MARLAND
LEGIBILITY OF PRESCRIPTIONS WORKGROUP

FINAL REPORT
TO THE GENERAL ASSEMBLY

August 15, 2005

MARYLAND LEGIBILITY OF PRESCRIPTIONS WORKGROUP FINAL REPORT

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Executive Summary

Background.

An important part of the medication delivery system is the prescription that is written by an authorized prescriber and forwarded to a pharmacist. The writing of a prescription is one step in the process of the medication delivery system where breakdowns contribute to or cause medication errors. Requiring certain elements on a prescription could decrease the number of medication errors that may be attributed to unclear and illegible prescriptions, thus, improving patient care and reducing expenditures associated with medication errors.

The Board of Pharmacy's Medication Error Task Force, which included the Board of Physicians and stakeholders, determined that improving the medication delivery system could reduce the occurrence of unwarranted medication errors. Reducing medication errors is vital to patient safety. As a result, the Boards of Pharmacy and Physicians accepted responsibility from the Secretary of Health and Mental Hygiene for coordinating and hosting the Legibility of Prescriptions Workgroup to study prescription legibility.

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Introduction

The Prescription Drug Safety Act (HB 433) passed during the 2004 legislative session required the Secretary of Health and Mental Hygiene, Board of Pharmacy, Board of Physicians and Maryland Health Care Commission to convene a workgroup of stakeholders to study the issue of prescription legibility and make recommendations for statutory or regulatory changes needed to improve prescription legibility and enhance patient safety. The workgroup consisted of physicians, dentists, nurses, pharmacists, hospitals; long-term care facilities and local health departments. The legislature passed HB 233 in 2005 to continue the workgroup tasks. The Maryland Board of Pharmacy organized, and hosted the workgroup to study the following issues as outlined in the legislation:

1. The appropriate content and format of a prescription;
2. The best means to inform and educate prescribers if changes in prescription format or content are enacted;
3. Appropriate time frame and procedures to implement changes enacted based on the workgroup recommendations;
4. Mechanisms for enforcement;
5. The impact of any changes to the content or format of prescriptions on oral prescriptions;
6. Whether pharmacists should be prohibited by statute from dispensing illegible prescriptions without appropriate format and content; and
7. The use and cost of computerized physician order entry and the feasibility of eliminating handwritten prescriptions after a specified date.

The workgroup met diligently over the past year submitting two interim reports on February 1, 2005 and July 1, 2005. (Both Interim Reports Attached) Invited experts from CareFirst, the Center for Medicare and Medicaid Services (CMS), SureScripts, and Medchi provided invaluable information regarding e-prescribing. Detailed discussions ensued between the experts and the members of the workgroup regarding all of the above issues. This final report will provide the workgroup's findings, including an analysis of the use and cost of computerized physician order entry and potential barriers, and the workgroup's recommendations for implementing a new system to improve legibility of prescriptions in Maryland.

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Analysis of the Use And Cost Of Computerized Physician Order Entry and Barriers to Eliminating Handwritten Prescriptions

In-depth descriptions of the workgroup's activities that led to its recommendations regarding the seven issues outlined in HB 433 and HB 233 are provided in the interim reports found in the Appendices. A summary analysis of those issues, including the potential barriers to addressing them, is provided in this section. The workgroup's recommendations for addressing the issues and barriers, and for implementing viable initiatives towards legible prescriptions in Maryland follows this section of the final report.

Underlying Issues

The workgroup recognized several roadblocks to the task they have been given by the legislature to explore the use and cost of computerized physician order entry (CPOE) /e-prescribing and the feasibility of eliminating handwritten prescriptions after a specified date. There is a big difference between transmitting a prescription electronically and transmitting a prescription in an electronic format that integrates with other patient specific data. For the former, the technology is already available. A system that would integrate all applicable patient data to further enhance safety is not available at this time, no matter how we might want to mandate it. Medicine is still a cottage industry with thousands of independent practitioners with various levels of computer literacy.

