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Medicines governance

— increasing medication safety

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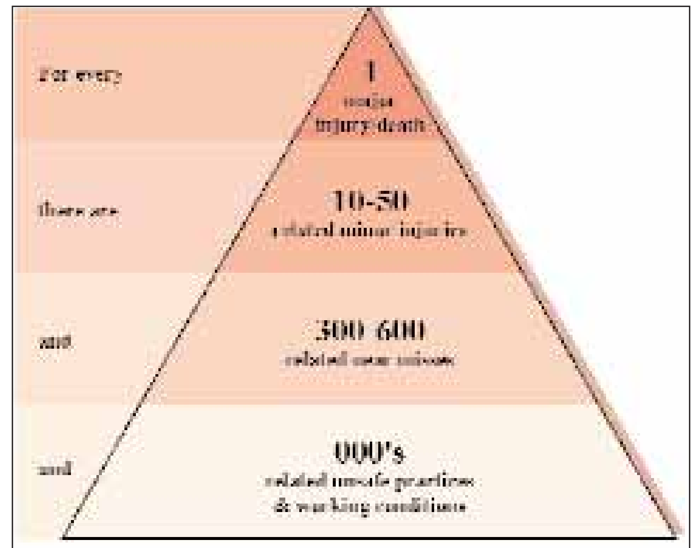
A team of pharmacists in Northern Ireland has been established to increase medication safety in secondary care. This article describes the implementation, benefits and challenges of the medicines governance project



The Heinrich pyramid has shaped much current work in incident reporting

Medication incidents have been recognised as the most common preventable cause of patient injury.[1] With this in mind Norman Morrow, chief pharmaceutical officer, Department of Health, Social Services and Public Safety (DHSSPS), Northern Ireland, submitted a proposal to the Northern Ireland executive programme fund to establish the Northern Ireland Medicines Governance project.

The project involved a team of six senior pharmacists, one of whom was placed in each of the larger acute hospitals in Northern Ireland, and linked with other trusts in their local area. This structure ensured that all trusts in Northern Ireland were covered by the team. The team was initially funded for a two-year period from August 2002 but secured permanent funding in 2004. The objectives of the team are:

- To increase levels of reporting
- To manage medication incident data
- To develop and implement medicines safety initiatives
- To provide medication safety education for staff

The team is working to achieve these objectives in a variety of ways.

Increasing reporting levels

Initially the team focused on developing and promoting medication incident reporting. A comparison of baseline data on reported medication incidents in Northern Ireland with published incident figures[1] revealed low levels of reporting. There can be many reasons why staff do not report incidents,[2] and the team aimed to achieve a greater understanding as of why this might be the case.

A survey of senior management, medical, nursing and pharmacy staff working in trusts across Northern Ireland was conducted, to identify the barriers that prevent staff from reporting medication incidents. It also assessed the culture in which medication incidents were being managed. The survey revealed that more work needed to be done to promote an open and fair culture for the reporting and management of medication incidents and was the catalyst for further discussion on this subject within trusts.

The survey results were used as part of a wider programme to promote medication incident reporting, which included a greater emphasis on the reporting of incidents that did not reach the patient or did not cause harm, and for some trusts involved a change in method of reporting.

The focus on medication incidents which have not caused harm owes much to the work of Heinrich.[3] As far back as the 1940s, Heinrich demonstrated that for each industrial incident causing serious injury, a much larger number of related incidents had occurred which resulted in minor injuries or no injury at all. This principle is known as the Heinrich pyramid (above) and has shaped much of the current approach to incident reporting in general. Reporting of incidents that cause no harm or minor harm should permit a more proactive approach to increasing safety.

The medicines governance programme has contributed to a 10-fold increase in medication incident reporting levels in Northern Ireland. The reporting of incidents that have not caused harm increased from 5 per cent at the start of the project to over 90 per cent by 2004. A recent analysis of medication incident data within Northern Ireland has shown that, in terms of patient harm, the situation now approximates the Heinrich pyramid.

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Managing incident data

The intelligent use of incident data allows the identification of medication safety issues. However, the baseline medication incident information available at the start of the project did not facilitate trend analysis to determine, for example, commonly occurring medication incidents. The team therefore developed a categorisation system for medication incidents based on a review of the other systems such as those of the Institute for Safe Medication Practices and the draft system that was being developed for the National Patient Safety Agency.

The development and adoption of this categorisation system in hospitals across Northern Ireland has allowed the regional collation of medication incidents from nine trusts and for trend analysis to be performed on a larger scale.

Medicines safety initiatives

The collation and review of medication incident data provides a basis for identifying medicine-related risk. However, it is in the review and follow-up of individual incidents that causal factors are identified which are the basis for learning and reducing risk.

The medicines governance team undertook training in root cause analysis and has worked to promote the application of those principles to the management and review of medication incidents within their own hospitals. This included follow-up of individual medication incidents, establishing local multidisciplinary review of medication incidents and ensuring that staff receive feedback to promote shared learning.

This involvement in medication incident management at a local level has yielded vital information for the development of the various team initiatives and helped ensure that the initiatives are practical and realistic to implement. Often initiatives are developed from local issues within one trust that are shared with the team and then further developed by bringing together related work on the subject from different trusts.

The team has developed a number of methods for approaching the different medication safety issues that have been identified.

Safety memos Safety memos have been used to address specific medicines risk that is within the scope of pharmacy departments. The memos are distributed to trust pharmacy managers for action and provide supporting material, where appropriate, to assist with implementation of an initiative. For example, a number of issues relating to the safe administration of intravenous phenytoin were identified from incident reports. A safety memo was then distributed which recommended review of local practice. A template of safe administration guidelines accompanied the memo for use where no local guidelines were available. Where the "dilute and filter" method was used to prepare phenytoin, information about where the correct size of inline filter could be purchased was provided.

