The Basel Statements on the future of hospital pharmacy

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The Global Conference on the Future of Hospital Pharmacy was hosted by the Hospital Pharmacy Section of the International Pharmaceutical Federation (FIP) as part of the 68th Annual Congress of FIP. Hospital pharmacists from around the globe met in Basel, Switzerland, on August 30 and 31, 2008, and successfully developed these consensus statements reflecting the profession's preferred vision of practice in the hospital setting.

Before the Global Conference (GC) convened, each registrant was assigned to a working group for one of the six aspects of hospital pharmacy addressed by the conference and was asked to review the related review article and to discuss, via e-mail, potential consensus statements. At the GC, the working groups, led by the authors of the review articles, developed final statements that were presented to official representatives for consensus scoring.

During the voting session, official country representatives used a 4-point Likert scale, with defined anchors (strongly agree; agree; disagree; strongly disagree), to vote on each statement with the use of an audience-response system. Consensus in favor of each statement was pre-defined as greater than 50% of votes cast being "strongly agree" or "agree."

During the voting at the GC, the average proportion of votes cast as "strongly agree" or "agree" was 97.5%. Of 5259 votes cast, only 111 were "disagree" and 22 were "strongly disagree." Across all votes cast, 62.8% were "strongly agree," and 21.7% were "agree." A total of 26 statements (35%) had 100% consensus ("strongly agree" or "agree"). The minimum level of consensus for any statement was 90.4%.

Subsequent to the GC, based on feedback received from official representatives and other participants, two pairs of the original 74 statements were merged, the wording of one statement was revised for clarity, and three new statements were added. These changes were submitted to all official representatives for an email ballot, and the results are included here along with the original statements that were not modified. The final statements (the Basel Statements) number 75 (Table 1).

Terms used in the Basel Statements are defined in a glossary included in the Proceedings.

Table 1.
Consensus Statements for the Global Conference on the Future of Hospital Pharmacy (the Basel Statements)

Statement	No. Respondents Voting "Strongly Agree" (SA), "Agree" (A), "Disagree" (D), or "Strongly Disagree" (SD)					
	SA	A	D	SD	*n*	% Agreement[a]
Overarching statements						
1. The overarching goal of hospital pharmacists is to optimize patient outcomes through the judicious, safe, efficacious, appropriate, and cost effective use of medicines.	60	10	0	0	70	100
2. At a global level, 'Good Hospital Pharmacy Practice' guidelines based on evidence should be developed. These guidelines should assist national efforts to define standards across the levels, coverage, and scope of hospital pharmacy services and should include corresponding human resource and training requirements.	57	12	0	0	69	100
3. The "five rights" (the right patient, right medicine, right dose, right route, and right time) should be fulfilled in all medicines-related activities in the hospital.	60	8	1	0	69	99
4. Health authorities and hospital administrators should engage hospital pharmacists in all steps in the hospital medicines-use process.	55	12	0	0	67	100

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Table 1 (*continued*)

