



## 8. Care using select treatments

Cristina A. Mattison and John N. Lavis

Prescription and over-the-counter drugs	318
Complementary and alternative therapies	331
Dental services	333
Conclusion	342

Copyright © 2016 McMaster University. All rights reserved.

McMaster University is making this book chapter freely available to advance the public interest. However, the University does not give permission for this chapter to be posted on websites other than the website of the McMaster Health Forum, or to be circulated electronically. The full book is available for purchase on Amazon and other online stores.

This book chapter and the information contained herein are for informative, public interest purposes only, are provided on an as-is basis (without warranty, express or implied), and are not meant to substitute for medical, financial or legal advice. McMaster University, the editor, the chapter authors and the publisher assume no responsibility or liability for loss or damage caused or allegedly caused, directly or indirectly, by the use of information contained in this book chapter, and they specifically disclaim any liability incurred from its use.

The McMaster Health Forum welcomes corrections, updates and feedback, as well as suggestions for conditions, treatments and populations that are not covered in the book, so that they can be considered for incorporation in a future eBook and in future print editions of the book. Any corrections, updates, feedback and suggestions provided do not certify authorship. Please send your comments to [mhf@mcmaster.ca](mailto:mhf@mcmaster.ca).

The appropriate citation for this book chapter is: Mattison CA, Lavis JN. Care using select treatments. In Lavis JN (editor), Ontario's health system: Key insights for engaged citizens, professionals and policymakers. Hamilton: McMaster Health Forum; 2016, p. 315-47.

ISBN 978-1-927565-12-4 (Online)  
ISBN 978-1-927565-11-7 (Print)

### Key messages for citizens

- The majority of prescription and over-the-counter drugs, complementary and alternative therapies, and dental services are paid for by private insurers or out-of-pocket, with government funding concentrated in two areas:
  - drugs provided in hospital or covered through programs funded by the provincial government (Ontario Drug Benefit Program and selected drug and/or disease-specific programs); and
  - dental surgery performed in hospital and dental services covered through programs funded by provincial and municipal governments.
- Chiropractors, homeopaths, massage therapists, naturopaths and traditional Chinese medicine practitioners are regulated health professionals who provide complementary and alternative therapies.

### Key messages for health professionals

- In the past decade, the scope of practice of pharmacists has been expanded to include: 1) prescription renewal and some alterations; 2) certain smoking-cessation prescriptions; 3) administration of flu vaccines to those aged five years and older; 4) using medication to demonstrate its use to newly diagnosed patients (e.g., asthma inhalers); 5) select below-the-dermis procedures (e.g., blood glucose testing); and 6) provision of the naloxone kit (for opioid overdoses).
- Complementary and alternative therapies are delivered by practitioners who work in private practice and do not receive funding from the government.
- Aside from the dental services offered in hospitals and through select programs, dental services are also delivered in private practice and without funding from government.

### Key messages for policymakers

- From 2000-01 to 2013-14, public prescription drug costs have steadily increased, with prescription drug costs to the government and to recipients increasing, in both cases, by 93%, drug costs at formulary prices increasing by 81%, drug mark-up increasing by 47%, and dispensing and compounding fees increasing by 170%.
- From 2000-01 to 2013-14, Ontario Drug Benefit Program beneficiaries and costs have also increased, with the number of beneficiaries increasing by 39% and claims increasing by 200%.
- While the use of complementary and alternative therapies is growing, they are almost exclusively paid for privately, either out-of-pocket or through private insurance plans.
- Only 1% of dental service expenditures were publicly financed in 2010, and while most dental services are paid for privately, there are a number of dental programs that support children, people with disabilities, and those in need of significant jaw reconstruction (offered in hospitals).

...

In this chapter we profile care that involves three broad categories of treatments: prescription and over-the-counter drugs, complementary and alternative therapies, and dental services. To begin, we focus on prescription and over-the-counter drugs. As covered in Chapter 1, when public and private spending are combined, drugs are the second largest category of health-system expenditure, which places them behind hospitals but before physicians. Complementary and alternative therapies are discussed as they are increasingly being used by many Ontarians either alongside or instead of the types of treatments covered in Chapters 6 and 7, even though their delivery operates entirely outside of the publicly funded health system. Dental services are also discussed, as they are an often taken-for-granted category of treatments that are also delivered largely outside the publicly funded health system.

## Prescription and over-the-counter drugs

Understanding the role of drugs in health systems is important for three reasons: 1) prescription and over-the-counter drugs are the most commonly used therapeutic intervention; 2) such drugs can have major benefits, but they can also cause harm; and 3) drugs are the second most costly component of healthcare in Ontario (see Figure 1.2). For example, the Canadian Health Measures Survey identified that between 2007 and 2011, 41% of the household population (aged six to 79 years) reported using prescription drugs, and use increased with age – from 12% among six-to-14-year-olds to 83% among those aged 65 to 79 years.(1)

Three key features of how prescription and over-the-counter drugs are governed, financed and delivered warrant singling out, and we return to these features in more detail below. First, the provincial government funds a number of programs to subsidize the cost of drugs for eligible Ontarians (Table 8.1), however, private sources of funds – both private insurance and out-of-pocket payments – are relied on by many Ontarians (Table 8.2). Second, pharmacists play a central role in the delivery of prescription and over-the-counter drugs, and their scope of practice has increased significantly over the past decade. Third, the federal government plays a key role in the approval and regulation of drugs and a national body informs provincial government decisions about which drugs to fund through its programs. Where relevant in the sub-sections below, we begin by describing the context in Ontario and then provide any key relevant federal or national details.

Table 8.1: Publicly funded drug programs<sup>1</sup>

Program	Benefit
Ontario Drug Benefit (ODB) Program	Covers most of the cost of prescription drugs, some nutrition products and some diabetic testing agents as listed in the ODB Program formulary (which includes approximately 4,400 products), with set fees for patients <sup>2</sup>
Exceptional Access Program	Covers most of the cost of prescription drugs not on the approved ODB formulary and requested by a physician (e.g., when the drugs on the ODB formulary have been tried but have not worked or an alternative drug is not available on the formulary)  Each request is reviewed according to Exceptional Access Program criteria, which have been developed by the Committee to Evaluate Drugs (i.e., the Ministry of Health and Long-Term Care's expert advisory committee on drug-related issues)
Trillium Drug Program	Covers most of the cost of prescription drugs for those who have high prescription drug costs relative to their household income <sup>3</sup>

Continued on next page

Program	Benefit
New Drug Funding Program	Full coverage of approved new and expensive intravenous cancer drugs administered in regional cancer centres and hospitals  The majority of intravenous cancer drugs are funded through this program, with the exception of older and less expensive drugs, which are covered under the Systemic Treatment Quality-Based Program
Special Drugs Program	Full coverage of disease-specific drugs when prescribed to outpatients by a designated centre/physician (e.g., drugs for cystic fibrosis, Gaucher's disease, schizophrenia, thalassemia, and children with growth failure)
Inherited Metabolic Diseases Program	Full coverage of certain outpatient metabolic disorder treatment-related drugs, supplements, and specialty foods (e.g., infant feeds, low protein foods, and modified l-amino acid mixtures)
Respiratory Syncytial Virus Prophylaxis Program	Full coverage of palivizumab, which is used to prevent serious lower respiratory tract infections caused by respiratory syncytial virus in infants less than two years of age (at the start of respiratory syncytial virus season)
Visudyne (Verteporfin) Program	Full coverage of verteporfin, which is used to slow the progression of age-related macular degeneration (an eye-related condition leading to blindness)

Sources: 16; 17; 78-81

Notes:

<sup>1</sup>Called the Ontario Public Drug Programs

<sup>2</sup>A fee (called a co-payment) of up to \$6.11 applies to all prescriptions. Higher income seniors also pay a \$100 deductible before the cost of prescription drugs is covered. Lower income seniors can apply for the Seniors Co-Payment Program, which caps the co-payment at up to \$2 per prescription (the same co-payment paid by social assistance recipients).

<sup>3</sup>An income-based deductible of approximately 4% of total household net income, and subsequent co-payment of up to \$2 may apply.

Table 8.2: Drug coverage and costs by source (public and private), 2013

	2013 <sup>1</sup>	Percentage of population
Population covered by public and private insurance (thousands)		
Private insurers	7,631	54%
Ontario Public Drug Programs	3,831	27%
Uninsured (entirely out-of-pocket)	2,461	17%
Other public programs <sup>2</sup>	235	2%
Costs by public and private sources (\$ millions)		
Ontario Public Drug Programs	4,400	39%
Private insurers	4,000	36%
Out-of-pocket	2,600	23%
Other public programs <sup>2</sup>	200	2%
Total costs	11,200	

Source: 82

Notes:

<sup>1</sup>These data are forecasts from the Canadian Institute for Health Information. We have made an exception to our 'no forecasts' rule (which we explain in Chapter 1) because actual data from earlier years are not publicly available.

<sup>2</sup>Other public programs include the Non-Insured Health Benefits program and other federal government programs.

### Policies that govern prescription and over-the-counter drugs

The main policies that govern prescription and over-the-counter drugs at the provincial level are listed in Figure 8.1 and include the:

- 1) Ontario Drug Benefit Act, 1990, which established the current administration of public drug programs in Ontario and the requirements for the formulary;
- 2) *Drug and Pharmacies Regulation Act, 1990*, which established the regulations governing pharmacies;
- 3) *Pharmacy Act, 1991*, which established the scope of practice of pharmacists;
- 4) *Drug Interchangeability and Dispensing Fee Act, 1993*, which established rules for interchanging one prescribed drug with another (containing the same active ingredients and dosage);
- 5) *Transparent Drug System for Patients Act, 2006*, which formalized the Ontario Public Drug Programs and includes commitments to consumer/patient engagement, transparency, and using clinical and economic evidence in drug-funding decisions;
- 6) *Regulated Health Professions Statute Law Amendment Act, 2009*, which expanded the scope of practice for pharmacists, among a number of other health professions; and
- 7) *Narcotics Safety and Awareness Act, 2010*, which established a monitoring system for the prescribing and dispensing of narcotics and other monitored drugs, in order to reduce the misuse and abuse of these types of drugs.