Policies Policies have been developed for specific risk issues where the action required is within the scope of a single trust but requires local multidisciplinary consultation for implementation. The policies are distributed in a generic format for local consultation and approval, with the expectation that this format should be used wherever possible. This method of generic policy distribution has worked well to encourage local participation and ownership of initiatives, while maintaining regional consistency. As with safety memos, any supporting material required to assist the implementation is provided with the policies. For example, a policy for the documentation of allergy status has been supported by the development of a template for documentation on prescription charts, posters for patients and staff and a presentation for educational events. The team has also developed policies for the following:

- Prescribing and supply of warfarin tablets
- Use of methotrexate
- Use of oral syringes

Recommendations Where the team has identified a number of medicines safety issues that span prescribing, dispensing and administration processes, recommendations have been developed. These recommendations have often required action by primary and secondary care, other regional groups and educational facilities. Following a comprehensive review of the issues, the team forwarded a series of recommendations to the DHSSPS for consideration. The DHSSPS then issued the recommendations to the service for action. Recommendations for the safe use of oral methotrexate and the use of insulin have now been developed and the team assist with their implementation in trusts.

Best practice The team has worked in a number of ways to develop and share best practice to support the safe use of medicines, often informed by audit activity. This has included the development of a regional prescription chart template, review of trust policies for the safe use of medicines, a template incident reporting form and a review of information for the safe administration of intravenous medicines.

Medication safety education Raising awareness of medication incidents began through the promotion of reporting. A method of engaging all staff in medicines safety in a non-threatening way while providing useful advice was needed since this is an area about which staff may be sensitive and nervous. To achieve this the team produces a quarterly newsletter that raises awareness of common medication incidents and provides practical tips about how they may be avoided. The team also delivers more formal education on medication safety. This can be as part of induction programmes within trusts or in-service training for staff. The team delivers medication safety training for undergraduate medical, nursing and pharmacy students at local universities.

Medication safety initiatives

The Northern Ireland medicines governance team's safety initiatives, including safety memos, policies and newsletters, can be viewed at the DHSSPS website and can be accessed via *PJ Online* (www.pjonline.com/links/hp).

Benefits

The project structure facilitates the integration of the team within each trust while delivering regional consistency and accountability in line with the strategic direction of the DHSSPS. Having a dedicated team member in each trust has ensured that medicines safety receives due prominence within the governance agenda. It has also complemented the controls assurance programme within trusts, which began in Northern Ireland in 2003. Placing a medicines governance team member in the trust also allows initiatives to be developed from within secondary care that are both relevant and practical and ensures that the initiatives are implemented.

The networked approach brings together issues and good practice from across the region, promotes shared learning and maintains regional consistency across Northern Ireland. Consistency is a key element in reducing risk, as the team found in one of its first medicines safety initiatives — the development of a policy for the prescribing and supply of warfarin tablets. In common with the rest of the UK, some trusts and health and social services boards (HSSBs) in Northern Ireland restricted the available strengths of warfarin in an attempt to reduce confusion, but other trusts and HSSBs did not. This presented additional risks for patients moving between trusts and HSSBs. The medicines governance team worked with colleagues in primary and secondary care to implement a regional standard for the strengths of warfarin tablets supplied in Northern Ireland. The team concluded that

isolated risk reduction initiatives, however good the intentions, may actually increase risk if they differ in their approach. The team has therefore worked to maintain consistency wherever possible.

Challenges

The team has encountered a number of challenges since taking up post. For example, it was important to ensure that each of the team members fully integrated into their trust's overall governance programme and structure, taking account of the differing structures yet still delivering a consistent regional approach. It was also important to ensure all medical, nursing and pharmacy staff continued to play an active role in medication safety, rather than see it as solely the role of the medicines governance pharmacist.

There are 17 hospital trusts in Northern Ireland and six medicines governance pharmacists. To enable the most effective use of resources, the team pharmacists were based in each of the six larger acute trusts, with the remaining trusts allocated a team pharmacist who meets with the pharmacy manager on a regular basis to share work.

Although the team is based in secondary care, medication safety issues often affect both primary and secondary care. It is important to assess the impact of any initiatives on primary care, identify where collaboration is required and use existing links with primary care colleagues.

Future developments

The team has been awarded funding to expand the project into primary care. This will mirror the work in secondary care on medication incident reporting, identification of medicine-related risks and development of associated safety initiatives. It will also facilitate collaborative working with secondary care on joint medicines safety issues.

The National Patient Safety Agency's remit, as a special health authority for England and Wales, does not extend to Northern Ireland. The medicines governance team has shared its work informally in the past and a more formal arrangement the between DHSSPS and the NPSA is expected in the near future.

Conclusion

The team has demonstrated the benefits of a networked approach to medication safety. The structure of the team, working both within trusts and on a regional basis, in both unidisciplinary and multidisciplinary settings, ensures that a consistent approach to medication safety is delivered. This structure also promotes sharing and development of best practice among all staff involved in the use of medicines.

As an increasing number of posts for medication safety and clinical governance pharmacists emerge, it is important that this networked approached to working is considered. It has been the Northern Ireland medicines governance team's experience that the sum of the whole is greater than the individual parts.

References

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Safety of medicines series

All articles in the "safety of medicines in practice" series can be accessed via *PJ Online* (www.pjonline.com/safety). The website contains links to all of the regular features in *Hospital Pharmacist* (eg, focus on technicians, careers, comments).