Vaughan Gething AC/AM
Ysgrifennydd y Cabinet dros Iechyd a Gwasanaethau Cymdeithasol
Cabinet Secretary for Health and Social Services

Llywodraeth Cymru
Welsh Government

Ein cyf/Our ref MA-P/VG/1287/18

Nick Ramsay AM
Chair – Public Accounts Committee
National Assembly for Wales
Cardiff Bay
Cardiff
CF99 1NA

31 May 2018

Dear Mr Ramsay,

PUBLIC ACCOUNTS COMMITTEE REPORT MEDICINES MANAGEMENT - FURTHER RESPONSE

Further to my response to the above report which was laid before the Table Office on 2 May, I have the pleasure of enclosing an update on progress made against the recommendations made by the Auditor General for Wales in the report Managing Medicines in Primary and Secondary care.

Yours sincerely,

Vaughan Gething AC/AM
Ysgrifennydd y Cabinet dros Iechyd a Gwasanaethau Cymdeithasol
Cabinet Secretary for Health and Social Services

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Updated response to the recommendations contained in the report of the Auditor General for Wales entitled managing medicines in primary and secondary care

Auditor General for Wales' recommendation	**Welsh Government Response**	**Current Position**
The Welsh Government, NHS Wales Informatics Service (NWIS) and all health bodies should agree a detailed, time-bound plan for implementing electronic prescribing systems in secondary care, along with a clear process for monitoring the delivery of the plan.	Accepted. The NHS Wales Informatics Service (NWIS) has established the Welsh Hospital Electronic Prescribing and Medicines Administration project to develop and implement the national plan for electronic prescribing in secondary care and the inaugural meeting of the project board was held on 23 November 2016. The project team is currently working with stakeholders to define the exact scope of the project and the system requirements. Once this is complete the business case for procurement of a replacement hospital pharmacy system and an electronic prescribing and medicines administration solution will be completed by NWIS and considered by Welsh Government. Subject to the completion of the business case, it is expected that the procurement of these systems will be completed during 2018-19 with implementation beginning in the early part of 2019.	I refer committee members to the response I provided in my letter to the Chair of the Public Accounts Committee on 2 May.

The Chief Pharmaceutical Officer for Wales should lead national reviews to assess each health body's compliance with the MARRS policy, to assess the effectiveness of the new mandatory training programme on medicines management and to assess the long-term sustainability of actions taken in each health body to address all medicines-related findings from Trusted to Care; and Each health body should develop a time-bound plan for improving storage and security of medicines on hospital wards, including specific consideration of the benefits of implementing automated vending machines.	Accepted. The Chief Pharmaceutical Officer for Wales will re-convene the Medicine Administration, Recording, Review and Storage (MARRS) working group to undertake a review of each health body's compliance with the MARRS policy. Due to unforeseen circumstances there has been a delay in implementing the e-learning programme on medicines administration. The working group will therefore give further considerations as to how the e-learning programme can be rolled out most effectively. We envisage the first meeting of the re-convened MARRS working group will be in April 2017 and that it will complete its review by March 2019. Patient Safety Notice PSN 030, issued in April 2016 set out the expected standards for safe and secure storage of medicines on hospital wards. We have identified the need to review the requirements contained in the notice in light of concerns that the cost of replacing the storage on all hospital wards, regardless of current condition, would be disproportionate to the anticipated benefit; given the low level of risk presented by storage facilities on the	National review to assess each health body's compliance with the MARRS policy The Medicine Administration, Recording, Review and Storage (MARRS) working group was reconvened in 2017 to undertake a review of each health body's compliance with the All Wales MARRS policy. The MARRS working group has developed a compliance assessment which was distributed to each health board, Velindre Cancer Centre and Public Health Wales NHS Trust at the end of 2017; completed assessments were submitted to the working group in January 2018. The MARRS working group are currently reviewing each health body's assessment and the supporting evidence provided before determining whether any additional action is required. MARRS e-learning The MARRs e-learning programme on medicines administration was made available to all NHS employees involved in the administration of medicines through the Electronic Staff Record (ESR) in April 2018.

	majority of wards. The MARRS working group will, as part of its work, review PSN 030 and updated guidance will be issued before the end of 2017. The Chief Pharmaceutical Officer will, with the Chief Pharmacists in local health boards and Velindre Cancer Centre, complete an audit of the current use automated ward vending machines in NHS hospitals in Wales and develop a prioritised list of sites in which automated ward vending should be implemented. This work will be completed by June 2017.	<u>Improving medicines storage</u> The MARRS working group has reviewed Patient Safety Notice PSN 030, which sets out the expected standards for safe and secure storage of medicines on hospital wards. The working group consider the significant cost of replacing the storage on all hospital wards, regardless of current condition, would be disproportionate to the anticipated benefit. In order to prioritise the replacement of storage on hospital wards, the working group is currently revising PSN 030 to introduce a requirement for NHS bodies to undertake a standardised approach to the risk assessment of storage facilities. A stocktake of the current use automated ward vending machines in NHS hospitals in Wales was undertaken in February 2017 (annex A). The NHS Chief Pharmacists Peer Group subsequently prioritised a list of sites for investment. In my recent response, I advised the committee members that a workshop on automated ward vending, arranged by the NHS Chief Pharmacists peer group, took place in November 2017 involving a wide range of stakeholders from across all NHS bodies in Wales. The summary report of the workshop is