At the federal level, two key policies govern prescription and over-the-counter drugs:

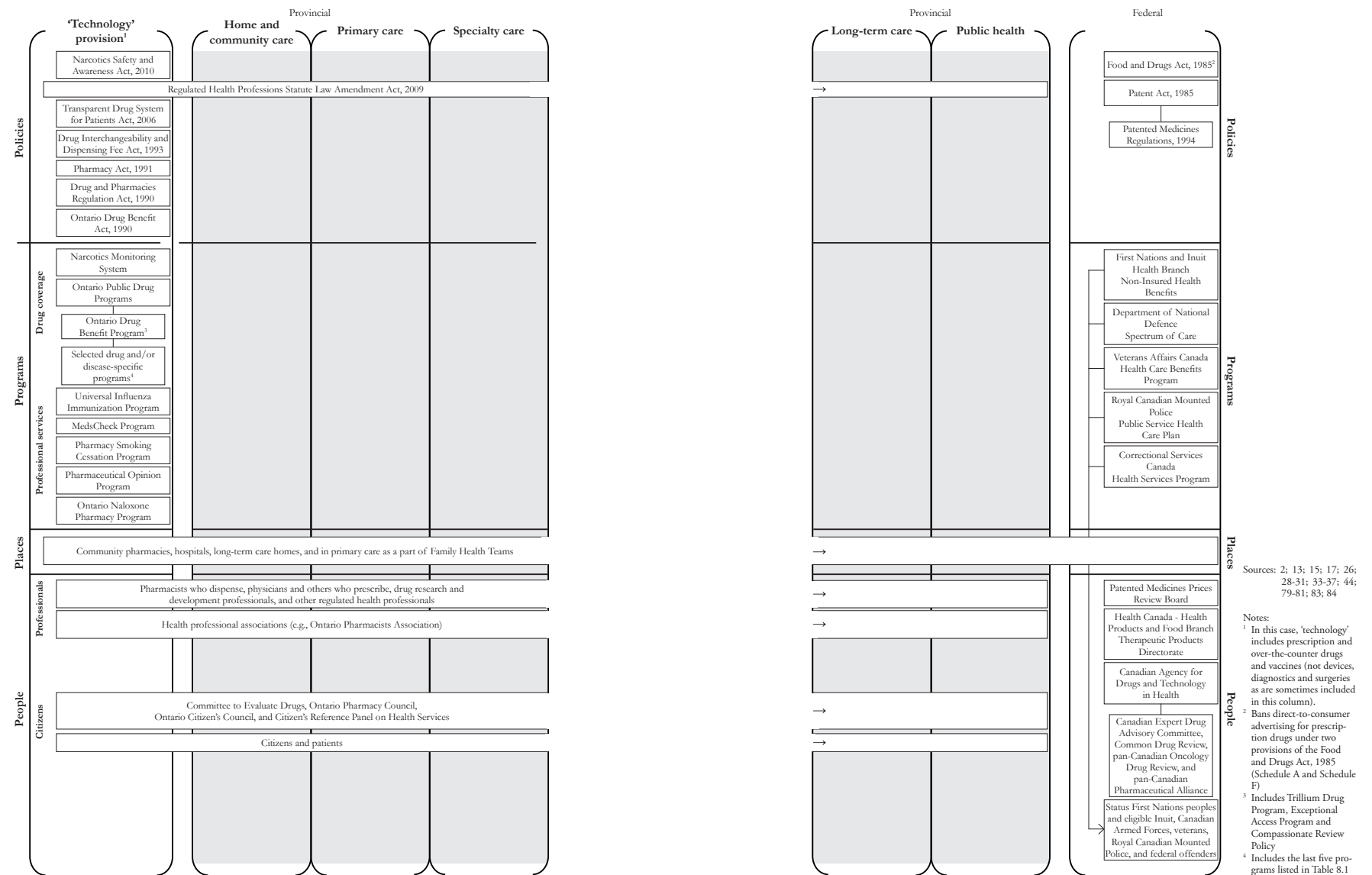
- 1) the *Food and Drugs Act, 1985*, which requires drug manufacturers to provide scientific evidence on the safety, efficacy and quality of the product under review in order to obtain authorization to market a drug in Canada and which, through amendments made by Bill C-17, requires a robust drug-surveillance system, procedures to recall unsafe therapeutic products, and clearer labelling for children 12 and under;(2; 3) and
- 2) the *Patent Act, 1985*, which established the Patented Medicine Prices Review Board and which, through amendments made by regulation SOR/93-133, established the conditions under which generic drugs can be marketed.(4; 5)

Under the terms of the *Food and Drugs Act, 1985*, the Therapeutic Products Directorate of Health Canada's Health Products and Food Branch regulates which prescription and over-the-counter drugs, as well as medical devices, can be offered for sale in Canada.(6) Expedited reviews can be conducted under special circumstances. For example, the Priority Review Process provides faster review of promising drugs for life-threatening conditions, and the Special Access Program allows physicians to prescribe drugs that are not currently offered in Canada, albeit under very restricted circumstances (e.g., when standard treatments have failed or are not appropriate in specific circumstances).(2) On the other hand, some drugs undergo a very lengthy review process. The issue of approving medications for abortion in Canada, for example, was prolonged, and the review of Mifegymiso – the combination of mifepristone and misoprostil that can be used to terminate pregnancies – began in November of 2012, but was not approved until July 2015, and its use is restricted to patients who can access an ultrasound and a physician who is registered and trained to prescribe the drug.(7; 8)

Health Canada sets specific guidelines for the marketing of prescription and over-the-counter drugs. Most notably, direct-to-consumer advertising of pharmaceutical products (whether using print, broadcast or internet media) is prohibited in Canada, with the exception of: 1) public health vaccination campaigns that do not promote a specific product; 2) reminder advertisements (which include only the brand name and not the drug's indications); and 3) disease-oriented or help-seeking advertisements (which describe the disease or condition but do not include a brand name).(9; 10) That said, Ontarians are exposed to a significant amount of pharmaceutical advertising through media from the U.S. Further complicating the issue is that while direct-to-consumer advertising is not allowed, direct-to-consumer information campaigns are allowed, and properly distinguishing between the two requires resources.(11) To ensure compliance with Health Canada's guidelines, the Pharmaceutical Advertising Advisory Board reviews materials for health products directed at health professionals, and it works with Advertising Standards Canada to review (voluntarily submitted) prescription drug and educational materials on medical conditions and diseases aimed at consumers.(12)

Under the terms of the *Patent Act, 1985*, the Patented Medicine Prices Review Board regulates the 'factory gate' ceiling price of patented drugs (not the wholesale price or the retail price charged by pharmacies) and

Figure 8.1: Prescription and over-the-counter drugs



Sources: 2; 13; 15; 17; 26; 28-31; 33-37; 44; 79-81; 83; 84

- Notes:
- <sup>1</sup> In this case, 'technology' includes prescription and over-the-counter drugs and vaccines (not devices, diagnostics and surgeries as are sometimes included in this column).
  - <sup>2</sup> Bans direct-to-consumer advertising for prescription drugs under two provisions of the Food and Drugs Act, 1985 (Schedule A and Schedule F)
  - <sup>3</sup> Includes Trillium Drug Program, Exceptional Access Program and Compassionate Review Policy
  - <sup>4</sup> Includes the last five programs listed in Table 8.1

reports on prescription drug-price trends and on research and development spending by pharmaceutical companies.(13) The board began operation in 1987 and is part of the federal government's 'Health Portfolio,' although it operates at arm's-length from the minister of health and independently from Health Canada, which is the federal government's health department.(13) The Patented Medicine Prices Review Board has jurisdiction over 'factory-gate' prices (i.e., product price at the factory) for patented prescription and over-the-counter drugs, and does not extend to wholesaler or retailer pricing.(14)

While also formally part of governance arrangements, we address below – in the sub-section on 'places and people' – the scope of practice of pharmacists and the few health professions who can prescribe drugs.

### Drug programs

Publicly funded drug programs (Figure 8.1) are administered as part of the Ontario Public Drug Programs, which were re-designed to their current form in 2007 through the *Transparent Drug System for Patients Act, 2006*.(15) The majority of the drugs offered through the Ontario Public Drug Programs are listed on the Ontario Drug Benefit (ODB) Program formulary, with the exception of those covered through the Exceptional Access Program and its associated Compassionate Review Policy. There are around 4,400 drug products listed on the ODB Program formulary.(16) The Exceptional Access Program provides access to over 850 drugs that are not covered by the formulary, but are approved for sale in Canada.(15) In 2013-14, approximately 64,200 Exceptional Access Program requests were made and 52,000 were approved (81%).(17)

The Ontario Public Drug Programs (Table 8.1) include the:

- 1) ODB Program for those aged 65 and older, recipients of home care, residents of Homes for Special Care and long-term care homes, and recipients of social assistance through either Ontario Works or the Ontario Disability Support Program;
- 2) Exceptional Access Program for those meeting the eligibility criteria for the ODB Program and, as noted above, needing drugs that are not covered on the formulary but were requested by a physician (and that are usually expensive drugs and only cost-effective in a small group of patients);

- 3) Trillium Drug Program for those with very high drug costs relative to household income (those who do not qualify for the ODB Program can apply for the Trillium Drug Program);
- 4) New Drug Funding Program for select intravenous cancer drugs, which are often very expensive (see Chapter 7);
- 5) Special Drugs Program for a range of serious conditions (e.g., full outpatient drug coverage for cystic fibrosis and thalassemia, among others, and including clozapine for schizophrenia);
- 6) Inherited Metabolic Diseases Program for those with metabolic disorders (full outpatient drug coverage, as well as coverage of supplements and specialty foods);
- 7) Respiratory Syncytial Virus Prophylaxis Program for high-risk infants (full coverage of palivizumab, which is used to prevent serious lower respiratory tract infections); and
- 8) Visudyne (Verteporfin) for those with age-related macular degeneration.(18; 19)