Present status of e-prescribing in Maryland

Maryland is leading the nation, within the top 5 states, with the number of pharmacies communicating with physicians electronically. There is a good level of adoption in Maryland within the pharmacy community. However, even with the available technology less than 5% of current prescriptions are transmitted electronically. E-prescribing in Maryland is currently being studied by the Maryland Patient Safety Through Electronic Prescribing (STEP) Alliance, an unprecedented gathering of stakeholders with a common objective of studying e-prescribing.

Readiness in the industry for e-prescribing

There are about 1000 community pharmacies in the State of Maryland and about half of them are communicating with physician's practices electronically. CVS, Rite Aid, Ahold/Giant, Walgreens, and Wal-Mart all have the capability to communicate electronically. About 70% of pharmacies in Maryland have the ability to connect to the SureScripts network.

The first phase of e-prescribing was the ability to fax or electronically submit prescriptions. This next phase involves the actual integration of the prescription with

other health data. Not all information is available electronically from government and private insurance programs. As electronic hub databases become more complete, the evolution and the adoption of e-prescribing will come closer to reality. If there were 100% demand for these systems and uniform standards were agreed upon and adopted, experts from the industry predict that it would take less than 2 years for Maryland prescribers to be up and running with e-prescribing.

Costs

The controversy concerning e-prescribing is the cost of the conversion of patient records and the adaptation to a new system. Electronic prescribing software applications cost approximately $500 - $1,000 per year per physician. Electronic Medical Records systems range from $3,000 to $10,000 per year per physician. Thus far, there has been no data available that supports a good return on investment from the prescriber's point of view. Under these circumstances it makes it very difficult to make the case that anyone should initiate e-prescribing due to the cost, significant down time and loss of efficiency in the conversion.

In addition, some states do not enable moving to electronic prescribing. The Federal Drug Enforcement Administration (DEA) prohibits electronic transmission for certain controlled substances. According to the 2005 National Association of Boards of Pharmacy (NABP) Survey of Pharmacy law, four jurisdictions currently do not allow prescription transmission from an In-State Prescriber Computer to a Pharmacy Computer. Those states include: District of Columbia, Georgia, Idaho and Maine.

CMS standards

The Center for Medicare and Medicaid Services (CMS) has emphasized best practices in prescribing. CMS is not requiring prescribers to e-prescribe or to convert to electronic medical records. CMS, however, has developed standards along with a timeline for implementation, to be used by prescribers if they choose to e-prescribe. The CMS timeline for e-prescribing follows:

- The National Committee on Vital and Health Statistics (NCVHS) conducts hearings – ongoing through September 2005;
- NCVHS submitted recommendations for e-prescribing standards to HHS in June 2005;
- CMS announces initial standards – September 1, 2005
- CMS begins pilot program with basic standards going into effect January 1, 2006;
- Pilot program completed December 31, 2006;
- Report to Congress April 1, 2007;
- Final Standards announced April 1, 2008; and
- Implementation of standards April 1, 2009.

Even CMS recognizes that converting to e-prescribing will take time. Note that the implementation of complete uniform standards is over three years in the future. It has been expressed during the workgroup meetings that e-prescribing will become a more

mainstream practice over time, once current medical students, familiar with utilizing more advanced technology graduate and have a comfort level with electronic prescribing.

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Recommendations

The overriding focus of the workgroup over the past year has been to significantly decrease medication errors due to illegible prescriptions. The workgroup has come to the conclusion that eliminating handwritten prescriptions is the first major step that must be undertaken in the medical community to prevent errors due to illegible and unclear prescriptions and ultimately to enhance patient safety. E-prescribing, especially in conjunction with an electronic medical record system, would be the ideal system for providing checks and balances for prescribers and pharmacists. Unfortunately at the present, the costs of conversion to such a system, along with dealing with the still-emerging and changing technology, make mandating e-prescribing in 2006 an unrealistic goal.