		enclosed with this response (annex B).
Health bodies should ensure their Chief Pharmacist is, or reports directly to, an executive director; and Health bodies should have an annual agenda item at the Board to discuss an annual report covering pharmacy services, medicines management, primary care prescribing, homecare medicines services and progress in addressing the issues identified in Trusted to Care.	Accepted in part. We agree fully that the Board of every health body in Wales should regularly scrutinise all aspects of medicines management. To that end and prior to the publication of your report, in 2016-17 we included six national prescribing indicators, covering a range of areas including antimicrobial prescribing, adverse drug reaction reporting, high risk medicines and the efficient use of resources, in the NHS Outcomes Framework. To maintain focus on improving medicines management within NHS Wales, we will continue to develop medicines management indicators as part of the outcomes framework. We will also raise medicines management issues through the Joint Executive Team meetings between Welsh Government and NHS Wales bodies. The UK-wide rebalancing medicines legislation and pharmacy regulation programme, supported by the Department of Health in England on behalf of the four UK administrations, is considering various	The UK-wide rebalancing medicines legislation and pharmacy regulation programme, supported by the Department of Health in England on behalf of the four UK administrations, is considering various changes to medicines legislation which are likely to impact on the role of health body Chief Pharmacists. We anticipate the consultation on legislative changes relevant to health body Chief Pharmacists will now be published in summer 2018. In anticipation of these changes, an audit of the reporting arrangements for NHS Chief Pharmacists in Wales was undertaken in 2017. As I set out in my recent response, we have required the All Wales Medicines Strategy Group (AWMSG) to undertake work to inform and develop their existing annual report and quarterly reporting of progress against national prescribing indicators to ensure the content and format is more relevant and accessible to Board members of NHS bodies. This work will be completed in time for the publication of AWMSG's 2018-19 annual report. In addition medicines management indicators continue to form part of the NHS Wales Delivery Framework with NHS bodies are held to account for performance against the framework through

	changes to medicines legislation which are likely to impact on the role of health body Chief Pharmacists. We do not consider it would be appropriate to make a commitment regarding the reporting arrangements for Chief Pharmacists until the outcome of that programme is known. We anticipate the implications for Chief Pharmacists will be clearer in early 2018. In preparation we will undertake an audit of the reporting arrangements for NHS Chief Pharmacists in Wales, this will be complete by September 2017.	Joint Executive Team meetings.
Chief Pharmacists should seek the support of the NHS Wales Shared Services Partnership's Workforce, Education and Development Services to strengthen current resource mapping approaches to facilitate robust comparisons of pharmacy staffing levels across Wales and to produce a generic service specification. The specification should set out the typical resources required to deliver key pharmacy services, such as clinical pharmacy input and patient education on the wards. The specification should also be flexible enough to recognise that different types of	Accepted. During 2017-18 we will work with the NHS Wales Shared Services Partnership's Workforce, Education and Development Service and Chief Pharmacists of NHS Wales bodies to undertake a robust assessment of the current and future needs for the pharmacy workforce. This work will be completed by March 2018.	I note this recommendation was aimed at NHS Chief Pharmacists and the NHS Wales Shared Services Partnership's Workforce, Education and Development Services. I understand the NHS Chief Pharmacists' Peer Group has established a workforce modernisation group to progress this recommendation and other matters pertaining to the pharmacy workforce. During 2018-19, this group will support the planned train, work, live campaign for pharmacy professionals; produce a high level workforce model for pharmacy services; and undertake an analysis of existing pharmacy workforce data.

wards will require different levels of resource.		
To drive further improvements in prescribing, health bodies should ensure they have a targeted plan of action to achieve cost and quality improvements in prescribing in primary care and in secondary care, in line with prudent healthcare principles. The plan of action should be informed by regular analysis of prescribing data to ensure that attention is focused on the areas where the greatest scope exists to secure cost and quality improvements; In line with the need to increase the profile of medicines management at Board level, health bodies should ensure that performance against the National Prescribing Indicators is considered regularly by the Board, alongside progress in delivering wider cost and quality improvements in primary care prescribing; The Welsh Government should ensure the work of the Efficiency,	Accepted. The Efficiency, Healthcare Value and Improvement Group have agreed an all-Wales approach to cost and quality improvement in medicines management in primary and secondary care will be a key area for 2017-18. During 2017-18 we will agree with health board Chief Pharmacists and other stakeholders, key priorities in the following six areas: driving efficiency; reducing medicines related harm; improving patient experience and outcomes; workforce modernisation; collaborative working, better use of technology and improved estates; and benchmarking. These priorities will be taken forward on an all-Wales basis and progress overseen through regular meetings between the Chief Pharmaceutical Officer and health board Chief Pharmacists, and Joint Executive Team meetings. We will work with NHS bodies to develop and implement a clear national plan of action aimed at reducing medicines waste.	<u>Raising the profile of medicines management at Board level</u> As I set out above, during 2018-19 the All Wales Medicines Strategy Group (AWMSG) will undertake work to inform and develop their existing reports including those detailing performance against national prescribing indicators to ensure they are utilised by the Boards of NHS bodies. <u>Oversight of progress to improve the efficiency of prescribing</u> During 2017-18 the Efficiency, Healthcare Value and Improvement Group has taken action to improve cost and quality in medicines management in primary and secondary care. In particular the group has facilitated significant improvements in high value opportunities including increasing the uptake of biosimilar medicines, increases in prescribing of generic pregabalin and reductions in the use of co-proxamol across all health boards. In addition to the oversight provided by the Efficiency, Healthcare Value and Improvement