The Ministry of Health and Long-Term Care's Drugs for Rare Disease framework was created in 2007 by a panel of clinical and health technology assessment experts as a response to the lack of a national strategy.(20) A draft of the framework is used to assess funding requests for drugs for rare diseases. Five drugs have been evaluated using the framework, three of which are available through the Exceptional Access Program.(20; 21)

The Ontario Public Drug Programs are responsible for: 1) determining which products should be eligible for public reimbursement, which is done based on recommendations from the Committee to Evaluate Drugs; 2) making funding decisions; and; 3) negotiating agreements with drug manufacturers as appropriate.(15)

In making its recommendations, the Committee to Evaluate Drugs, which is comprised of 16 members (physicians with additional expertise in drugs or critical appraisal, pharmacists, health economists, and two patient representatives), considers recommendations about patented drugs from the Canadian Drug Expert Committee (or, in the case of cancer drugs, from the pan-Canadian Oncology Drug Review's Expert Review Committee) and extensive drug reviews provided through the broader Common Drug Review.(22) Up until 2003, provinces and territories conducted drug reviews independently. The Common Drug Review is the result of a 2002 intergovernmental agreement to ensure that publicly funded drugs

are cost-effective, while eliminating duplication of efforts across jurisdictions.(23; 24) The Common Drug Review is coordinated by the Canadian Agency for Drugs and Technologies in Health, an independent, not-for-profit organization that was created in 1989 by federal, provincial and territorial governments in an effort to centralize the review of health technologies and drugs, and the provision of recommendations.(25)

The Ontario Public Drug Programs' executive officer has the final decision as to whether a drug should be listed on the formulary or made available through the Exceptional Access Program.(15) Through the Compassionate Review Policy, the executive officer, with the assistance of expert clinical reviewers, can consider funding requests on a case-by-case basis in instances where a quick decision is needed (e.g., due to life-, limb- or organ-threatening conditions).(15)

The federal government manages public drug plans for select populations:

- 1) status First Nations peoples and eligible Inuit through the First Nations and Inuit Health Branch's Non-Insured Health Benefits program, which will likely be extended to non-status First Nations and Métis in light of the 2016 Supreme Court decision (see Chapter 9 for more details on Indigenous health);(26)
- 2) members of the Canadian Forces (and their dependents) through the Department of National Defence's Spectrum of Care program, which includes the Canadian Armed Forces Drug Benefit List;(27; 28)
- 3) qualified veterans through Veterans Affairs Canada's Programs of Choice, which includes the Health Care Benefits Program;(29)
- 4) Royal Canadian Mounted Police through the Public Service Health Care Plan;(30) and
- 5) federal offenders through Correctional Service Canada's Health Services Program.(31 )

#### Places and people involved in prescription and over-the-counter drugs

Prescription and over-the-counter drugs are available through pharmacies, with private for-profit community pharmacies located in abundance in most non-remote communities. In 2015 there were 4,012 community pharmacies in Ontario, of which:

- 49% (1,967) are independently owned;
- 26% (1,051) are franchises (e.g., Shoppers Drug Mart) or banner

retailers (e.g., Guardian);

- 22% (872) are large chains (greater than 15 stores) (e.g., Rexall); and
- 3% (122) are small chains (from three to 15 stores).(32)

Pharmacy departments are important components of hospitals, providing prescription and clinical pharmacy assistance to patients and prescribers.

Most pharmacists work in pharmacies, but some can be found in home and community care organizations, as members of Family Health Teams, and in long-term care homes.(33) As part of the *Regulated Health Professions Statute Law Amendment Act, 2009*, the government expanded the role of pharmacists.(34) Pharmacists' scope of practice and/or publicly funded practice has grown to include:

- 1) one 30-minute annual review of prescriptions for those taking a minimum of three medications for a chronic condition, which was expanded in 2010 to include residents of long-term care homes, people living with diabetes, and people who are home-bound (through MedsCheck);
- 2) influenza vaccine administration in those aged five and up, through the Universal Influenza Immunization Program;
- 3) prescription of certain smoking-cessation drugs, through the Pharmacy Smoking Cessation Program
- 4) renewal and adaptation (e.g., dosage amounts) of some prescription medications, through the Pharmaceutical Opinion Program;
- 5) injections or inhalations to patients for education or demonstration purposes;
- 6) procedures on tissue below the dermis for the limited purposes of patient self-care education and chronic-disease monitoring (e.g., blood glucose monitoring); and
- 7) naloxone kit provision without a prescription and at no cost, which involves training from the pharmacist on how to properly administer the drug to treat opioid overdose (intramuscular injection), through the Ontario Naloxone Pharmacy Program.(20; 34-37)

Under the terms of the *Narcotics Safety and Awareness Act, 2010*, pharmacists also contribute data about the dispensing of narcotics and other controlled substances to the Narcotics Monitoring System, and receive warning messages about potential misuse.(17) Pharmacists are represented by the Ontario Pharmacists Association.

Only physicians, dentists, nurse practitioners, midwives and (as noted, in

limited ways) pharmacists are allowed to prescribe drugs to humans (and veterinarians can prescribe drugs to animals). In its 2014 election platform, the Liberal Party signalled the Government of Ontario's intent to further expand nurses' and pharmacists' ability to prescribe.(38; 39) The Health Professions Regulatory Advisory Council recently reviewed three models for registered nurse prescribing (independent prescribing, supplementary prescribing, and use of protocols) and made recommendations to the Minister of Health and Long-Term Care on prescribing by registered nurses in Ontario.(40)

National-level associations represent the brand-name pharmaceutical industry (Innovative Medicines Canada, which was formerly called Rx&D), generic-drug industry (Canadian Generic Pharmaceutical Association), and homeopathic product manufacturers and distributors (Canadian Homeopathic Pharmaceutical Association).(41-43) A national initiative (the pan-Canadian Pharmaceutical Alliance) has been created to achieve greater value for brand-name and generic drugs for publicly funded drug programs, with Ontario leading the brand-name-drugs initiative and Nova Scotia and Saskatchewan co-leading the generic-drug initiative.(44) Other national (non-governmental) initiatives, such as the Canadian Deprescribing Network and Choosing Wisely Canada, have been created to reduce the use of potentially inappropriate prescription and over-the-counter drugs.(45)

### Governance, financial and delivery arrangements for prescription and over-the-counter drugs

The governance arrangements for prescription and over-the-counter drugs have been established through the provincial and federal government policies described above. In terms of financial arrangements, just over half (54%) of Ontarians are covered by private insurers, 27% are covered by Ontario Public Drug Programs, 17% are uninsured (i.e., requiring out-of-pocket payments for all drugs), and the remaining 2% are covered by federal government programs (Table 8.2, noting that in this table we have made an exception to our 'no forecasts' rule because actual data from earlier years are not publicly available). The number of ODB Program claims have increased significantly over time, increasing by 200% between 2000-01 and 2013-14 in 2002 dollars (Table 8.3). Most notably, among ODB Program beneficiaries, those covered through the Trillium Drug Program

Table 8.3: Ontario Drug Benefit Program beneficiaries and costs, 2000-01 to 2013-14

Indicators	Beneficiaries and costs <sup>1,2</sup>			13-year percentage change <sup>2</sup>
	2000-01	2010-11	2013-14	
All beneficiaries and claims (thousands)				
Beneficiaries	2,080	2,600	2,900	39%
Claims	49,000	124,000	147,000	200%
Beneficiaries by ministry (thousands)				
Health and long-term care	—	1,970	2,180	—
Community and social services	—	670	700	—
Beneficiaries by type (thousands)				
Core senior <sup>3</sup>	884	1,383	1,609	82%
Ontario Disability Support Program <sup>4</sup>	250	351	392	57%
Ontario Works <sup>4</sup>	368	344	332	-10%
Lower income senior <sup>5</sup>	411	300	283	-31%
Trillium Drug Program	52	189	190	265%
Long-term care <sup>6</sup>	41	102	103	82%
Home care <sup>7</sup>	68	85	92	57%
Beneficiaries by age or program (thousands)				
≥65	1,405	1,746	1,961	40%
<65	593	690	716	21%
Trillium Drug Program	61	179	190	211%
Cost per beneficiary				
Long-term care	\$1,469	\$3,227	\$3,134	113%
Home care	\$1,927	\$2,018	\$2,267	18%
Ontario Disability Support Program	\$1,402	\$2,087	\$2,230	59%
Trillium Drug Program	\$1,654	\$1,652	\$2,001	21%
Lower income senior	\$1,339	\$1,969	\$1,920	43%
Core senior	\$1,104	\$1,997	\$1,223	11%
Ontario Works	\$230	\$429	\$499	117%

Sources: 82; 85-88.

Notes:

<sup>1</sup> Inflation adjusted to 2002, according to Statistics Canada's Consumer Price Index (healthcare), CANSIM 326-0020: value x (CPI 2002/CPI<sub>i</sub>) = value (2002) where i = year

<sup>2</sup> Data not available for the specific reference period are denoted by —.