This section will provide recommendations to address the cost and technology barriers to e-prescribing and also provide recommendations to ensure patient safety when such a system is implemented.

Incentives – Implement incentives for prescribers to convert to e-prescribing rather than mandating e-prescribing by a certain date.

Since there is no financial incentive for prescribers to convert to e-prescribing and the conversion costs are high, the workgroup recommends implementing incentives for the conversion. With the high cost of malpractice insurance in Maryland and other costs of doing business for prescribers, the workgroup recommends against requiring an un-funded and expensive mandate to e-prescribe by a certain date. The workgroup proposes the following:

- Provide tax incentives for conversion to e-prescribing and electronic medical records;
- Provide a realistic timeframe for e-prescribing that coincides with CMS' timeframe and the technology industry's capabilities;
- Provide assurances that prescribing information captured in the e-prescribing process is not later used to evaluate prescribing practices;
- Preserve provider choice of medication and patient choice of pharmacy which is critical to the adoption and use of e-prescribing; and
- Provide tax incentives and a realistic timeframe within legislation and regulations.

Content and Format of Prescriptions – Eliminate handwritten prescriptions in Maryland and require specific nationally recognized prescription formats to be used.

The workgroup recommends eliminating handwritten prescriptions in Maryland. Whether oral, typed, or electronically transmitted, the workgroup recommends that the following information be provided on all prescriptions in Maryland. The workgroup's recommendations were based on JCAHO standards currently used in hospitals.

- The full name of the drug and dosage form (capsules, tablets, syrup) spelled out, with no abbreviations used;
- The strength of the drug (for those that have one) expressed in metric units or the standardized international units. (e.g. Insulin);
- Use "unit" or "international units" instead of "U" or "UI" (JCAHO);
- Use "daily" or "every other day" instead of "qd," "QD," "qod," "4xd instead of qid" or "QOD" (JCAHO);
- The quantity in numerical notation (and textual notation for controlled dangerous substances (CDS));
- The indication (reason) for the prescription;
- The age of the patient;
- The weight of a child under age 14 expressed in kilograms;
- A leading zero preceding all decimal points (e.g. Synthroid 0.15mg) (JCAHO);
- No trailing zeros after a decimal on non-oral prescriptions (e.g. Synthroid 0.150 would not be allowed) (JCAHO);
- The name of the prescriber printed legibly, typed, stamped, or circled (on a prescription that has more than one practitioner printed on it.)
- Date of issuance;
- A reliable means to contact the prescriber for clarification or questions;
- Apothecary abbreviations not permitted (JCAHO).

Education – Use existing vehicles (e.g., newsletters, websites, etc.) to educate prescribers and pharmacists concerning the recommended content and format of prescriptions;

The workgroup recommends educating prescribers and pharmacists concerning the recommended content and format of prescriptions through their respective Boards' and Professional Associations' newsletters, websites, seminars and conferences. The workgroup recommends that prescribers and pharmacists obtain continuing education credits for training in the mandated content and format of prescriptions.

The workgroup also recommends educating the public regarding mandated changes to prescription format and content. Many public safety issues and unsafe behaviors have been successfully addressed with the use of stakeholders' support, the media, advocacy groups, and the education of consumers through public service announcements and other educational mediums. Examples of unsafe and unhealthy behaviors that were once thought insurmountable, but have been successfully modified, are seat belt use, smoking, driving under the influence of alcohol and drugs, and adding environmental modifications to cars. Informing the citizens of Maryland, prescribers and pharmacists of what should be included on all prescriptions to protect the safety of patients, will raise awareness and soon become accepted and expected behavior in the near future.