Healthcare Value and Improvement Group takes an all-Wales view on the cost and quality improvements that should be achievable through better prescribing and medicines management, and uses mechanisms such as the twice-yearly Joint Executive Team meeting between government officials and each individual health body to ensure that the necessary progress is being made in securing these improvements. The Welsh Government should work with NHS bodies to develop and implement a clear national plan of action aimed at reducing medicines wastage, building on the findings from the ongoing evaluation of the Your Medicines, Your Health campaign. Reducing waste leads to cost savings whilst at the same time helping patients to take their medicines as prescribed, thereby helping to secure maximum benefit from the medicine; and Linked to the above points, the Welsh Government should ensure that there is a clear and time-bound plan in place to roll out	Primarily this will be achieved by encouraging NHS bodies to adopt the elements of the *Your Medicines, Your Health* campaign which the ongoing evaluation, once completed, demonstrates are successful. We will also encourage health boards to implement evidence based approaches which reduce medicines waste. These will include implementing improved repeat prescribing systems such as those which have been tested through the Prudent Prescribing Implementation Group or evaluated in other parts of the UK. We envisage this work will begin in 2017-18 with a time-bound plan agreed by March 2018.	Group, NHS bodies have established an all Wales Joint Pharmacy and Finance Group which meets monthly to identify, share and progress prescribing efficiency opportunities on an all Wales basis. The Chief Pharmacist's Peer Group has developed, agreed and is taking forward key priorities against the six areas identified in the Welsh Government's response to the Auditor General's recommendations. <u>National Campaign to reduce medicines waste</u> The Public Accounts Committee's report *Medicines Management*, contains similar recommendations to which I have responded confirming that funding will be made available to health boards in 2018-19. Funding will be available to undertake local activity to promote the most successful elements of the Your Medicines Your Health campaign. My response to the Committee sets out my commitment to provide an update on work health boards are undertaking to improve repeat prescription ordering, in 2019.

improved repeat prescribing systems that are being tested by the Prudent Prescribing Implementation Group.		
The Welsh Government should develop a plan, in partnership with All Wales Medicines Strategy Group (AWMSG), health bodies and GPs, to evolve the National Prescribing Indicators so that they begin to consider measures of whether the right patients are receiving the right medicines and whether medicines are making a difference to people's outcomes.	Accepted. We agree that National Prescribing Indicators are currently too focused on the quantity and cost of medicines prescribed with inadequate consideration given to clinical appropriateness and outcomes. The availability of data to support more sensitive indicators has been a significant constraint. Whilst significant improvements have been made to reduce variation in prescribing, the rate of improvement has slowed in recent years in part as a result of this approach. We will work with the Wales Analytical Prescribing Support Unit (WAPSU) to establish a project in 2017-18 the purpose of which will be to define a new suite of National Prescribing Indicators utilising additional data sources. The indicators will be developed during 2017-18 with the intention they are approved by the All Wales Medicines Strategy Group (AWMSG) prior to their use from April 2018.	In line with the commitments given in response to the Auditor General for Wales' report, the Wales Analytical Prescribing Support Unit (WAPSU) was invited to initiate a project in 2017-18 the purpose of which was to define a new suite of National Prescribing Indicators utilising additional data sources. Following that work, the AWMSG endorsed 12 new prescribing safety indicators which combine information contained within GP practice systems, at their meeting of 14 February 2018. The detail of these indicators is available at annex C.

The All Wales Chief Pharmacists' Committee should lead a national audit of compliance with the measures set out in the all-Wales handbook on the safe and effective delivery of homecare services.	Accepted. We note this recommendation is aimed at the All Wales Chief Pharmacists' Committee. We will ensure work to improve the safe and effective delivery of homecare services, including an audit of compliance with the measures set out in the all-Wales handbook, forms part of the key priorities agreed with health board Chief Pharmacists and other stakeholders in 2017-18.	I note this recommendation was aimed at NHS Chief Pharmacists. I understand the NHS Chief Pharmacists' Peer Group has established a homecare workstream under its Medicines Procurement and Logistics Advisory Group. This group has been working with leads to implements improvements to the management of homecare addressing gaps identified against homecare standards in individual health boards. To further improve the safe and effective delivery of homecare services the following actions have been progressed nationally: • An All Wales framework contract for Low and Mid tech medicine homecare services has been completed and put in place from May 2018; • Development of a single service level agreement across NHS Wales for pharmaceutical industry funded homecare schemes; and • Development of contract management support, including key performance indicators by the NHS Wales Shared Services Partnership
The Welsh Government, supported by 1000 Lives Improvement, should work with pharmacy teams, clinical coding staff and clinicians across	Accepted. This work will be scoped with 1000 Lives Improvement during the early part of 2017-	A short life working group comprised of medicines safety experts from practice and academia across Wales, has been meeting to provide me with advice on the overall approach