<sup>3</sup> Refers to the majority of seniors eligible for the Ontario Drug Benefit (ODB) Program, for whom the regular ODB Program deductible (the first \$100 of the prescription cost) and co-payment (\$6.11 for each approved prescription filled) apply

<sup>4</sup> Offered through the Ministry of Community and Social Services and includes health benefits for those requiring financial assistance

<sup>5</sup> Refers to ODB Program-eligible seniors who meet one of the seniors co-payment income thresholds (e.g., pay up to \$2 per prescription if they are a single senior with a yearly net income of less than \$19,300 or a senior couple with a combined yearly income of less than \$32,300)

<sup>6</sup> Long-term care included Homes for Special Care in 2000-01

<sup>7</sup> Home care included Homes for Special Care in 2010-11 and 2013-14



have increased by 265% over the same time period. Similarly, publicly funded prescription-drug costs have increased significantly between 2000-01 and 2013-14: measured in 2002 dollars, drug costs have increased by 81%, mark-up by 47%, and dispensing and compounding fees by 170% (Table 8.4). Delivery arrangements for prescription and over-the-counter drugs in Ontario include: 4,012 pharmacies as of 2015, mostly in community settings; 12,630 pharmacists as of 2013; and 93 pharmacists per 100,000 population as of 2013 (see Tables 5.2 and 5.3).

Table 8.4: Publicly funded prescription-drug costs, 2000-01 to 2013-14

Indicator	Costs <sup>1,2</sup> (\$ millions)			3-year percentage change	13-year percentage change
	2000-01 <sup>2</sup>	2010-11	2013-14		
Prescription cost breakdown					
Drug cost <sup>3</sup>	\$1,727	\$2,916	\$3,129	7%	81%
Mark-up <sup>4</sup>	\$163	\$222	\$239	8%	47%
Dispensing and compounding fees	\$328	\$695	\$887	28%	170%
Cost to payer					
Government cost	\$1,956	\$3,404	\$3,768	11%	93%
Ministry of Health and Long-Term Care	—	\$2,666	\$2,891	8%	—
Ministry of Community and Social Services	—	\$738	\$877	19%	—
Recipient cost <sup>5</sup>	\$262	\$435	\$505	16%	93%
Cost by type of drug					
Brand name	—	\$2,523	\$2,696	7%	—
Generic	—	\$1,317	\$1,597	21%	—
Exceptional Access Program	—	\$263	\$419	59%	—
Cancer drugs costs					
Ontario Drug Benefit Program	—	\$183	\$230	26%	—
New Drugs Funding Program <sup>6</sup>	—	\$186	\$223	20%	—
Special Drugs Program	—	\$112	\$91	-19%	—

Sources: adapted from 85-89

Notes:

<sup>1</sup>Inflation adjusted to 2002, according to Statistics Canada's Consumer Price Index (healthcare), CANSIM 326-0020: value  $\times$  (CPI 2002/CPI<sub>i</sub>) = value (2002) where  $i$  = year

<sup>2</sup>Data not available for the specific reference period are denoted by —.

<sup>3</sup>Cost of a drug at formulary prices

<sup>4</sup>Total mark-up paid per eligible claim (maximum 8%)

<sup>5</sup>Co-payment and deductible

<sup>6</sup>Administered by Cancer Care Ontario

## Complementary and alternative therapies

Regulated complementary and alternative therapies include:

- 1) chiropractic, which involves the diagnosis and treatment of health issues of the muscular, nervous and skeletal system, with a particular focus on the spine;
- 2) homeopathy, which involves giving very small doses of natural substances that are purported to cause the body to produce an immunological and therapeutic benefit (where large doses could cause symptoms of the disease itself);
- 3) massage therapy, which involves working and acting on the body with pressure;
- 4) naturopathy, which involves the use of acupuncture, herbal medicine and homeopathy, as well as diet and lifestyle counselling; and
- 5) traditional Chinese medicine, which involves the use of acupuncture, cupping, herbal medicine and massage, among other approaches.

The health professionals providing such therapies have only become formally regulated in the last one to two-and-a-half decades. There are many other unregulated health workers providing complementary and alternative therapies, such as herbalists, osteopaths and Reiki practitioners. And while such therapies are increasingly being used by Ontarians, they are almost exclusively paid for privately, either out-of-pocket or through private-insurance plans (which tend to have relatively limited coverage). Moreover, there is relatively little integration of such therapies in the care provided in any of the sectors described in Chapter 6, or for any of the conditions described in Chapter 7.

### Policies that govern complementary and alternative therapies

The major policies that govern complementary and alternative therapies are the *Regulated Health Professions Act, 1991*, and the acts specific to complementary and alternative therapy-providing professions:

- 1) *Chiropractic Act, 1991*;
- 2) *Massage Therapy Act, 1991*;
- 3) *Traditional Chinese Medicine Act, 2006*;
- 4) *Homeopathy Act, 2007*; and
- 5) *Naturopathy Act, 2007*.

These acts establish what these professions can do, and provide for the

establishment of the regulatory colleges that govern them (College of Chiropractors of Ontario, College of Massage Therapists of Ontario, College of Traditional Chinese Medicine Practitioners and Acupuncturists of Ontario, College of Homeopaths of Ontario, and College of Naturopaths of Ontario). More detail about such regulatory colleges is provided in Chapter 5.

At the federal government level, the Natural Health Products Regulations (SOR/2003-196) accompanying the *Food and Drugs Act, 1985*, stipulates that natural health products that are classified as a drug must follow the drug-review process, which includes clinical trials to prove safety and efficacy, and must have a Drug Identification Number to be sold.<sup>(46)</sup> Also, the amendments made by Bill C-17 to the *Food and Drugs Act* (which were mentioned earlier in this chapter), mean that Health Canada will no longer approve any health claims for homeopathic cough, cold and flu products for children 12 and under unless they are backed by scientific evidence. Natural health products that are classified as food are limited in the claims they can make and do not have to provide as much safety information in their labelling.<sup>(46)</sup>

### Programs that involve complementary and alternative therapies

There are no publicly funded programs available to Ontarians, however, the Workplace Safety and Insurance Board (which, as described in Chapter 7, is funded by employer premiums) pays for some chiropractic care and massage therapy for workers who require treatment for musculoskeletal injuries.<sup>(47)</sup> Also, the Ontario Disability Support Program offered through the Ministry of Community and Social Services provides financial support to help with travel costs for therapies or treatments provided by any of the 28 health professions regulated under the *Regulated Health Professions Act, 1991*, which includes the five professions being discussed here.<sup>(48)</sup>

### Places and people involved in complementary and alternative therapies

Complementary and alternative therapies are primarily provided in private clinics and offices, although they can be provided in a client's home (e.g., massage therapy), in some primary-care offices and clinics (e.g., chiropractic), and in some hospitals, rehabilitation centres, and long-term care

homes (e.g., massage therapy). With the exception of traditional Chinese medicine practitioners, the regulated health professions providing complementary and alternative therapy are represented by their respective associations, namely the Ontario Association of Naturopathic Doctors, Ontario Chiropractic Association, Ontario Homeopathic Association, and Registered Massage Therapists' Association of Ontario.

### Governance, financial and delivery arrangements for complementary and alternative therapies

The governance arrangements that are the most relevant to complementary and alternative therapies have been covered in the 'policies' section above and pertain to the regulation of the five health professions. The key financial arrangement for this type of care is the complete reliance on out-of-pocket payment or coverage through private insurers. In terms of delivery arrangements, there are 12,660 registered massage therapists as of 2014, 4,515 chiropractors as of 2013 (see Table 5.2), 2,952 registered traditional Chinese medicine practitioners as of 2015, 1,425 registered naturopaths as of 2015, and 396 registered homeopaths as of 2016.<sup>(49-52)</sup> Naturopaths can be trained in only one school in Canada (Canadian College of Naturopathic Medicine), and chiropractors can be trained in only one school in Ontario (Canadian Memorial Chiropractor College) and one in the rest of Canada (which operates in French in Quebec), whereas registered massage therapists, traditional Chinese medicine practitioners and registered homeopaths can obtain their training through a number of colleges.

### Dental services

Dental services include:

- 1) preventive services (e.g., regular check-ups that may include teeth cleaning, fluoride applications, fissure sealants, and X-rays);
- 2) curative services, which range from restorative treatments (e.g., dental fillings) to endodontics (e.g., root canals), orthodontics (e.g., braces), periodontics (e.g., gum therapies) and prosthodontics (e.g., dentures), as well as oral surgery (e.g., tooth extractions and dental implants); and
- 3) cosmetic procedures (e.g., veneers and braces), increases in which reflect a change in focus from oral function to appearance.

Dental visits in Ontario are primarily preventive and curative in nature, although one in five visits are related to dental emergencies.(53)

The health professionals involved in providing dental services include:

- 1) dental hygienists, who focus primarily on oral disease prevention (e.g., scaling teeth and administering topical fluoride) and who can also work independently or alongside dentists;
- 2) dentists, who diagnose, prevent, and treat diseases and conditions of the oral cavity and who can be involved in primary care (most dentists) or specialty care (those with a certification in anesthesiology, endodontics, oral and maxillofacial surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics, dental public health, oral pathology and oral radiology);
- 3) denturists, who design, construct, repair and alter dentures (i.e., removable oral prostheses) and who can work independently or alongside dentists;
- 4) dental technologists, who design, construct, repair and alter dentures, implants and orthodontic devices and who work alongside dentists and denturists; and
- 5) dental assistants, who provide clinical and administrative assistance to dentists and dental hygienists but who cannot work independently of such health professionals.

Similar to complementary and alternative therapies, dental services are largely paid for privately, either out-of-pocket or through private insurance plans (which often require significant cost-sharing by patients). In Ontario in 2010, only about 1% of dental-service expenditures were paid for by government,(54; 55) which would place Ontario (if it were a country) very low in a ranking of Organisation for Economic Cooperation and Development (OECD) countries by extent of public financing. Two thirds (68%) of Ontarians reported in 2005 that they have private dental insurance, with the percentage dropping for older adults (36%) and for those with lower income (40%) and education (41%).(53) Even those with private dental insurance can face limits on service units or frequency, significant cost-sharing, and yearly and lifetime maximums on reimbursement.