Statement	No. Respondents Voting "Strongly Agree" (SA), "Agree" (A), "Disagree" (D), or "Strongly Disagree" (SD)					
	SA	A	D	SD	*n*	% Agreement[a]
5. Health authorities should ensure that each hospital pharmacy is supervised by pharmacists who have completed specialized training in hospital pharmacy.	43	21	2	1	67	96
6. The Chief Pharmacist/Director of Pharmacy should be the senior professional responsible for coordinating the judicious, safe, efficacious, appropriate, and cost effective use of medicines in the hospital.	44	21	0	1	66	98
7. Hospital pharmacists' authority over the medicine-use process should include authority over the selection and use of medicine-related devices such as administration devices, giving sets, infusion pumps and computer-controlled dispensing cabinets.	32	22	2	0	56	96
8. Hospital pharmacists should take responsibility for all medicines logistics in hospitals.	39	26	1	0	66	98
9. Hospital pharmacists should serve as a resource regarding all aspects of medicines use and be accessible as a point of contact for health care providers.	52	15	0	0	67	100
10. All prescriptions should be reviewed, interpreted, and validated by a hospital pharmacist prior to the medicine being dispensed and administered.	44	22	3	0	69	96
11. Hospital pharmacists should monitor patients taking medicines (daily or whenever medicines are changed) to assure patient safety, appropriate medicine use, and optimal outcomes. When resource limitations do not permit pharmacist monitoring of all patients taking medicines, patient-selection criteria should be established to guide pharmacist monitoring.	35	17	4	0	56	93
12. Hospital pharmacists should be allowed to access the full patient record.	60	9	0	0	69	100
13. Hospital pharmacists should ensure that patients are educated on the appropriate use of their medicines.	44	9	2	1	56	95
14. Hospital pharmacists should provide orientation and education to nurses, physicians, and other hospital staff regarding best practices for medicines use.	56	13	1	0	70	99
15. Undergraduate pharmacy curricula should include hospital-relevant content, and post-graduate training programs and specializations in hospital pharmacy should be developed.	57	13	0	0	70	100
16. Hospital pharmacists should actively engage in research into new methods and systems to improve the use of medicines.	57	9	0	0	66	100
Medicines procurement						
17. The procurement process must be transparent, professional, and ethical to promote equity and access and to ensure accountability to relevant governing and legal entities.	56	13	0	0	69	100
18. Procurement should be guided by the principle of procuring for safety.	43	18	0	0	61	100
19. Procurement of pharmaceuticals is a complex process that requires pharmacist control and technically competent staff.	54	13	1	0	68	99
20. Operational principles for good procurement practice should be regularly reviewed and procurement models adapted to fit different settings and emerging needs in the most appropriate and cost effective way.	37	18	0	0	55	100

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Table 1 (*continued*)

Statement	No. Respondents Voting "Strongly Agree" (SA), "Agree" (A), "Disagree" (D), or "Strongly Disagree" (SD)					
	SA	A	D	SD	*n*	% Agreement[a]
21. Procurement must be supported by strong quality assurance principles to ensure that poor quality medicines are not procured or allowed into the system. Proper storage to ensure maintenance of quality in the whole supply pipeline is mandatory.	55	12	0	0	67	100
22. Procurement should not occur in isolation, but rather be informed by the formulary selection process.	42	27	1	0	70	99
23. Good procurement must be supported by a reliable information system that provides accurate, timely, and accessible information.	53	17	0	0	70	100
24. A formal mechanism must be in place for pharmacists to request designated funds to procure medicines for their patients.	35	32	2	0	69	97
25. Each pharmacy should have contingency plans for medicines shortages and purchases in emergencies.	50	14	0	0	64	100
Influences on prescribing						
26. Hospitals should utilize a medicine formulary system (local, regional, and/or national) linked to standard treatment guidelines, protocols, and treatment pathways based on the best available evidence.	64	5	1	0	70	99
27. Hospital pharmacists should be members of pharmacy and therapeutics committees to oversee all medicines management policies and procedures, including those related to off-label use and investigational medicines.	64	5	0	0	69	100
28. Hospital pharmacists should have a key role in educating prescribers at all levels of training on the access to and evidence for optimal and appropriate use of medicines, including the required monitoring parameters and subsequent prescribing adjustments.	42	12	1	0	55	98
29. Hospital pharmacists should be involved in all patient care areas to prospectively influence collaborative therapeutic decision-making.	47	25	1	0	73	99
30. Hospital pharmacists should be an integral part of all patient rounds to assist with therapeutic decision-making and advise on clinical pharmacy and patient safety issues.	39	23	2	2	66	94
31. Hospital pharmacists should provide continuity of care by transferring patient medicines information as patients move between sectors of care.	47	21	4	1	73	93
32. Postgraduate clinical courses should be developed to prepare hospital pharmacists for collaborative prescribing of medicines, including instruction in legal and professional accountability; this role of hospital pharmacists should be promoted in the curricula of other health professionals.	47	22	4	0	73	95
Preparation and delivery of medicines						
33. Hospital pharmacists should ensure that proper storage conditions are provided for all medicines used in the hospital.	62	10	0	0	72	100
34. Hospital pharmacists should assume responsibility for the appropriate labeling and control of medicines stored throughout the hospital.	44	11	1	0	56	98
35. Hospital pharmacists should ensure that compounded medicines are consistently prepared to comply with quality standards.	61	9	0	0	70	100
36. Hospital pharmacists should provide pharmacy-managed injectable admixture services using aseptic technique.	48	22	2	0	72	97
37. Hazardous medicines including cytotoxics should be prepared under environmental conditions that minimize the risk of contaminating the product and exposing hospital personnel to harm.	63	7	1	1	72	97