Wales to develop a programme aimed at identifying and preventing medicines related admissions (MRAs).	18 with a view to establishing a medication safety programme in 2018-19.	and programme required to drive improvements in medicines safety in the NHS in Wales. I will make a decision on the basis of their advice later in 2018.
The Welsh Government and NWIS should continue to work with GP representatives to ensure their concerns about information governance are addressed; Facilitate wider access to the GP Record so that all pharmacists and pharmacy technicians that deliver clinical services on the wards can access the system for patients who are admitted for an elective procedure, as well as those admitted as emergencies; and Facilitate wider access to, and use of, the GP Record in community pharmacies so that whenever it is clinically appropriate, patients can have their medicines managed in the community without accessing a GP or other NHS services.	Accepted. We are continuing to work with NWIS to secure wider access to the Welsh GP Record (WGPR). On 21 November 2016, NWIS announced that access to the WGPR would be extended to hospital pharmacists and pharmacy technicians in planned care settings including outpatients. This builds on the access in emergency care settings which has been available for some time. The Chief Pharmaceutical Officer is working directly with the Medical Director at NWIS to put in place appropriate information governance arrangements which will allow use of the WGPR by community pharmacists in specified circumstances to support patient care. We envisage this work will be completed early in 2019.	Since November 2016, pharmacists and pharmacy technicians working in hospitals in Wales have had full access to WGPR in planned as well as emergency care settings. In November 2017, I announced access to the WGPR would be extended initially to community pharmacies providing the NHS emergency medicines supply service. A pilot of community pharmacy access to WGPR has been completed and plans are in place to roll out to all pharmacies by the end of 2018-19.
Where the Welsh Government makes a decision to make a new	Accepted.	I can confirm no such arrangements have been made since the Auditor General for Wales

medicine available outside the current national appraisal process, it should clearly explain the rationale underpinning its decision and ensure that health bodies are given sufficient time to plan for the financial implications and service changes associated with introducing those new medicines.	We are pleased the Auditor General for Wales recognises that from time to time it may be necessary for the Welsh Government to make medicines available outside the current national appraisal process. We recognise that this should happen by exception and only where the rationale for so doing is clear. As has been the case with agreements to date, we expect agreements will continue to be made only where there is strong support for the availability of the medicine(s) both from clinicians and patients across Wales. However we will, with immediate effect and for all future agreements, ensure NHS bodies are more closely involved in the planning arrangements and afforded an appropriate period in which to prepare for the service and financial implications.	published his report.

