviews, discharges, medication reconciliation and patient counselling.

## Results

**Part B:** 49 online surveys were received.

Overall, participants agreed that KPIs are a valuable tool and can be incorporated into routine pharmacy practice. In regard to the most useful purpose of a KPI, most of the participants considered KPIs as a tool for professional development and for external benchmarking (comparison of hospital pharmacy performance between organisations). On the other hand, the least useful function of a KPI was to monitor and/or reduce department expenditure.

Pharmacists were asked to rate the 12 proposed KPIs (based on Part A findings) in terms of importance, relevance and measurability (Table 1).

Table 1 KPIs rated in terms of importance, relevance and measurability\*

Proposed key performance indicator	Importance		Relevance		Measurability	
	Median	IQR	Median	IQR	Median	IQR
1. Percentage of inpatients who has a correctly completed record (medication and reaction) of prior ADR and allergy documented within a day of admission	5	1	5	1	4	2
2. Percentage of hospital inpatients that receive verbal counselling and/or written information about their medicines prior to discharge	5	1	5	1	3	1
3. Percentage of discharge prescriptions reviewed and reconciled by a pharmacist prior to dispensing	5	1	5	1	3	1
4. Percentage of patients who have a complete and accurate list of their current medications (including over the counter and complementary medications) documented and verified within a day of admission	5	1	4	1	4	2
5. Percentage of discharge summaries that document an accurate medication list and the reasons for all medication therapy changes from medicines taken prior to admission	5	1	4	1	3	1
6. Percentage of days on which a patient receives a medication chart review during the admission	4	1	4	2	4	1
7. The number of complaints that pharmacy department has received	4	1	4	2	4	1
8. The turnaround time for a script to be dispensed, that is presented to the pharmacy with no errors	4	1	4	1	3	2
9. The number of drug information inquiries that have been answered	4	1	4	2	3	2
10. Percentage of attempted clinical interventions by the pharmacists that were accepted by the clinician	4	2	4	2	2	1
11. The number of continuing education sessions that have been delivered	3	1	3	1	4	1
12. The number of ward meetings attended by the pharmacist	3	2	3	2	4	2

ADR = adverse drug reaction; IQR = interquartile range.

\* A Likert scale was used where: Importance was ranked as: 1 – Not important at all, 2 – Slightly important, 3 – Moderately important, 4 – Important, 5 – Very important; Relevance was ranked as: 1 – Not relevant, 2 – Slightly relevant, 3 – Moderately relevant, 4 – Relevant, 5 – Very relevant; and Measurability was ranked as: 1 – Impossible to measure, 2 – Difficult to measure, 3 – Possible to measure, 4 – Easy to measure, 5 – Very easy to measure.

## Discussion

Overall, the emergent themes identified that hospital pharmacists agreed that KPIs are a valuable tool for individual and departmental performance measurement; the usefulness of KPIs was challenged by data collection difficulties, a lack of engagement from staff, and a lack of clarification regarding the intended use of KPIs and their relevance.

Consolidation of the most important KPIs identified across both parts of this study recommends the following seven KPIs:

- Percentage of inpatients that have a correctly completed record (medication and reaction) of prior **ADR and allergy documented** within a day of admission
- Percentage of hospital inpatients who receive **verbal counselling and/or written information** about their medicines prior to discharge
- Percentage of **discharge prescriptions reviewed and reconciled** by a pharmacist prior to dispensing
- Percentage of patients who have a complete and accurate **list of their current medications** (including over the counter and complementary medications) documented and verified within a day of admission
- Percentage of **discharge summaries** that document an accurate medication list and the reasons for all medication therapy changes from medicines taken prior to admission
- Number of **clinical interventions** (any action by a pharmacist that directly results in a change in patient management or therapy) performed per patient bed day
- Proportion of **medicine charts reviewed** by clinical pharmacists within 24 hr of admission.

## Conclusion

There is a perceived need to develop **national standardised KPIs** to demonstrate the value of pharmacy services at the individual and departmental levels. However, there are challenges that will need to be addressed before the implementation of a set of consolidated KPIs that encompass the full scope of pharmacy activities.

## References

Lloyd G, Singh S, Barclay P, Goh S, Bajorek B. Hospital pharmacists' perspectives on the role of key performance indicators in Australian pharmacy practice. *J Pharm Prac Res* 2017; 47: 87-95.