Enforcement

1) **avoid the use of pharmacists to enforce required prescription formats by requiring prescribers' respective boards to ensure compliance;**
2) **Establish a phase-in period to educate prescribers, pharmacists and consumer;**
3) **Allow for continuing education credit for prescribers training in the required content and format of prescriptions**

The workgroup recommends that a pharmacist should not be put in the position of having to call the prescriber for every missing piece of information on a prescription not should the pharmacist be "policing" prescribers for compliance with any new prescription requirements. Furthermore, the patient should not go without medications while a pharmacist has to spend time to contact a prescriber to correct the content or format of a prescription.

To eliminate handwritten prescriptions the workgroup recommends a phase-in period. The workgroup also recommends that the prescribers' boards (i.e. physicians, nursing, dentist, podiatry) and the Board of Pharmacy share responsibility for compliance. The workgroup suggests:

- During the required inspections of pharmacy permit holders, audit for compliance with the new requirements for prescription format and content;
- Publish results of audits in a similar manner to restaurant inspections;
- A pattern of non-compliance would be referred to the Board of Pharmacy for possible disciplinary action. Complaints could also be registered with the prescriber's regulatory board;
- Reports of non-compliance from practitioners, pharmacists or consumers would be forwarded to the responsible Board for possible disciplinary action;
- Educate the public; and
- Motivate the prescribing community to move toward e-prescribing.

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Conclusion

The Legibility of Prescriptions Workgroup began the study of prescription legibility with an initial focus of changing the content and format of prescriptions to enhance patient safety. Stakeholders who have worked in healthcare facilities requiring typed or electronic prescriptions convinced the remainder of the workgroup that eliminating handwritten prescriptions had a significant impact on patient safety. Pharmacist members of the workgroup corroborated the illegibility of many handwritten prescriptions contributed to medication errors. The experts who addressed the workgroup regarding e-prescribing confirmed that typed or electronic transmission of prescriptions do eliminate many errors. It would not be prudent, however, to mandate absolute e-prescribing at this time. E-prescribing industry experts indicated that prescribers are not ready to embrace e-prescribing due to the cost and time needed for implementation. The e-prescribing industry experts also indicated that e-prescribing is somewhat dependent on the implementation and adoption of CMS e-prescribing standards.

In summary, the Legibility of Prescriptions Workgroup makes the following recommendations:

- Implement incentives for prescribers to convert to e-prescribing;
- Eliminate handwritten prescriptions in Maryland;
- Establish a phase-in period to educate prescribers and consumers concerning the required content and format of oral, typed or electronic prescriptions;
- Educate prescribers, pharmacists and consumers concerning the required content and format of prescriptions;
- Allow for continuing education credit for prescribers' training in the required content and format of prescriptions;
- Establish a phase-in period for enforcement of compliance with the required content and format of prescriptions.

Changing the way any profession practices takes time and perseverance. Adapting to typed or electronic prescribing is about as difficult as learning how to use a "Palm Pilot" or a "Blackberry." There are numerous Personal Digital Assistants (PDA) and computers on the market that can be utilized to "write" legible prescriptions. Surely the safety of the citizens of Maryland is worth the expenditure of minimal time to eliminate handwritten prescriptions. The ultimate goal is e-prescribing in conjunction with electronic medical records. Short of that, adopting a uniform format and content with certain required information, will significantly improve the medication delivery system and prevent errors due to illegibility.

Appendix A

NABP e-Prescribing State Initiative

As computer technology expands in the practice of medicine and pharmacy, the e-prescribing initiative has impacted all 50 states and U.S. Territories. Below, the workgroup has provided the 2005 National Association of Boards of Pharmacy Survey of Pharmacy Law Electronic Transmission of Prescriptions for your review.