Health Board	Hospital site	Total number of wards on site	Health Board/Trust assessment of the total number of wards where automated vending required	Current number of wards with automated vending (Feb 2017)	Additional wards planned to have automated ward vending by April 2017	Expected total number of wards with automated vending (April 2017)	Total number of other locations where automated vending required (e.g. ED, MAU, Theatres etc)	Number of other (non ward) locations with automated vending currently	Number of other (non ward) locations planned to have automated vending by April 2017	Expected total number of other (non ward) locations with automated vending (April 2017)
Betsi Cadwaladr University	Wrexham Maelor	34	34	15	5	20	9	2	2	4
Betsi Cadwaladr University	Chirk Hospital	1	1	0	0	0	0	0	0	0
Betsi Cadwaladr University	Deeside Hospital	2	2	0	0	0	1	0	0	0
Betsi Cadwaladr University	Mold Hospital	2	2	0	0	0	0	0	0	0
Betsi Cadwaladr University	Glan Clwyd Hospital	29	27	10	14	24	9	8	1	9
Betsi Cadwaladr University	Bryn Hesketh	1	1	0	1	1	0	0	0	0
Betsi Cadwaladr University	Ruthin Community Hospital	1	1	0	0	0	0	0	0	0
Betsi Cadwaladr University	Holywell CH	2	2	0	0	0	0	0	0	0
Betsi Cadwaladr University	Denbigh CH	2	2	0	0	0	1	0	0	0
Betsi Cadwaladr University	Abergele	1	1	0	0	0	0	0	0	0
Betsi Cadwaladr University	Colwyn Bay CH	2	2	0	0	0	1	1	1	2
Betsi Cadwaladr University	Ysbyty Gwynedd	28	28	13	1	14	4	2	2	4
Betsi Cadwaladr University	Ysbyty Penrhos Stanley	2	2	0	2	2	1	0	0	0
Betsi Cadwaladr University	Ysbyty Bryn Beryl	2	2	0	0	0	1	0	0	0
Betsi Cadwaladr University	Cefni Hospital	1	1	0	0	0	0	0	0	0
Betsi Cadwaladr University	Dolgellau Hospital	2	2	0	0	0	1	0	0	0
Betsi Cadwaladr University	Eryri hospital	2	2	0	2	2	0	0	0	0
Betsi Cadwaladr University	Llandudno Hospital	4	4	1	0	1	1	0	0	0
Betsi Cadwaladr University	Tywyn Hospital	1	1	0	0	0	0	0	0	0
Betsi Cadwaladr University	Ysbyty Alltwen	1	1	0	0	0	1	0	0	0
Velindre NHS Trust	Velindre Cancer Centre	2	2	1	2	3	4	1	0	1
Aneurin Bevan University	Nevil Hall Hospital	16	16	5	2	7	6	3	4	7
Aneurin Bevan University	Ysbyty Ystrad Fawr	8	8	1	1	2	4	2	0	2
Aneurin Bevan University	Royal Gwent Hospital	34	34	9	6	15	19	9	6	15
Aneurin Bevan University	County	4	4	1	0	1	3	0	0	0
Aneurin Bevan University	Chepstow	4	4	0	0	0	4	0	0	0
Aneurin Bevan University	Llanfrechfa Grange Hospital	0	0	0	0	0	0	0	0	0
Aneurin Bevan University	St Cadocs	9	9	0	0	0	9	0	0	0
Aneurin Bevan University	St Woolos	8	8	1	0	1	8	1	0	1
Aneurin Bevan University	Ysbyty Aneurin Bevan	3	0	All wards have access to central cabinet	0		0	1	0	1
Cardiff and Vale University	University Hospital Wales	46	Not yet determined	0	0	0	Theatres	1	0	1
Cardiff and Vale University	University Hospital Llandough	28	Not yet determined	0	0	0	Theatres	1	0	1
Cardiff and Vale University	St Davids	3	Not yet determined	0	0	0	0	0	0	0
Cardiff and Vale University	Rookwood	4	Not yet determined	0	0	0	0	0	0	0
Cardiff and Vale University	Barry	2	Not yet determined	0	0	0	0	0	0	0
Cwm Taf University	Prince Charles Hospital	17	16	0	0	0	6	2	2	4
Cwm Taf University	Royal Glamorgan Hospital	19	19	0	0	0	0	1	3	4
Cwm Taf University	Ysbyty Cwm Rhondda	4	4	0	0	0	0	0	0	0
Cwm Taf University	Ysbyty Cwm Cynon	6	6	0	0	0	0	0	0	0
Hywel Dda University	Prince Phillip Hospital	12	12	0	2	2	7	0	3	3
Hywel Dda University	Glangwili General Hospital,	19	19	0	4	4	8	1	0	1
Hywel Dda University	Withybush General Hospital	13	13	0	3	3	3	0	0	0
Hywel Dda University	Bronglais General Hospital	12	12	0	4	4	2	0	0	0
Hywel Dda University	Mental Health Services	10	8	0	4	4	7	0	3	3
Abertawe Bro Morgannwg University	Princess of Wales	21	21	1	0	1	10	3	1	4
Abertawe Bro Morgannwg University	Neath Port Talbot	8	8	0	0	0	6	1	0	1
Abertawe Bro Morgannwg University	Tonna Hospital	4	1	0	1	1	0	0	0	0
Abertawe Bro Morgannwg University	Glanrhyd Hospital	10	1	0	1	1	0	0	0	0
Abertawe Bro Morgannwg University	Morriston Hospital	37	37	2	2	4	8	3	0	3
Abertawe Bro Morgannwg University	Singleton Hospital	16	16	1	1	2	3	1	0	1
Powys teaching	Ystradgynlais	3	3	2	0	2	2	1	0	1
Powys teaching	Brecon	3	2	0	0	0	2	0	0	0
Powys teaching	Bronllys	2	2	0	0	0	0	0	0	0
Powys teaching	Llandrindod Wells	2	2	0	0	0	2	0	0	0
Powys teaching	Newtown	2	2	0	0	0	1	0	0	0
Powys teaching	Welshpool	1	1	0	0	0	1	0	0	0
Powys teaching	Knighton	1	1	0	0	0	0	0	0	0
Powys teaching	Llanidloes	1	1	0	0	0	0	0	0	0
Powys teaching	Machynlleth	2	2	0	0	0	1	0	0	0
Total		516	412	63	58	121	156	45	28	73

Notes from the Technology Workshop

On Automated Storage for Medicines

Held on 23rd November 2017 at Morriston Hospital, Swansea SA6 6NL

Introduction

Over the last few years Health Boards within NHS Wales have implemented ward medicines automation systems to highly varying degrees. Some Health Boards have been the early pioneers within Wales (and indeed across the NHS). These initiatives have been largely led by individual senior pharmacists within pharmacy services enthusiastic for their adoption rather than on any co-ordinated and cohesive approach or development plan across the Health Boards within Wales. The current systems in situ have largely been funded from capital bids against pharmacy modernisation funds within Welsh Government.

