

Survey of Hospital Pharmacy Practice in Canada - 1985-86 to 2020-21

Jean-François Bussi res^{1,2}, Kevin Hall³, Ron McKerrow³, Richard Jones³

¹ Unit  de recherche en pratique pharmaceutique, D partement de pharmacie, CHU Sainte-Justine (Montr al) Canada

² Facult  de pharmacie, Universit  de Montr al, Montr al (Qu bec) Canada,

³ Retired pharmacist



Purpose

- Hospital pharmacy practice has evolved considerably over the past few decades.
- In order to bear witness to this evolution, some professional societies carried out periodic surveys (e.g. American Society of Health-System Pharmacists, European Association of Hospital Pharmacists).
- In 2022, there are 47 106 licensed pharmacists in Canada
- A Canadian independent editorial board of pharmacy directors was created in 1985-1986 to support the development of a hospital pharmacy practice in Canada survey; since 2016-2017, it is operating under the Canadian Society of Hospital Pharmacists (CSHP).

Objectives

- To describe the evolution of the Canadian hospital pharmacy survey from 1985-86 to 2020-21.

Methods

- Retrospective descriptive study.
- The survey targeted hospitals with at least 50 acute carte beds.
- In the 2020-21 edition, a complementary survey targeted small hospitals (< 50 total beds) for the first time.
- Throughout the reports, data were stratified by:
 - Region (e.g. provinces or group of provinces),
 - Hospital size (50-200 beds, 201-500 beds, > 500 beds),
 - Status (teaching vs non-teaching) and
 - Mission (adult vs pediatric).
- Participants were invited to participate via a mailing and a paper questionnaire until 1996-1997; thereafter, an e-mail and an electronic questionnaire were used.
- Members of the Editorial Board met several times per survey cycle to choose topics, set questions, determine valid response ranges and agree on recruitment procedures. In addition, the committee met several times to analyze the data collected and write the chapters.
- A statistical analyst was invited to work with the editorial board at each cycle of the survey.
- Using the reports published between 1985-86 and 2020-21, we extracted the following key variables: foundation, editorial board members, length, reports response rate, themes, key ratios and diffusion strategies.



Fig. 1 Kevin Hall, Jean-Fran ois Bussi res and Ron McKerrow - 2015



Fig. 2 CSHP web page - Hospital pharmacy in Canada survey

Results

Editorial board

- The editorial board was founded in 1985.
- Over 35 years, 33 members contributed, an average of 4.9 ± 3.7 years per member.
 - 32 pharmacists over the years from key provinces; 1 pharmacy technician contributed for the first time in 2020-21 (Fig.3)