XXII. Electronic Transmission of Prescriptions: Computer-to-Computer

State	Is Prescription Transmission from In-state Prescriber Computer to Pharmacy Computer Allowed?	Is Prescription Transmission from Out-of-State Prescriber Computer to Pharmacy Computer Allowed?	Is Prescription Transfer Between In-state Pharmacy Computers Allowed?	Is Prescription Transfer from Out-of-state Pharmacy Computer to In-state Pharmacy Computer Allowed?	Does Board Recognize Electronic Signatures for Non-controlled Substance Prescriptions?
Alabama	Yes I	Yes I	Yes	Yes	No
Alaska	Not addressed	Not addressed	Not addressed	Not addressed	No
Arizona	Not addressed	Not addressed	Yes G	Yes G	Yes E
Arkansas	Yes	Yes	Yes	Yes	No
California	Yes	Yes	Yes	Yes	No
Colorado	Yes I	Yes I	Yes I, M	Yes I, M	Yes
Connecticut	Yes D, S	Yes D, S	Yes S	Yes S	Yes
Delaware	Yes	Yes	Yes F	Yes F	Yes
District of Columbia	No	No	No	No	No
Florida	Yes	Yes	Yes	Yes	Yes
Georgia	No	No	Yes F	Yes F	No
Guam	Not addressed E	Not addressed E	Not addressed E	Not addressed E	Not addressed E
Hawaii	Yes W	Yes W	Yes W	Yes W	Yes W
Idaho	No	No	Yes F	Yes F	Yes
Illinois	Yes	Yes H	Yes M	Yes M	Yes S
Indiana	H	H	Yes	Yes	—
Iowa	Yes Y, CC	Yes Y, CC	Yes B, F, M	Yes B, F, M	Yes L
Kansas	Yes	Yes	Yes F	Yes F	Yes
Kentucky	Yes I	Yes I	Yes K	Yes K	Yes
Louisiana	Yes	Yes	Yes B	Yes B	Yes
✓ Maine	No	No	Yes F	Yes F	No
Maryland	Yes	Yes	Yes M	Yes M	Yes J
Massachusetts	Yes EE	Yes EE	Yes DD	Yes DD	Yes EE
Michigan	Yes	Yes O	No	No	Yes
Minnesota	Yes	Yes	Yes	Yes	Yes
Mississippi	Yes	Yes	Yes	Yes	Not addressed
Missouri	Yes	Yes	Yes	Yes	Yes A
Montana	Yes	Yes	Yes	Yes	Yes
Nebraska	Yes	Yes	Yes	Yes	No
Nevada	Yes T	Yes T	Yes	Yes	Yes
New Hampshire	Yes E	Yes E	Yes F, O	Yes F, O	Yes E
New Jersey	Yes	Yes	Yes	Yes	No
New Mexico	Yes Z	Yes Z	Yes S, X	Yes S, X	Yes
New York	Yes P	Yes P	Yes P	Yes P	Yes
North Carolina	Yes	Yes	Yes	Yes	Yes
North Dakota	Yes	Yes	No	No	Yes
Ohio	Yes R	Yes R	Yes M	Yes M	Yes R
Oklahoma	Yes (Guidelines) B, N	Yes (Guidelines) B, N	Yes B, N	Yes B, N	Yes
Oregon	Not addressed	Not addressed	Yes M	Yes M	E
Pennsylvania	Not addressed C	Not addressed C	Yes	Not addressed	E
Puerto Rico	Not addressed	Not addressed	Not addressed	Not addressed	—
Rhode Island	Yes	Yes	Yes F	Yes F	Yes
South Carolina	Yes (Guidelines)	No	Yes Q	No	Yes
South Dakota	Yes E	No	Yes F	Yes F	Yes E, AA
Tennessee	Yes	Yes	Yes	Yes	Yes
Texas	Yes I	Yes U	Yes	Yes U	No BB
Utah	Yes	Not addressed	Yes	Not addressed	Yes
Vermont	Yes	Yes	Yes	Yes	Yes
Virginia	Yes	Yes	Yes V	Yes V	Yes
Washington	Yes	Yes	Yes N	Yes N	Yes
West Virginia	Yes S, T	Yes S, T	Yes F, S, T	Yes F, S, T	No
Wisconsin	Yes	Yes	Yes	Yes	Yes
Wyoming	Yes	Yes	Yes	Yes	Yes

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