The main but not sole drivers for implementation has been the desire to improve security of medicines and improve the efficiency of medicines management in clinical areas. By their very design automated systems significantly improve security and accountability of use of medicines and support adherence to the Welsh Patient Safety Notice 030, April 2016.

However, in practice, the implementation and development of these systems has been challenging and time-consuming for pharmacy staff in those Health Boards where there have been installed. Additionally, whilst these initiatives may have been led by pharmacy personnel, ward automated systems will largely beneficially impact on the working of nursing staff who use them, and, on the patients, who receive medicines from them directly. These factors may have led to some disparity in ownership and organisational leadership and a detrimental impact on the capacity to develop meaningful and specific research into beneficial (or otherwise) outcome measures.

As such, despite much anecdotal evidence and obvious design benefits of these technologies, there remains a dearth of robust evidence or published research papers within NHS Wales to further support their wide-scale implementation. This situation is largely mirrored and recognised within the rest of the NHS.

In recognition of this lack of meaningful outcome data and the variation in use across NHS Wales, the Chief Pharmaceutical Officer for Wales, Andrew Evans requested the Chief Pharmacist Committee to consider the development of a strategic framework and development plan for the use and evaluation of automated storage systems across NHS Wales.

The workshop was designed for key stakeholders within Health Boards to include senior nursing staff, chief and senior pharmacists, estates personnel and academic representatives to consider and initiate this development plan.

Objectives

- To gain appreciation to how ward automation has been applied and developed in NHS England
- To gain an understanding of the Medicines Automation Evaluation Framework developed for the HPMOP group
- To review the current applications in Health Boards and consider current benefits realisation and difficulties identified in practice.
- To consider a cohesive research strategy to support the development of business cases.

Workshop Content

The workshop commenced with an introduction from the **Chair, Dr Berwyn Owen** and then an opening address from **Andrew Evans, Chief Pharmaceutical Officer** appraising the variation in deployment of automation, the need for a robust strategy for automation amid the tight fiscal environment in NHS Wales. There then followed a number of brief presentations and case studies from around Wales to provide the attendees with better insight into potential research/evaluation projects and some key examples of current applications.

Don Hughes, retired Chief Pharmacist, BCUHB provided some detail of the Medicines Automation Evaluation Framework developed for the Hospital Pharmacy and Medicines Optimisation programme (HoPMOp) in NHS England during 2016. (The HoPMOp programme was set up to support the implementation of the recommendations of Lord Carter's review). The framework contains five principal domains in which automation may benefit including: -

- Safety
- Governance
- Operational productivity and efficiency
- Patient and staff experience
- Data and information

Details of specific attributes in each domain were provided to assist Health Boards to prioritise any research or evaluation projects as deemed appropriate to support any considered strategy.

Case studies/Vignettes from Health Boards

Chris Moore from the Welsh Ambulance Service NHS Trust described the WAST experience the on-going project of replacing existing drug cupboards with 20 customised Omnicell cabinets across the region. The software has been designed to facilitate drug selection for each vehicle, is intuitive and easy to use and has been well received by WAST staff. The project has been an excellent collaboration between WAST, pharmacy and estates. Challenges include securing non WAST locations, estates work and differing drug codes between hospitals. Thus far the systems have improved security, accountability with better stock management and auditable assurance. Post implementation tasks include the need to focus on efficient stock levels and producing meaningful reports.

Colin Powell, Chief Pharmacist, acute services at Aneurin Bevan University Health Board described their experiences of automation in acute and community hospitals within the Health Board. Since 2011, 42 Omnicell units have been installed across a whole range of admission areas, acute wards, critical care units, GP out of hours, mental health, theatre suites and for WAST use. Their use has significantly improved security of medication storage and accountability. Colin shared a number of key lessons that they have learnt. These include: -

- The need for nursing staff buy-in at all levels
- Their installation can be time-consuming and protracted due to factors such as enabling works and their associated costs
- Certainly, do not use these systems to correct poor practice
- Need to consider maintenance costs
- Staff do not have time to develop the systems to their full potential – need a systems manager

Adam Griffiths, Head of Nursing for Medicine, Glan Clwyd Hospital described his experience of the development and use of automation in the A&E from a position as a charge nurse through his current role as head of nursing. He described some of the safety and governance benefits including reductions in serious incidents and how he works with pharmacy staff to gain detailed usage reports, which have been invaluable to him in a management role to provide information impossible to generate with existing manual systems.

Karen Pritchard, Patient Safety Lead Pharmacist, Wrexham Maelor Hospital detailed the wider use across BCUHB including critical care units, admission areas and acute wards and concurred with ABUHB experience regarding the pharmacy staffing issues and the need for ward ownership. She provided some examples of how security had improved with medicines of potential abuse and how staff have utilised the systems to improve safety e.g. allergy alerts and patient safety notices. Queuing can be problematical particularly on wards with high medication usage e.g. admission areas. Karen also raised concerns about the use of live stock control at ward level – a "blessing and a curse!" There are cultural issues to overcome relating to understanding with emphasis on ownership.