## Policies that govern dental services

The key policies governing the provision of dental services by health professionals (Figure 8.2) include the:

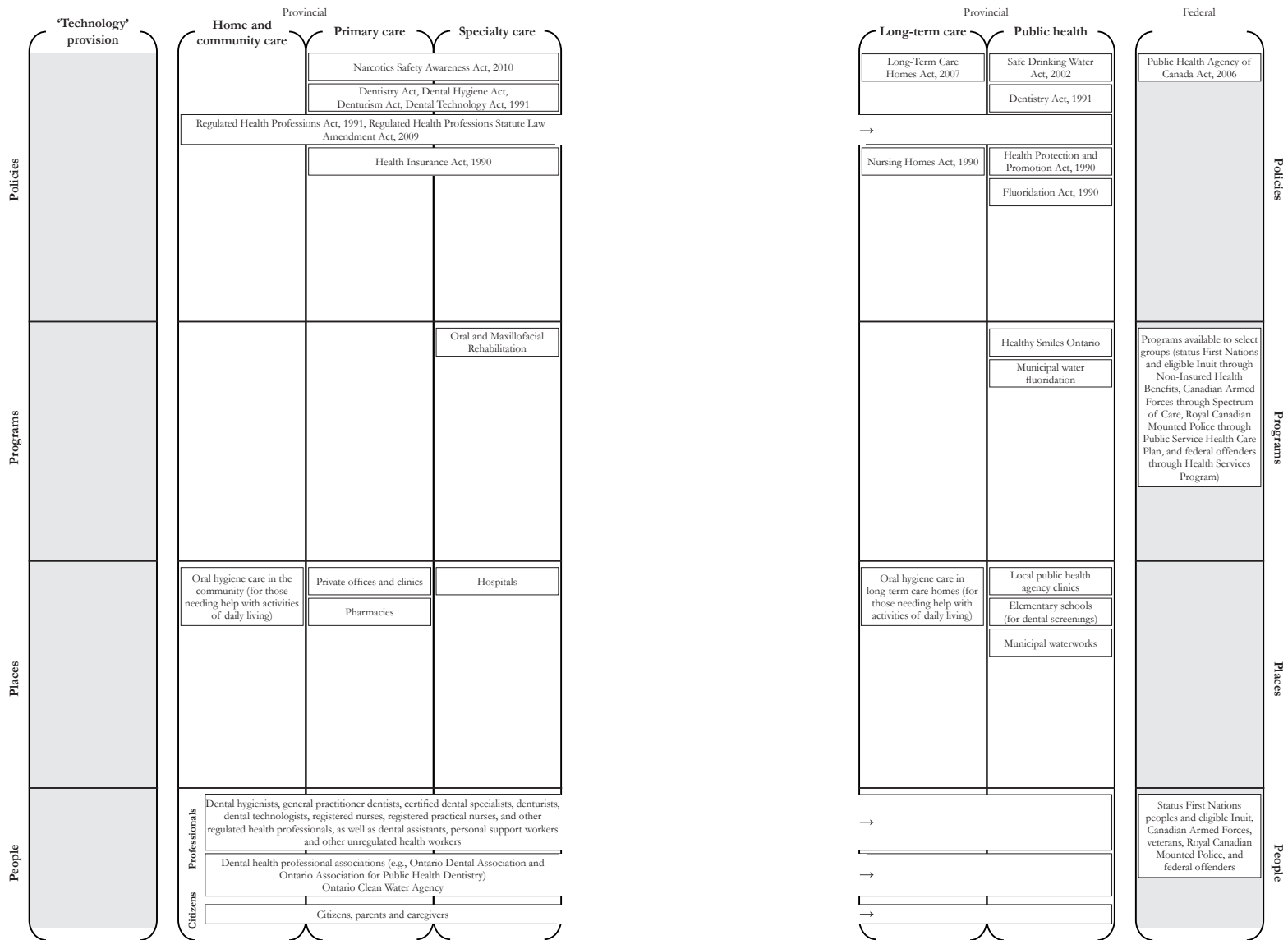
- 1) *Regulated Health Professionals Act, 1991*, which reaffirmed dentistry and denturism and established dental hygiene and dental technology as regulated health professions that are overseen by the Royal College of Dental Surgeons of Ontario, the College of Dental Hygienists of Ontario, the College of Denturists of Ontario, and the College of Dental Technologists of Ontario, respectively (as well as the *Regulated Health Professions Statute Law Amendment Act, 2009*, which makes changes to scopes of practice for dentists, dental hygienists, and dental technologists);
- 2) *Dentistry Act, 1991*, which established the self-regulation regime for dentists;
- 3) *Dental Hygiene Act, 1991*, which established the self-regulation regime for dental hygienists;
- 4) *Denturism Act, 1991*, which established the self-regulation regime for denturists; and
- 5) *Dental Technology Act, 1991*, which established the self-regulation regime for dental technologists.

As noted earlier in this chapter, dentists are like physicians, nurse practitioners, midwives, and (in limited ways) pharmacists in being allowed to prescribe drugs to humans, which means that dentists are also governed by policies such as the *Narcotics Safety and Awareness Act, 2010*, which established a monitoring system for the prescribing and dispensing of narcotics and other monitored drugs. Dental assistants are not a regulated health profession and the Ontario Dental Assistants Association acts as the certifying body (and membership association) for them.

Policies governing the provision of dental services in three of the six sectors described in Chapter 6, namely specialty (hospital) care, long-term care and public health, include the:

- 1) *Health Insurance Act, 1990*, which established the dental services (most notably hospital-based surgical procedures provided by a dental surgeon) covered under the Ontario Health Insurance Plan (OHIP) Schedule of Benefits;
- 2) *Nursing Homes Act, 1990*, which established that dental services will be arranged for long-term care home residents, albeit at their own expense;

Figure 8.2: Dental services



Sources: 54; 90-95

- 3) *Long-Term Care Homes Act, 2007*, which established the nature of the oral care provided for residents (e.g., daily mouth care and physical assistance, and an offer of an annual dental assessment, which is subject to payment authorization); and
- 4) *Health Protection and Promotion Act, 1990*, which established the mandatory health programs and services (which include some dental services) to be provided by boards of health and which we return to below.

Several other policies established specific eligibility criteria for the dental services provided as part of social service and public health programs, including the:

- 1) *Children and Family Services Act, 1990*, which established the right for ‘children in care’ to receive dental services;(56)
- 2) *Ontario Works Act, 1997*, which established the health benefits, including dental services, for Ontarians receiving social assistance payments and their dependents;(57) and
- 3) *Ontario Disability Support Act, 1997*, which established the health benefits for Ontarians living with a disability and needing help with living expenses.(58)

These policies are not shown in Figure 8.2 because they are outside the formal health system per se. While not acts and regulations (i.e., legal instruments), the Ontario Public Health Standards set the parameters for many of these services (as described in more detail in Chapter 6). Points of intersection with care for select conditions (Chapter 7) include the role of dental professionals in the diagnosis and treatment of some work-related oral injuries, and in screening for oral cancers through routine check-ups.

Policies governing the provision of population-based dental services include the:

- 1) *Fluoridation Act, 1990*, which established a provision for municipal governments to create, maintain and operate a water-fluoridation system in connection with a municipal waterworks system;(59) and
- 2) *Safe Drinking Water Act, 2002*, which established the regulation of drinking water systems and drinking water testing, and the subsequent Ontario Drinking Water System Regulation (O.Reg. 170/03), which requires yearly publication of drinking water quality reports by municipalities.(60; 61)

The Public Health Program Standards contain a protocol that outlines

the actions needed when fluoride levels fall below the therapeutic range (0.6 - 0.8 ppm) or above the maximum acceptable concentration (1.5 ppm).(62) As of 2007, 76% of Ontarians (9,229,015) have access to fluoridated water.(63) Including fluoride in health products can also be considered a population-based dental service. When such products contain a large concentration of fluoride (e.g., toothpaste and dental rinse) and carry a therapeutic claim, they are considered under the *Food and Drugs Act, 1985* and regulated under the Natural Health Products Regulations.(64)

As may be inferred from the description of these policies, the public stewardship role set for government is relatively limited for dental services compared to many other healthcare services. Moreover, in Ontario there is no chief dental officer, although there is one at the federal level, within the Public Health Agency of Canada. And with the exception of the limited data collection mandated by the Public Health Program Standards, there are no province-level data collected on dental services and dental health (54) and hence no public reporting about access to dental services (e.g., how many people do not seek care or return for recommended treatments because of cost), costs of dental services (e.g., how much do people pay, including out-of-pocket) or outcomes of dental services (e.g., Community Periodontal Index or number of missing teeth).

### Programs that involve dental services

Publicly funded dental programs in Ontario are primarily aimed at children through the Healthy Smiles Ontario program, with a small subset focusing on people with disabilities and those in need of significant surgical dental services delivered in hospital (Table 8.5). Covered dental services focus mainly on prevention (e.g., fluoride application) and basic treatment (e.g., fillings, root canals, dentures and extractions), not cosmetics (e.g., whitening, veneers and orthodontics).