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Table 1 (*continued*)

Statement	No. Respondents Voting "Strongly Agree" (SA), "Agree" (A), "Disagree" (D), or "Strongly Disagree" (SD)					
	SA	A	D	SD	*n*	% Agreement[a]
38. Hospital pharmacists should decrease the risk of medication errors by implementing evidence-based systems or technologies, such as automated prescription-filling, unit dose distribution, and bar coding systems.	52	15	4	0	71	94
39. Hospital pharmacists should support the development of policies regarding the use of medicines brought into the hospital by patients, including the evaluation of appropriateness of herbal and dietary supplements.	48	20	3	1	72	94
40. Hospital pharmacists should assume responsibility for storage, preparation, dispensing, and distribution of investigational medicines.	56	14	1	2	73	96
41. Hospital pharmacists should implement systems for tracing medicines dispensed by the pharmacy (to facilitate recalls, for example).	43	24	5	0	72	93
Administration of medicines						
42. Hospital pharmacists should ensure that the information resources needed for safe medicines preparation and administration are accessible at the point of care.	60	13	0	0	73	100
43. Hospital pharmacists should ensure that allergies are accurately recorded in a standard location in patient records and evaluated prior to medicines administration.	47	19	4	2	72	92
44. Hospital pharmacists should ensure that medicines are packaged and labeled to ensure identification and to maintain integrity until immediately prior to administration to the individual patient.	56	14	1	0	71	99
45. Where medicines are labeled for individual patients, full details to ensure safe administration should be included, for example, name of medicine, route, and, where appropriate, dose in mass and volume.	53	17	0	0	70	100
46. Storage of concentrated electrolyte products (such as potassium chloride and sodium chloride) and other high-risk medicines on patient wards should be eliminated by dispensing ready-to-administer dilutions, or, if necessary, storing such products distinctly labeled in separate or secure areas.	50	19	1	1	71	97
47. Health care professionals responsible for administering injectable medicines and chemotherapy should be trained in their use, hazards, and necessary precautions.	63	9	2	0	74	97
48. Doses of chemotherapy and other designated medicines (based upon risk assessment) should be independently checked against the original prescription by two health care professionals at the point of care prior to administration.	50	20	3	0	73	96
49. Pharmacists should ensure that strategies and policies are implemented to prevent wrong route errors, including, for example, labeling of intravenous tubing near insertion site to prevent misconnections, and use of enteral feeding catheters that cannot be connected with intravenous or other parenteral lines.	40	26	7	0	73	90
50. Vinca alkaloids should be diluted, ideally in a minibag and/or large syringe (for pediatric patients), and dispensed with special labeling precautions in order to prevent inadvertent intrathecal administration.	36	30	3	2	71	93
51. Oral syringes that are distinctly different from hypodermic syringes should be used to prevent injection of enteral or oral medicines, especially in pediatric patients.	45	25	1	2	73	96

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Table 1 (*continued*)