Workshop

Break-out sessions took place with mixed three groups of attendees to consider the next steps in NHS Wales including: -

- To develop a vision for the development of automated storage of medicines across NHS Wales.
- To consider a multi-disciplinary evaluation/research strategy to support the vision and further implementation and development.
- To consider the management arrangements to support the vision and evaluation strategy

The groups provided several key themes to provide some basis of a structured strategy and development plan for use of automated systems. These included: -

Vision

There needs to be some consolidation and developments required in what is currently in situ. The systems work better in some areas and there are several challenges to be overcome to effect better use. Lack of ownership is common problem and this is not helped by the level of bank and agency staff at ward level which can lead to poor use. The strategy should consider priority clinical areas where the systems work well and where clear benefits are accrued. On-going training and support need to be considered within Health Boards, particularly in pharmacy services.

Any developed vision should be undertaken jointly with nursing and estates. These systems are now well established and provide a more modern secure platform and will continue to evolve and improve. Any new builds in NHS Wales should now include provision for automated storage and Welsh Government need to be aware of this. There needs to some collaboration with HIW to

consider the safe location of systems within buildings and whether there are secure enough for placements in “open” areas

Pharmacy services in Wales need to develop a vision for application of technologies supporting better medicines management to include ePMA, ward automation and use of bar-coding to deliver better quality, efficiency and production. Needs to a strong focus on quality and less focus on financial management. The vision should include local management arrangements in pharmacy services perhaps consideration of system manager with a joint role in any EDS replacement.

Evaluation/research strategy

The vision and strategy should include an appropriate research and evaluation strategy to support this major medicines management development over the coming years. Need to feed into all Wales research staff and academia and be conscious of similar work within the wider NHS and to gain wider learning and potential collaborative with universities etc.

Quite strong views were held regarding the areas to focus on e.g. workforce and not stocks productivity – focus on effectiveness and time releasing

Management arrangements

A number of potential arrangements were discussed with no definitive conclusion at this stage but included: -

To consider a management consensus steering group with webinar.

Exert from National Prescribing Indicators 2018–2019

1.0 SAFETY INDICATORS

1.1 PRESCRIBING SAFETY INDICATORS

Purpose: To identify patients at high risk of adverse drug reactions and medicines-related harm in primary care.

Unit of measure:

1. Number of patients with a peptic ulcer who have been prescribed NSAIDs without a PPI as a percentage of all patients.
2. Number of patients with asthma who have been prescribed a beta-blocker as a percentage of all patients.
3. Number of patients with concurrent prescriptions of verapamil and a beta-blocker as a percentage of all patients.
4. Number of female patients with a past medical history of venous or arterial thrombosis who have been prescribed combined hormonal contraceptives, as a percentage of all female patients.
5. Number of female patients with a current prescription of oestrogen-only hormone replacement therapy without any hysterectomy READ/SNOMED codes, as a percentage of all female patients.
6. Number of patients with concurrent prescriptions of warfarin and an oral NSAID as a percentage of all patients.
7. Number of patients under 12 with a current prescription of aspirin, unless due to a specialist recommendation, as a percentage of all patients.
8. Number of patients aged 65 years or over prescribed an NSAID plus aspirin and/or clopidogrel but without gastroprotection (PPI or H2 receptor antagonist), as a percentage of all patients aged 65 years or over.
9. Number of patients aged 65 years or over prescribed an antipsychotic, as a percentage of all patients aged 65 years or over.
10. Number of patients aged 75 and over with an Anticholinergic Effect on Cognition (AEC) score of 3 or more for items on active repeat, as a percentage of all patients aged 75 and over.
11. Number of patients on the CKD register (CKD stage 3–5) who have received a repeat prescription for an NSAID within the last 3 months, as a percentage of all patients on the CKD register.
12. Number of patients who are not on the CKD register but have an eGFR of < 59 ml/min and have received a repeat prescription for an NSAID within the last 3 months, as a percentage of all patients who are not on the CKD register but have an eGFR of < 59 ml/min.

Target for 2018–2019: No target set

Background and evidence

There were 2,330 Yellow Card reports submitted in Wales in 2016–2017, an increase of 28% on the previous year. In the UK, it is estimated that around 6.5% of hospital admissions are related to adverse drug reactions3. Adverse drug reactions can often be predictable, making it possible to identify and address them before actual patient harm occurs. Therefore, a process of identifying patients electronically could enable intervention and help to avoid harm.

In 2012, The Lancet published a paper entitled “A pharmacist-led information technology intervention for medication errors (PINCER): a multicentre, cluster randomised, controlled trial and cost-effectiveness analysis”. This study investigated the differences in a series of outcomes between intervention and control groups. It demonstrated that such an approach is an effective method for reducing a range of medication errors4. Some of the prescribing measures utilised in the PINCER trial have been incorporated as measures in this NPI. In addition, other measures have been added to make a series of 12. Some brief explanation for these is provided below. No target has been set for this NPI for 2018–2019 as data from this year can provide a baseline for future years.