Similar to the federal government-funded drug plans for select groups outlined in the prescription and over-the-counter drugs section, the federal government funds dental services for the following groups:

- 1) status First Nations peoples and eligible Inuit through the First Nations and Inuit Health Branch’s Non-Insured Health Benefits program, which will likely be extended to non-status First Nations and Métis

Table 8.5: Dental programs

Program <sup>1</sup>	Services	Who delivers/funds	Who is covered
Children			
Elementary school dental screenings	Visual screening lasting 30-60 seconds	Local public health agencies with funding from the Ministry of Health and Long-Term Care and municipal governments	Children in junior and senior kindergarten and grade 2, and for children in grades 4, 6 and 8 in high-need schools
Healthy Smiles Ontario	Preventive care and basic and urgent treatments (e.g., check-ups, cleaning, scaling, X-rays and fillings) for children in low-income households without access to any form of dental coverage	Ministry of Health and Long-Term Care	Children 17 years and younger who do not have access to any form of dental coverage and whose household income falls below a certain threshold (which varies depending on the number of children in the home)
Children and adults			
Ontario Disability Support Program	Basic dental services as well as additional services if the disability, prescribed medications or treatment affect oral health (available through the Dental Special Care Plan)	Ministry of Community and Social Services	Adults registered in the program as well as spouse (children 17 years and younger are automatically enrolled in the Healthy Smiles Ontario program)
Assistance for Children with Severe Disabilities	Dental services, among other healthcare-related costs, that can be paid for using the \$25 to \$440 per month provided (with the amount received depending on income and disability severity)	Ministry of Children and Youth Services	Parent(s) or legal guardian whose child is under 18 years, living at home, and has a severe disability (children 17 years and younger are part of the Healthy Smiles Ontario program)
Adults			
Ontario Works	Basic dental services	Ministry of Community and Social Services	Adults registered in the program as well as spouse (children 17 years and younger are automatically enrolled in the Healthy Smiles Ontario program)
Oral and Maxillofacial Rehabilitation Program	Surgical placement of dental implants to attach a prosthetic device	Ministry of Health and Long-Term Care	Adults (18 years and older) who hold a valid health card, and are assessed as a suitable candidate for dental implant surgery

Sources: 54; 90-97

Notes:

<sup>1</sup> With the exception of the programs listed in the table and dental surgery performed in hospital, regular dental services are not publicly covered under the Ontario Health Insurance Plan and residents of Ontario must pay the cost of these services out-of-pocket or through their private insurance plans. Also, in January 2016, six publicly funded dental programs were combined into the new Healthy Smiles Ontario program (dental benefits for children under Ontario Works, Ontario Disability Support Program, Assistance for Children with Severe Disabilities, Children In Need Of Treatment, Healthy Smiles Ontario, and preventive oral health services provided by local public health agencies).(97)

in light of the 2016 Supreme Court decision (see Chapter 9 for more details on Indigenous health);(65)

- 2) members of the Canadian Forces (and their dependents) through the Department of National Defence;(66)
- 3) qualified veterans through Veterans Affairs Canada;(67)
- 4) Royal Canadian Mounted Police through the Public Service Health Care Plan;(30) and
- 5) federal offenders through Correctional Service Canada.(31)

### Places and people involved in dental services

Most primary and specialty dental services are provided in private offices and clinics, and typically not alongside family physicians or other primary-care team members or alongside medical specialists or other specialty team members (Figure 8.2). In select cases, dental services are provided in local public health agency clinics and Community Health Centres, and sometimes alongside other public health practitioners. The maintenance of good oral hygiene is handled by most Ontarians themselves (or in the case of younger children, by their parents), however, those needing help with activities of daily living may receive oral hygiene care in their home or in a school, hospital or long-term care home. Ontarians buy many dental products (e.g., toothpaste, toothbrushes, and interdental cleaning products like dental floss) in pharmacies. Water fluoridation takes place in municipal waterworks.

The people involved in providing dental services include citizens and caregivers as noted above, as well as dental hygienists, dentists, denturists, dental technologists and dental assistants, who are in turn represented by their respective professional associations (e.g., Ontario Dental Association). The Royal College of Dental Surgeons of Ontario (the regulatory college for dentists) offers an online ‘find a dentist’ service on its website. Registered nurses and registered practical nurses provide assessments of oral health and hygiene practices, and develop care plans for adults requiring help with their activities of daily living (in the home and community sector, hospitals and long-term care homes).(68) Similarly, personal support workers, under the direction of a registered nurse or a registered practical nurse, provide oral hygiene for adults requiring help with their activities of daily living.(69) The Ontario Clean Water Agency provides water services to municipalities, including water fluoridation.

### Governance, financial and delivery arrangements for dental services

The key governance arrangements for dental services have been covered in the ‘policies’ section above, but both financial and delivery arrangements warrant additional comments.

With the exception of the publicly funded dental programs that cover a relatively small proportion of the population and the dental surgery performed in hospital, most dental services are paid for privately (as described in the introduction to this section). These payments are almost always made on a fee-for-service basis, with suggested (usually lower bounds for) fees for dental services set annually by the Ontario Dental Association, (70) and with fixed fees for the small subset of dental services provided in hospitals set in the OHIP Schedule of Benefits.(71) In collaboration with the Canadian Dental Association and other provinces, the Ontario Dental Association developed a national electronic data-interchange network, which allows for dental offices to electronically submit claims to insurance companies.(72) Dental services, excluding cosmetic procedures, are considered eligible medical expenses that can be claimed on tax returns.(73)

There were 13,271 dental hygienists, 9,050 dentists, and 522 dental technologists as of 2013, and 8,500 dental assistants as of 2012.(74; 75) As examples of the limited volume of publicly funded dental services, in 2011-12 local public health agencies provided 27,425 units of scaling, 30,465 topical fluoride applications, and 8,303 fissure sealants.(54) The interval between dental check-ups is typically set by the publicly funded programs and private insurers (and not according to a guideline, as is done in the U.K.).(76) Also, there is typically no risk assessment for the tailored provision of prevention services.

## Conclusion

All three of the select treatments profiled in this chapter rely to a significant degree on out-of-pocket payment or private insurance. For conditions without strong evidence of their effectiveness and cost-effectiveness, this may be entirely appropriate. However, for effective and cost-effective treatments, there is a high likelihood of underuse by those with low incomes. Prescription and over-the-counter drugs are a particular source of concern given their high and rising costs. Pharmacare2020 has been launched by

pharmaceutical policy advocates and researchers to encourage the creation of a universal pharmacare program that would complement Ontario’s existing insurance programs for hospital-based and physician-provided care, and this effort has been supported by the Ontario Liberal government.(38; 77) However, there are no such initiatives for dental services, no talk of alternative remuneration methods for dental professionals that could give greater attention to prevention, and no mention of dental professionals in the *Patients First Act, 2016* despite its focus on interprofessional primary-care teams being accountable for defined populations.