Statement	No. Respondents Voting "Strongly Agree" (SA), "Agree" (A), "Disagree" (D), or "Strongly Disagree" (SD)				*n*	% Agreement[a]
	SA	A	D	SD		
52. Medicines not commercially available for neonatal and pediatric patients should be prepared by the hospital pharmacy.	53	19	2	0	74	97
53. Standard concentrations of medicines should be determined, procured, and prepared for all patients, and especially for pediatric, neonatal, and critical care patients.	44	29	3	0	76	96
54. Hospital pharmacists should be responsible for determining which medicines are included in ward stock and for standardizing the storage and handling of ward medicines.	54	18	3	0	75	96
55. Hospital pharmacists should develop simple, rules-based approaches to advancing patient safety; for example, when a large number of dosage units are needed to give a dose (more than two tablets, vials, etc.), the prescription should be verified prior to administration.	45	26	1	1	73	97
56. Hospital pharmacists should ensure the development of quality assurance strategies for medicines administration, including the use of observation methodology to detect errors and identify priorities for improvement.	48	22	4	0	74	95
57. The medicines administration process should be designed such that transcription steps between the original prescription and the medicines administration record are eliminated.	44	20	6	0	70	91
Monitoring of medicines						
58. A reporting system for defective medicines should be established and maintained to monitor and take the necessary action to minimize identified risks. Reports of defective or substandard medicines should be sent to regional or national pharmacovigilance reporting programs where these are available.	54	14	0	0	68	100
59. A reporting system for adverse drug reactions should be established and maintained, and the necessary action should be taken to minimize identified risks. Reaction reports should be sent to regional or national pharmacovigilance reporting programs where these are available.	66	7	0	0	73	100
60. A reporting system for medication errors should be established and maintained, and the necessary action should be taken to minimize identified risks. Reports of medication errors should be sent to regional or national medication error reporting programs where these are available.	68	6	0	0	74	100
61. Hospital medication practice should be self assessed and data trended internally and compared with best practice in other institutions to improve safety, clinical effectiveness, and cost effectiveness.	44	27	0	0	71	100
62. Hospital medication practices should be reviewed by an external quality assessment accreditation program. Hospitals should act on reports following regular external quality assessment inspections to improve the quality and safety of their practices.	51	20	3	0	74	96
63. Pharmacists' clinical interventions should be documented in the patient record. These data should be regularly analyzed to improve the quality and safety of medication practice.	62	10	2	0	74	97
64. Trigger tools should be used to provide quantitative data on adverse drug events in the hospital. These data should be regularly reviewed to improve the quality and safety of medication practices.	52	17	4	0	73	95

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Table 1 (*continued*)

Statement	No. Respondents Voting "Strongly Agree" (SA), "Agree" (A), "Disagree" (D), or "Strongly Disagree" (SD)					
	SA	A	D	SD	*n*	% Agreement[a]
65. Advanced clinical pharmacy services should manage medication therapy to optimize therapeutic outcomes. Outcomes data from such programs should be regularly reviewed and used to improve the quality and safety of medication practices. Examples include management of anticoagulation therapy, antimicrobial therapy, and therapeutic drug monitoring.	53	20	0	0	73	100
Human resources and training						
66. At a national level, health authorities should bring together stakeholders to collaboratively develop evidence-based hospital pharmacy human resource plans aligned to meet health needs and priorities across public and private sectors that optimize patient outcomes.	51	22	0	0	73	100
67. Key stakeholders should ensure that workforce education, training, competency, size, and capacity are appropriate to the levels, coverage, scope, and responsibilities of all cadres providing pharmacy services.	56	18	1	0	75	99
68. Hospital pharmacy human resource plans should cover all cadres and be linked to health targets. Such plans should describe strategies for human resource education and training, recruitment and retention, competency development, salary and career progression pathways, gender-sensitive policies, equitable deployment and distribution, management, and roles and responsibilities of stakeholders for implementation.	48	20	3	0	71	96
69. Hospitals should maintain human resource information systems that contain basic data for planning, training, appraising, and supporting the workforce. Data should be collated at a national level to improve human resource strategy.	46	25	1	1	73	97
70. Health authorities, educators, professional associations, and employers should address pharmacy human resource shortages through sustainable strategies for workforce supply, recruitment, and retention, particularly in rural and remote areas.	47	23	2	0	72	97
71. The training programs of mid-level pharmacy human resources (technicians or the equivalent) should be nationally formalized, harmonized, and credentialed for the attainment of defined competencies within a defined scope of practice.	51	21	1	1	74	97
72. Hospital human resource policies should be founded in ethical principles, equal opportunity, and human rights and be compliant with labor regulations, guidelines, and hospital pharmacy practice standards.	60	16	0	0	76	100
73. Nationally, levels of practice and associated competency requirements should be defined and regularly assessed to form a competency framework for all cadres.	51	22	1	1	75	97
74. Hospitals should use a nationally accepted competency framework to assess individual human resource training needs and performance.	46	25	3	1	75	95
75. The hospital pharmacy human resource evidence gap should be explored and addressed through a strategic research agenda.	51	24	2	0	77	97

[a]Percentage of all votes accounted for by "strongly agree" or "agree" votes.