NSAIDs in peptic ulcer patients without a PPI

NSAIDs have been shown to be the medicine group most likely to cause an adverse drug reaction requiring hospital admission due to such events as gastrointestinal bleeding and peptic ulceration. A PPI can be considered for gastroprotection in patients at high risk of gastrointestinal complications with an NSAID e.g. previous peptic ulcer.

Beta-blockers in asthma patients

Beta-blockers should be avoided in patients with asthma due to the potential to precipitate bronchospasm. If the benefits of using a beta-blocker in an asthma patient are justified the patient should be monitored closely.

Verapamil in combination with beta-blockers

Beta-blockers are associated with adverse drug reactions such as bradycardia and atrio-ventricular conduction disturbances. A co-prescription of a calcium channel blocker, such as verapamil, with a beta-blocker is generally not recommended due to an increased negative effect on heart function compared with beta-blocker therapy alone.

Combined hormonal contraceptives in thrombosis patients

There is an increased risk of venous thromboembolic disease and a slight increase in the risk of arterial thromboembolism in people using combined hormonal contraceptives5. Any patients with a history of venous or arterial thrombosis who

have been prescribed combined hormonal contraceptives are therefore at an increased risk.

Oestrogen-only hormone replacement therapy without a record of hysterectomy

Where hormone replacement therapy is indicated, hysterectomy status of the woman will determine which type is appropriate. All women with an intact uterus need a progestogen component in their hormone replacement therapy to prevent endometrial hyperplasia, which can occur after as little as six months of unopposed oestrogen therapy. Conversely, women who have undergone a hysterectomy should not receive a progestogen component. However there may be instances where patients with an intact uterus may be prescribed oestrogen-only HRT in conjunction with a levonorgestrel containing IUD (e.g. Mirena®) for the prevention of endometrial hyperplasia during oestrogen replacement therapy.

Warfarin and oral NSAIDs

Anticoagulant medicines such as warfarin can cause haemorrhage. NSAIDs can reduce platelet aggregation, which can worsen any bleeding event in warfarin treated patients. Therefore, wherever possible, in patients taking warfarin, NSAIDs should be avoided.

Aspirin in under 12s

Reye's syndrome is a very rare disorder that can cause serious liver and brain damage. If it is not treated promptly, it may lead to permanent brain injury or death. Reye's syndrome mainly affects children and young adults under 20 years of age. Owing to an association with Reye’s syndrome, aspirin should not be given to children under the age of 16, unless specifically indicated e.g. for Kawasaki disease.

NSAIDs in combination with aspirin or clopidogrel without gastroprotection

Based upon work by NHS Scotland two additional measures have been included within this NPI due to their focus on patient safety. The first of these will look at the use of gastroprotection in patients aged 65 years or over and prescribed an NSAID plus aspirin and/or clopidogrel. Hospital admission due to gastrointestinal bleeding has been associated with aspirin and clopidogrel, as well as NSAIDs. The harmful consequences of bleeds due to antiplatelet therapy increase with age. PPIs are recommended in older patients undergoing antiplatelet treatment. PPIs are preferred to H2-receptor antagonists because there is less evidence to support use in conjunction with low dose aspirin.

Over 65s prescribed an antipsychotic medicine

A second measure that has been based on work by NHS Scotland will consider the use of antipsychotics in patients aged 65 years or over. In 2009 the Banerjee report

called for a review of the use of antipsychotic medicines in elderly patients with dementia. These medicines have only a limited benefit in treating behavioural and psychological symptoms of dementia and carry significant risk of harm.

Over 75s with AEC score of 3 or more

A high proportion of the older population are exposed to multiple medicines with low anticholinergic activity and the cumulative burden of these medicines over many years may be associated with accelerated cognitive decline and mortality. The AEC scale (see Appendix 1) was developed to illustrate the negative anticholinergic effects of drugs on cognition. It is good practice to use medicines with AEC scores of zero and to avoid those scored 1, 2 or 3. The clinician should discuss with the patient and carer the benefits and potential risks of continued use of these medicines with the aim of either stopping them or switching to an alternative drug with a lower AEC score (preferably zero)

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Use of NSAIDs in patients with renal impairment

The final two measures in this NPI consider the use of NSAIDs in patients with renal impairment.

The first of these considers NSAID use in known CKD patients. The aim is to identify patients on the CKD register (CKD stage 3–5) who have received a repeat prescription for an NSAID within the last three months. NICE Clinical Guideline (CG) 182 highlights that in patients with CKD, the long-term use of NSAIDs may be associated with disease progression. NICE recommends caution, and monitoring of the effects on GFR, when using NSAIDs in people with CKD over prolonged periods of time.

The second measure will consider patients not on the CKD register but who have renal impairment identified via their estimated glomerular filtration rate (eGFR) and who have received a repeat prescription for an NSAID within the last three months. NSAIDs may precipitate renal failure, and vulnerable (particularly elderly) patients may be at increased risk. Regular review of the ongoing need for an NSAID and reassessment of the risk versus benefit is appropriate and processes for this should be in place.