## References

1. Statistics Canada. Prescription medication use by Canadians aged 6 to 79. Ottawa: Statistics Canada; 2015. <http://www.statcan.gc.ca/pub/82-003-x/2014006/article/14032-eng.htm> (accessed 24 August 2016).
2. Health Canada. Drugs and health products. How drugs are reviewed in Canada. Ottawa: Health Canada; 2015. [http://www.hc-sc.gc.ca/dhp-mps/prodpharma/activifs-fi-reviews\\_examend-eng.php](http://www.hc-sc.gc.ca/dhp-mps/prodpharma/activifs-fi-reviews_examend-eng.php) (accessed 25 August 2016).
3. Health Canada. Drugs and health products. Protecting Canadians from Unsafe Drugs Act (Vanessa's Law): Questions/answers. Ottawa: Health Canada; 2016. <http://www.hc-sc.gc.ca/dhp-mps/legislation/unsafedrugs-droguesdangereuses-faq-eng.php> (accessed 27 August 2016).
4. Patented Medicine Prices Review Board. List of act and regulations. Ottawa: Government of Canada; 2014. <http://www.pmprb-cepmb.gc.ca/view.asp?ccid=1003> (accessed 24 August 2016).
5. Health Canada. Drug and health products. Guidance document: Patented medicines (notice of compliance) regulations. Ottawa: Health Canada; 2015. <http://www.hc-sc.gc.ca/dhp-mps/prodpharma/applic-demande/guide-ld/patmedbrev/pmreg3-eng.php> (accessed 26 August 2016).
6. Health Products and Food Branch. Therapeutic Products Directorate. Ottawa: Health Canada; 2014. <http://www.hc-sc.gc.ca/ahc-asc/branch-dirgen/hpfb-dggsa/tpd-dpt/index-eng.php> (accessed 25 August 2016).
7. Health Canada. Drugs and health products. Mifegymiso. Ottawa: Health Canada; 2016. <http://www.hc-sc.gc.ca/dhp-mps/prodpharma/sbd-smd/drug-med/sbd-smd-2016-mifegymiso-160063-eng.php> (accessed 25 August 2016).
8. Erdman JN, Grenon A, Harrison-Wilson L. Medication abortion in Canada: A right-to-health perspective. *American Journal of Public Health* 2008;98(10): 1764-69.
9. Mintzes B. Direct-to-consumer advertising of prescription drugs in Canada: What are the public health implications? Toronto: Health Council of Canada; 2006.
10. Health Canada. Drug and health products. Interim guidance - Fair balance in direct-to-consumer advertising of vaccines. Ottawa: Health Canada; 2009. [http://www.hc-sc.gc.ca/dhp-mps/advert-publicit/poll/guide-ldir\\_dtca-pdca-vaccine-vaccins-eng.php](http://www.hc-sc.gc.ca/dhp-mps/advert-publicit/poll/guide-ldir_dtca-pdca-vaccine-vaccins-eng.php) (accessed 25 August 2016).
11. Pilon JC, Williams-Jones B. Preparing for the arrival of "pink Viagra": Strengthening Canadian direct-to-consumer information regulations. *Canadian Medical Association Journal* 2016;188(5): 319-20.
12. Health Canada. Drugs and health products. Regulatory requirements for advertising. Ottawa: Health Canada; 2015. <http://www.hc-sc.gc.ca/dhp-mps/advert-publicit/index-eng.php> (accessed 25 August 2016).
13. Patented Medicine Prices Review Board. Mandate and jurisdiction. Ottawa: Government of Canada; 2015. <http://pmprb-cepmb.gc.ca/about-us/mandate-and-jurisdiction> (accessed 26 August 2016).
14. Organisation for Economic Co-operation and Development. Glossary of statistical terms - Factory gate price. Paris: Organisation for Economic Co-operation and Development; 2003. <https://stats.oecd.org/glossary/detail.asp?ID=5623> (accessed 24 August 2016).
15. Ministry of Health and Long-Term Care. Tough decisions, made responsibly. Ontario Public Drug Programs annual report 2012-2013. Toronto: Queen's Printer for Ontario; 2013.
16. Ministry of Health and Long-Term Care. Ontario Public Drug Programs. Formulary. Toronto: Queen's Printer for Ontario; 2016. [http://www.health.gov.on.ca/en/pro/programs/drugs/odbf\\_mn.aspx](http://www.health.gov.on.ca/en/pro/programs/drugs/odbf_mn.aspx) (accessed 27 August 2016).
17. Ministry of Health and Long-Term Care. A focus on continuous improvement. 2013-2014 Ontario Public Drug Programs annual report. Toronto: Queen's Printer for Ontario; 2015.
18. Ministry of Health and Long-Term Care. Working together for change. 2014-2015 Ontario Public Drug Programs annual report. Toronto: Queen's Printer for Ontario; 2015.
19. Ministry of Health and Long-Term Care. Building a better public drug system, together. Ontario Public Drug Programs Toronto: Queen's Printer for Ontario; 2012.
20. Ministry of Health and Long-Term Care. How drugs are considered: Funding decisions. Drugs for rare diseases. Toronto: Queen's Printer for Ontario; 2015. [http://www.health.gov.on.ca/en/pro/programs/drugs/how\\_drugs\\_approv/review\\_rare\\_diseases.aspx](http://www.health.gov.on.ca/en/pro/programs/drugs/how_drugs_approv/review_rare_diseases.aspx) (accessed 25 August 2016).
21. Ministry of Health and Long-Term Care. Publicly funded programs. Inherited Metabolic Diseases program. Toronto: Queen's Printer for Ontario; 2015. [http://www.health.gov.on.ca/en/pro/programs/drugs/funded\\_drug/fund\\_inherited\\_drug.aspx](http://www.health.gov.on.ca/en/pro/programs/drugs/funded_drug/fund_inherited_drug.aspx) (accessed 25 August 2016).
22. Ministry of Health and Long-Term Care. How drugs are considered: Funding decisions. The Committee to Evaluate Drugs (CED). Toronto: Queen's Printer for Ontario; 2008. [http://www.health.gov.on.ca/en/pro/programs/drugs/show\\_drugs\\_approv/funding\\_ced.aspx](http://www.health.gov.on.ca/en/pro/programs/drugs/show_drugs_approv/funding_ced.aspx) (accessed 25 August 2016).
23. Boothe K. Evaluating the cost-effectiveness of pharmaceuticals in Canada. *Health Reform Observer - Observatoire des Réformes de Santé* 2016;4(1).
24. Canadian Agency for Drugs and Technologies in Health CDR. Procedure for the CADTH Common Drug Review. Ottawa: Canadian Agency for Drugs and Technologies in Health; 2014.
25. Canadian Agency for Drugs and Technologies in Health. About CADTH. Ottawa: Canadian Agency for Drugs and Technologies in Health; 2016. <https://www.cadth.ca/about-cadth> (accessed 24 August 2016).
26. First Nations and Inuit Health Branch. Fact sheet - First Nations and Inuit Health Branch Ottawa: Health Canada; 2008. <http://www.hc-sc.gc.ca/ahc-asc/branch-dirgen/fnihb-dgspni/fact-fiche-eng.php> (accessed 25 August 2016).
27. National Defence and the Canadian Armed Forces. Spectrum of care: Medical and dental benefits and services Ottawa: Government of Canada; 2015. <http://www.forces.gc.ca/en/caf-community-health-services-benefits-drug-coverage/index.page> (accessed 25 August 2016).
28. National Defence and the Canadian Armed Forces. Canadian Armed Forces Drug Benefit list. Ottawa: Government of Canada; 2014. <http://hrapp.forces.gc.ca/drugbenefitlist-listedmedicaments/index-en.asp> (accessed 26 August 2016).
29. Veterans Affairs Canada. Health care benefits (treatment benefits). Ottawa: Veterans Affairs Canada; 2014. <http://www.veterans.gc.ca/eng/services/health/treatment-benefits> (accessed 24 August 2016).
30. Royal Canadian Mounted Police. Health/dental claims & information. Ottawa: Government of Canada; 2008. <http://www.rcmp-grc.ca/fam/health-sante-eng.htm> (accessed 24 August 2016).
31. Correctional Service Canada. Health services. Ottawa: Government of Canada; 2014. <http://www.csc-ccc.gc.ca/health/index-eng.shtml> (accessed 25 August 2016).
32. Ontario College of Pharmacists. 2015 annual report. Toronto: Ontario College of Pharmacists; 2016.
33. Ontario Pharmacists Association. Family Health Teams. Toronto: Ontario Pharmacists Association; 2016. <https://www.opatoday.com/professional/resources/for-pharmacists/fhts> (accessed 24 August 2016).
34. Ontario College of Pharmacists. Expanded scope of practice. Orientation manual. Toronto: Ontario College of Pharmacists; 2012.
35. Ministry of Health and Long-Term Care. Pharmaceutical Opinion Program. Toronto: Queen's Printer for Ontario; 2013. <http://www.health.gov.on.ca/en/pro/programs/drugs/pharmaopinion/> (accessed 25 August 2016).
36. Ministry of Health and Long-Term Care. Pharmacy Smoking Cessation Program. Toronto: Queen's Printer for Ontario; 2014. <http://www.health.gov.on.ca/en/pro/programs/drugs/smoking/> (accessed 25 August 2016).
37. Ministry of Health and Long-Term Care. Ontario Naloxone Pharmacy Program. Toronto: Queen's Printer for Ontario; 2016. <http://www.health.gov.on.ca/en/public/programs/drugs/naloxone.aspx> (accessed 27 August 2016).
38. Ontario Liberal Party. Kathleen Wynne's plan for Ontario. Access to the right health care, at the right time, in the right place. Toronto: Ontario Liberal Party; 2014. <https://www.aohc.org/sites/default/files/documents/Access-to-the-Right-Health-Care-at-the-Right-Time-in-the-Right-Place.pdf> (accessed 24 August 2016).
39. Gauvin FB, Lavis JN, McCarthy L. Evidence brief: Exploring models for pharmacist prescribing in primary and community care settings in Ontario. Hamilton: McMaster Health Forum; 2015.
40. Health Professions Regulatory Advisory Council. Registered nurse (RN) prescribing. Toronto: Queen's Printer for Ontario; 2016. <http://www.hprac.org/en/projects/Registered-Nurse-Prescribing.asp> (accessed 24 August 2016).
41. Canadian Generic Pharmaceutical Association. About CGPA. Canadian Generic Pharmaceutical Association; 2016. [http://www.canadiangenerics.ca/en/about/who\\_we\\_are.asp](http://www.canadiangenerics.ca/en/about/who_we_are.asp) (accessed 25 August 2016).
42. Rx&D. About Canada's research-based pharmaceutical companies. Ottawa: Rx&D; 2015. <http://www.rxdserver.ca/en/about-rxd> (accessed 24 August 2016).
43. Canadian Homeopathic Pharmaceutical Association. Regulation of homeopathic medicines in Canada. Ottawa: Canadian Homeopathic Pharmaceutical Association; 2013. <http://www.chpa-aphc.ca/regulations.html> (accessed 22 October 2016).
44. The Council of the Federation. The pan-Canadian Pharmaceutical Alliance. Ottawa: Council of the Federation Secretariat; 2016. <http://www.pmprovincesterriories.ca/en/initiatives/358-pan-canadian-pharmaceutical-alliance> (accessed 24 August 2016).
45. Canadian Deprescribing Network. What is deprescribing? 2016. <http://deprescribing.org/caden/> (accessed 6 October 2016).
46. Health Canada. Drugs and health products. General questions - Regulation of natural health products. Ottawa: Health Canada; 2016. [http://www.hc-sc.gc.ca/dhp-mps/prodnatur/faq/question\\_general-eng.php](http://www.hc-sc.gc.ca/dhp-mps/prodnatur/faq/question_general-eng.php) (accessed 27 August 2016).
47. WSIB Ontario. Musculoskeletal Program of Care. Toronto: Workplace Safety and Insurance Board; 2016. [http://www.wsib.on.ca/WSIBPortal/faces/WSIBArticlePage?\\_afLoop=243707226251752526\\_afrWindow-Mode=0&\\_afrWindowId=null#%40%3F\\_afrWindowId%3Dnull%26\\_afrLoop%3D243707226251752526\\_afrWindow-Mode%3D0%26%3D307702590437000201%26\\_adf.ctrl-state%3Dpg5m8n2n6\\_235](http://www.wsib.on.ca/WSIBPortal/faces/WSIBArticlePage?_afLoop=243707226251752526_afrWindow-Mode=0&_afrWindowId=null#%40%3F_afrWindowId%3Dnull%26_afrLoop%3D243707226251752526_afrWindow-Mode%3D0%26%3D307702590437000201%26_adf.ctrl-state%3Dpg5m8n2n6_235) (accessed 27 August 2016).
48. Ministry of Community and Social Services. Ontario Disability Support Program. Toronto: Queen's Printer for Ontario; 2014. <http://www.mcss.gov.on.ca/en/mcss/programs/social/odsp/> (accessed 24 August 2016).
49. CIHI. Health personnel database. Canada's healthcare providers, 1997 to 2011 - A reference guide. About chiropractors. Ottawa: Canadian Institute for Health Information; 2011.
50. College of Massage Therapists of Ontario. Emerging transparency at CMTO. 2014 annual report. Toronto: College of Massage Therapists of Ontario; 2015.
51. College of Traditional Chinese Medicine Practitioners and Acupuncturists. Continuing the journey: Regulating in the public interest. Annual report 2014-2015. Toronto: College of Traditional Chinese Medicine Practitioners and Acupuncturists; 2015.
52. College of Homeopaths. Browse public register of the College of Homeopaths of Ontario. Toronto: College of Homeopaths; 2016. <https://app.collegehomeopaths.on.ca/en/public/profiles> (accessed 27 August 2016).
53. Public Health Ontario. Report on access to dental care and oral health inequalities in Ontario. Toronto: Ontario Agency for Health Protection and Promotion; 2012.