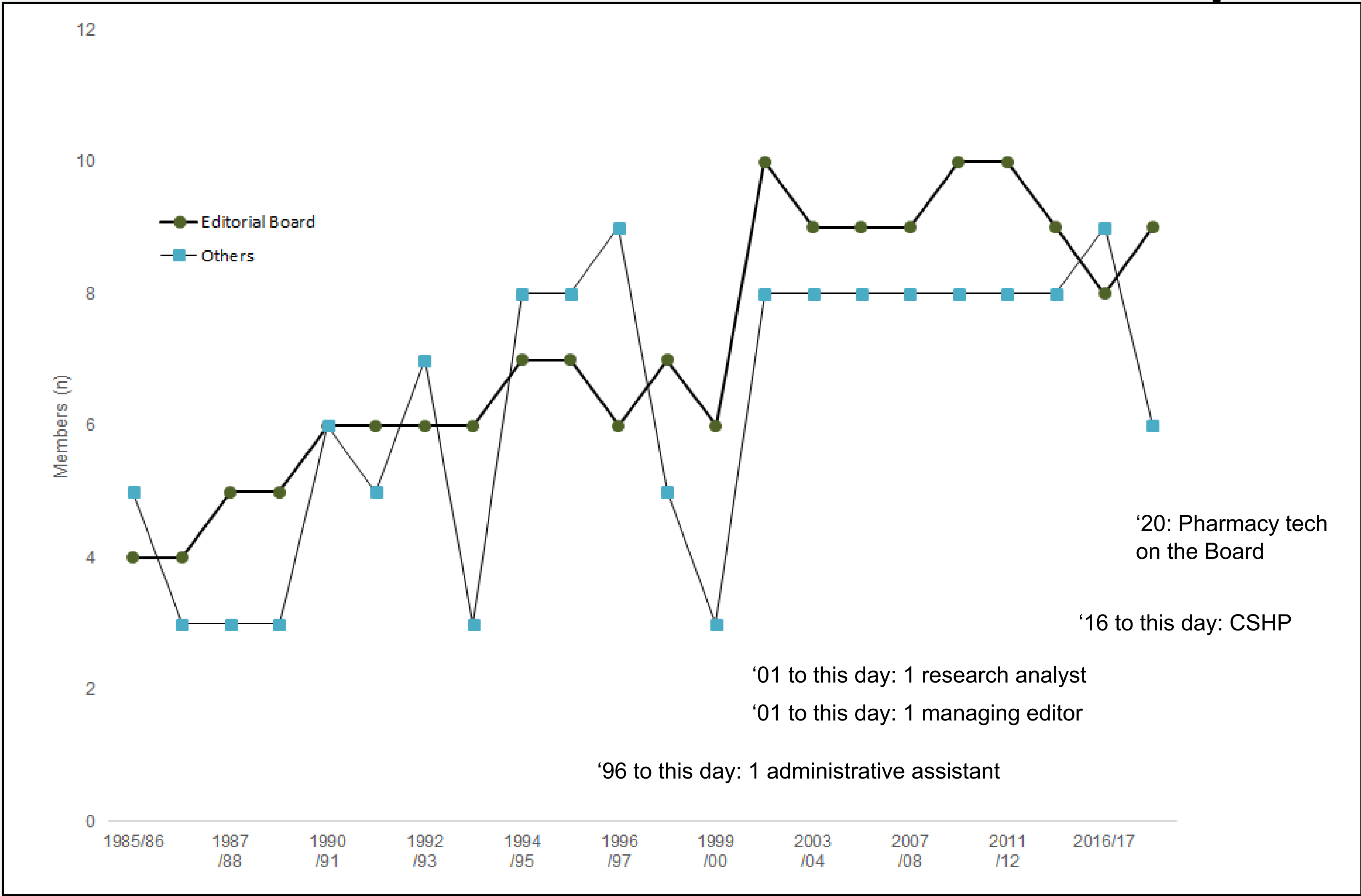


Fig. 3 Growth of the editorial board

Report

- The report was published annually until 1997-98, then every second year or less.
- From an initial 18-page length in 1985-86, it reached a record 154-page in 2013-14.
- Response rates stayed high, with a low 51% (276/542) in 1985-86 to a high 83% (184/223) in 2016-17.
- Some themes were covered periodically (i.e. every cycle or every two cycles): methods, demographics, clinical pharmacy services, drug distribution, pharmacy technicians, technologies, data benchmarking, key ratios
- Some themes were covered once or several times depending on the interest: patient safety and medication errors, ethics, workload measurement, regionalization, CSHP 2015, COVID19, small hospitals, future trends, etc.
- Over time, the editors of the different themes were invited to comment on the data collected taking into account the data of the literature, including the perspective of the surveys carried out by the ASHP; one working session was conducted with the editors of the ASHP (i.e. P Schneider, D Scheckhelhoff, C Pedersen) in the years 2000s.

Report diffusion

- It was distributed as a paper version until 1996-1997; an electronic-version starting 1997-98 has been used; the report is shared with pharmacy directors and with hospital CEOs.
- On several occasions, regional and national face-to-face management seminars were organized.

Key results

- The average pharmacy opening hours increased from 65 in 1985-86 to 86 in 2020-21.
- Similarly, the average number of pharmacy paid hours per patient day increased from 0.31 in 1985-86 to 1.01 in 2020-21.
- A progressive delegation of drug distribution activities to pharmacy technicians, supported by technologies, was observed.
- Over time, pharmacy staffing, expenditures and the provision of decentralized care in clinical patient care programs increased; the pharmacist's work transitionned to targeted clinical activities performed for a limited proportion of patients in favor of continuous coverage of care programs; the 2020-21 survey described this coverage within 38 care programs.
- The survey highlights significant technological development including standardization of drug distribution methods, significant robotization (e.g. robot, trolleys, cabinets, barcode readers, filling pumps) and computerization of patient records.
- The survey also highlights the development of training, certification and regulation of technical personnel, which allows pharmacists to fully play their role as caregivers at the bedside of patients.



Fig. 4 Covers of the report over the years

Conclusion

- The drop in the number of potential respondents illustrates the regionalization and the consolidation of healthcare structures.
- The increase in staffing is a sign of growth in the workforce and of the place of the pharmacy team in patient care. The gradual implementation of pharmacy technicians and technologies supported this growth.
- Canadian hospital pharmacy has particularly benefited from this periodic comparative analysis of practice for 35 years; other canadian health professions do not have access to such historical comparative data. This survey supports pharmacist managers in their efforts to provide the best pharmaceutical services and care.

Contact: jean-francois.bussieres.hsj@ssss.gouv.qc.ca - **Conflict of interests:** None - **Funding:** The editorial board has been supported by Eli Lilly since the beginning; complementary funding has been provided by Astra-Zeneca, Pfizer and Pharmascience in the last three cycles; funding is directed toward CSHP **oster presented** at the ASHP Midyear clinical Meeting on December 4-8 2022, USA - **urppchusj.com**