54. Shaw J, Farmer J. An environmental scan of publicly financed dental care in Canada: 2015 update. Ottawa: Public Health Agency of Canada; 2015.
55. Ramraj C, Weitzner E, Figueiredo R, Quinonez C. A macroeconomic review of dentistry in Canada in the 2000s. *Journal - Canadian Dental Association* 2014;80: e55.
56. Legislative Assembly of Ontario. Child and Family Services Act, R.S.O. 1990, c. C.11. Toronto: Queen's Printer for Ontario; 2016. <https://www.ontario.ca/laws/statute/90c11> (accessed 24 August 2016).
57. Legislative Assembly of Ontario. Ontario Works Act, 1997, R.S.O. 1997, c. 25, Sched. A. Toronto: Queen's Printer for Ontario; 2016. <https://www.ontario.ca/laws/statute/97o25a> (accessed 24 August 2016).
58. Legislative Assembly of Ontario. Ontario Disability Support Program Act, 1997, S.O. 1997, c. 25, Sched. B. Toronto: Queen's Printer for Ontario; 2016. <https://www.ontario.ca/laws/statute/97o25b> (accessed 24 August 2016).
59. Legislative Assembly of Ontario. Fluoridation Act, R.S.O. 1990, c. F.22. Toronto: Queen's Printer for Ontario; 2016. <https://www.ontario.ca/laws/statute/90f22> (accessed 24 August 2016).
60. Legislative Assembly of Ontario. O. Reg. 170/03 Drinking water systems. Toronto: Queen's Printer for Ontario; 2016. <https://www.ontario.ca/laws/regulation/030170> (accessed 24 August 2016).
61. Legislative Assembly of Ontario. Safe Drinking Water Act, 2002. Toronto: Queen's Printer for Ontario; 2016. <https://www.ontario.ca/laws/statute/02s32> (accessed 24 August 2016).
62. Ministry of Health and Long-Term Care. Protocol for the monitoring of community water fluoride levels. Toronto: Queen's Printer for Ontario; 2014.
63. Faculty of Dentistry. Water fluoridation. Toronto: University of Toronto; 2012.
64. Office of the Auditor General of Canada. The regulation and approval of fluoridation products added to drinking water. Ottawa: Office of the Auditor General of Canada; 2010. [http://www.oag-bvg.gc.ca/internet/English/pet\\_299\\_e\\_34270.html](http://www.oag-bvg.gc.ca/internet/English/pet_299_e_34270.html) (accessed 27 August 2016).
65. First Nations and Inuit Health Branch. Dental benefits. Ottawa: Health Canada; 2016. <http://www.hc-sc.gc.ca/fniiah-spniia/nihb-ssna/benefit-prestation/dent/index-eng.php> (accessed 25 August 2016).
66. Government of Canada. Public Service Health Care Plan. Ottawa: Government of Canada; 2016. <http://www.tbs-sct.gc.ca/psm-fpim/benefits-avantages/health-sante/index-eng.asp> (accessed 24 August 2016).
67. Veterans Affairs Canada. Dental services (POC 4). Ottawa: Veterans Affairs Canada; 2016. <http://www.veterans.gc.ca/eng/about-us/policy/document/1925> (accessed 24 August 2016).
68. Registered Nurses' Association of Ontario. Oral health: nursing assessment and interventions. Toronto: Registered Nurses' Association of Ontario; 2008.
69. Ontario Personal Support Worker Association. Scope of practice introduction. Ontario Personal Support Worker Association; 2016. <http://opswa.webs.com/scope-of-practice> (accessed 25 August 2016).
70. Ontario Dental Association. Dental benefits explained. Toronto: Ontario Dental Association; 2016. <http://www.oda.on.ca/you-your-dentist/dental-benefits-explained91> (accessed 24 August 2016).
71. Ministry of Health and Long-Term Care. Dental services under the Health Insurance Act. Toronto: Queen's Printer for Ontario; 2012.
72. Ontario Dental Association. History, mission and values. Toronto: Ontario Dental Association; 2016. <http://www.oda.on.ca/about-the-oda/history-mission-a-vision> (accessed 24 August 2016).
73. Canada Revenue Agency. Lines 330 and 331 – Eligible medical expenses you can claim on your return. Ottawa: Government of Canada; 2016. <http://www.cra-arc.gc.ca/medical/> (accessed 25 August 2016).
74. CIHI. Canada's health care providers: Provincial profiles - 2013. Table 7 - Number of providers in selected health professions, Ontario, 2009 to 2013. Ottawa: Canadian Institute for Health Information; 2013.
75. College of Dental Technologists of Ontario. Annual report 2014-2015. Toronto: College of Dental Technologists of Ontario; 2016.
76. National Institute of Health and Care Excellence. Dental checks: Intervals between oral health reviews. NICE guidelines [CG19]. London: National Institute of Health and Care Excellence; 2004.
77. Morgan SG, Martin D, Gagnon MA, Mintzes B, Daw JR, Lexchin J. Pharmacare 2020: The future of drug coverage in Canada. Vancouver: Pharmaceutical Policy Research Collaboration, University of British Columbia; 2015.
78. Cancer Care Ontario. New Drug Funding Program (NDFP). Toronto: Cancer Care Ontario; 2016. <https://www.cancercare.on.ca/cms/one.aspx?portalId=1377&pageId=11801> (accessed 24 August 2016).
79. Ministry of Health and Long-Term Care. The New Drug Funding Program (NDFP). Toronto: Queen's Printer for Ontario; 2008. <http://health.gov.on.ca/en/public/programs/drugs/programs/ndf.aspx> (accessed 26 August 2016).
80. Ministry of Health and Long-Term Care. Inherited Metabolic Diseases (IMD) program list of disorders, covered drugs, supplements and specialty foods. Effective December 9, 2014 (v2). Toronto: Queen's Printer for Ontario; 2014.
81. Ministry of Health and Long-Term Care. The Ontario Drug Benefit (ODB) program. Toronto: Queen's Printer for Ontario; 2015. <http://health.gov.on.ca/en/public/programs/drugs/programs/programs.aspx> (accessed 25 August 2016).
82. Ministry of Health and Long-Term Care. 2013/14 report card for the Ontario Drug Benefit Program. Toronto: Queen's Printer for Ontario; 2015.
83. Ministry of Health and Long-Term Care. MedsCheck. Toronto: Queen's Printer for Ontario; 2015. [http://www.health.gov.on.ca/en/pro/programs/drugs/medscheck/medscheck\\_original.aspx](http://www.health.gov.on.ca/en/pro/programs/drugs/medscheck/medscheck_original.aspx) (accessed 25 August 2016).
84. Ministry of Health and Long-Term Care. Legislation - Ministry statutes. Toronto: Queen's Printer for Ontario; 2016. <http://www.health.gov.on.ca/en/common/legislation/statutes/default.aspx> (accessed 25 August 2016).
85. Ministry of Health and Long-Term Care. 2001/2002 report card for the Ontario Drug Benefit program. Toronto: Queen's Printer for Ontario; 2003.
86. Ministry of Health and Long-Term Care. 2010/11 report card for the Ontario Drug Benefit program. Toronto: Queen's Printer for Ontario; 2012.
87. Ministry of Health and Long-Term Care. 2011/12 report card for the Ontario Drug Benefit program. Toronto: Queen's Printer for Ontario; 2013.
88. Statistics Canada. Table 326-0020 - Consumer Price Index, monthly (2002=100 unless otherwise noted), CANSIM (database). Ottawa: Statistics Canada; 2016. <http://www5.statcan.gc.ca/cansim/a26?id=3260020> (accessed 24 August 2016).
89. Ministry of Health and Long-Term Care. 2012/13 report card for the Ontario Drug Benefit Program. Toronto: Queen's Printer for Ontario; 2014.
90. Government of Ontario. Teeth cleaning, check-ups and dental treatment for kids. Toronto: Queen's Printer for Ontario; 2015. <http://www.ontario.ca/health-and-wellness/get-dental-care> (accessed 24 August 2016).
91. Ministry of Children and Youth Services. Assistance for children with severe disabilities. Toronto: Queen's Printer for Ontario; 2011. <http://www.children.gov.on.ca/htdocs/English/topics/specialneeds/disabilities/index.aspx> (accessed 25 August 2016).
92. Ministry of Community and Social Services. How Ontario Works can help you: Health benefits. Toronto: Queen's Printer for Ontario; 2012. [http://www.mcss.gov.on.ca/en/mcss/programs/social/ow/help/benefits/health\\_benefits.aspx](http://www.mcss.gov.on.ca/en/mcss/programs/social/ow/help/benefits/health_benefits.aspx) (accessed 24 August 2016).
93. Ministry of Community and Social Services. Health benefits: Dental coverage. Toronto: Queen's Printer for Ontario; 2012. <http://www.mcss.gov.on.ca/en/mcss/programs/social/odsp/> (accessed 24 August 2016).
94. Ministry of Health and Long-Term Care. Oral and maxillofacial rehabilitation program. Toronto: Queen's Printer for Ontario; 2014. <http://www.health.gov.on.ca/en/public/programs/omp/> (accessed 25 August 2016).
95. Ministry of Health and Long-Term Care. Health services. Toronto: Queen's Printer for Ontario; 2012. <http://www.health.gov.on.ca/en/public/publications/ohip/services.aspx> (accessed 25 August 2016).
96. Ministry of Health and Long-Term Care. Dental health (CINOT). Toronto: Queen's Printer for Ontario; 2015. <http://www.mhp.gov.on.ca/en/healthy-communities/dental/> (accessed 24 August 2016).
97. Ministry of Health and Long-Term Care. Healthy Smiles Ontario. Toronto: Queen's Printer for Ontario; 2016. <http://www.health.gov.on.ca/en/pro/programs/dental/default.aspx> (accessed 27 August 2016).