Supplementary materials

List of supplemental information:

- Supplementary Table 1. Characteristics of panellists
- Supplementary Table 2. Number of QIs by the third level of ATC code
Supplementary Table 1. Characteristics of panellists

| No. | Panellists | Affiliation (Type of pharmacy)                                                                 | Modified Delphi study 1 (Mar to May 2019) | Modified Delphi study 2 (Nov 2019 to Jan 2020) |
|-----|------------|-----------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------|
|     |            |                                                                                               | 1st round Panel meeting 2nd round           | 1st round Panel meeting 2nd round              |
| 1   | Medical doctor | Associate professor of public university                                                      | ☐   | ☐   | ☐   | ☐   | ☐   | ☐   |
| 2   | Medical doctor | Private hospital                                                                            | ☐   | ×   | ☐   | –   | –   | –   |
| 3   | Medical doctor | Associate professor of private university                                                     | ☐   | ☐   | ☐   | –   | –   | –   |
| 4   | Medical doctor | Representative of the Japan Geriatrics Society, auditor of Japan Association for Home Care Medicine, director of the Japanese academy of home care physicians, president of medical clinic | ☐   | ☐   | ☐   | ☐   | ☐   | ☐   |
| 5   | Medical doctor | Associate professor of public university, director of the Japanese academy of home care physicians, member of study group for appropriate medication for elderly patients | ☐   | ☐   | ☐   | ☐   | ☐   | ☐   |
| 6   | Pharmacist   | Owner pharmacist (small chain)                                                                 | ☐   | ☐   | ☐   | –   | –   | –   |
| 7   | Pharmacist   | Owner pharmacist (small chain)                                                                 | ☐   | ☐   | ☐   | –   | –   | –   |
| 8   | Pharmacist   | Pharmacy manager (small chain)                                                                | ☐   | ☐   | ☐   | –   | –   | –   |
| 9   | Pharmacist   | Director, pharmacy department in private hospital                                             | ☐   | ☐   | ☐   | ☐   | ☐   | ☐   |
| 10  | Pharmacist   | Owner pharmacist (independent)                                                                | ☐   | ×   | ☐   | ☐   | ☐   | ☐   |
| 11  | Pharmacist   | President, the local pharmaceutical association                                               | –   | –   | –   | ☐   | ☐   | ☐   |
| 12  | Pharmacist   | Pharmacy manager (independent)                                                               | –   | –   | –   | ☐   | ☐   | ☐   |
| 13  | Pharmacist   | Owner pharmacist (small chain)                                                                | –   | –   | –   | ☐   | ☐   | ☐   |
| 14  | Pharmacist   | General manager, community pharmacy company (big chain)                                       | –   | –   | –   | ☐   | ☐   | ☐   |
| 15  | Pharmacist   | Manager, community pharmacy company (medium chain)                                             | –   | –   | –   | ☐   | ☐   | ☐   |

Total: 10 8 10 8 10

Small-chain: 2-9 pharmacies, medium-chain: 10-99 pharmacies, big-chain: ≥ 100 pharmacies, ☐: attended, ×: absent, –: not applicable
**Supplementary Table 2. Number of quality indicators by the third level of ATC code**

| The third level of the ATC classification system | Counts | (%)  |
|-----------------------------------------------|--------|------|
| A02A ANTACIDS                                 | 2      | (1.8)|
| A02B DRUGS FOR PEPTIC ULCER AND GASTRO-OESOPHAGEAL REFLUX DISEASE (GORD) | 5      | (4.5)|
| A03A DRUGS FOR FUNCTIONAL GASTROINTESTINAL DISORDERS | 3      | (2.7)|
| A03B BELLADONNA AND DERIVATIVES, PLAIN         | 3      | (2.7)|
| A03F PROPULSIVES                               | 2      | (1.8)|
| A06A DRUGS FOR CONSTIPATION                    | 2      | (1.8)|
| A10A INSULINS AND ANALOGUES                    | 3      | (2.7)|
| A10B BLOOD GLUCOSE LOWERING DRUGS, EXCL. INSULINS | 12     | (10.8)|
| A11C VITAMIN A AND D, INCL. COMBINATIONS OF THE TWO | 4      | (3.6)|
| A16A OTHER ALIMENTARY TRACT AND METABOLISM PRODUCTS | 2      | (1.8)|
| B01A ANTIITHROMBOTIC AGENTS                    | 6      | (5.4)|
| C01A CARDIAC GLYCOSIDES                        | 4      | (3.6)|
| C01B ANTIARRHYTHMICS, CLASS I AND III          | 2      | (1.8)|
| C02A ANTIADRENERGIC AGENTS, CENTRALLY ACTING  | 3      | (2.7)|
| C02C ANTIADRENERGIC AGENTS, PERIPHERALLY ACTING | 4     | (3.6)|
| C02D ARTERIOIAR SMOOTH MUSCLE, AGENTS ACTING ON | 3     | (2.7)|
| C02L ANTIHYPERTENSIVES AND DIURETICS IN COMBINATION | 3     | (2.7)|
| C03A LOW-CEILING DIURETICS, THIAZIDES          | 2      | (1.8)|
| C03B LOW-CEILING DIURETICS, EXCL. THIAZIDES    | 3      | (2.7)|
| C03C HIGH-CEILING DIURETICS                    | 3      | (2.7)|
| C03D POTASSIUM-SPARING AGENTS                  | 3      | (2.7)|
| C07A BETA BLOCKING AGENTS                      | 3      | (2.7)|
| C08C SELECTIVE CALCIUM CHANNEL BLOCKERS WITH MAINLY VASCULAR EFFECTS | 3      | (2.7)|
| C08D SELECTIVE CALCIUM CHANNEL BLOCKERS WITH DIRECT CARDIAC EFFECTS | 2      | (1.8)|
| C09A ACE INHIBITORS, PLAIN                     | 4      | (3.6)|
| C09C ANGIOTENSIN II RECEPTOR BLOCKERS (ARBs), PLAIN | 4     | (3.6)|
| C09D ANGIOTENSIN II RECEPTOR BLOCKERS (ARBs), COMBINATIONS | 4   | (3.6)|
| C09X OTHER AGENTS ACTING ON THE RENIN-ANGIOTENSIN SYSTEM | 3   | (2.7)|
| C10A LIPID MODIFYING AGENTS, PLAIN             | 6      | (5.4)|
| C10B LIPID MODIFYING AGENTS, COMBINATIONS      | 7      | (6.3)|
| G03X OTHER SEX HORMONES AND MODULATORS OF THE GENITAL SYSTEM | 2   | (1.8)|
| G04B UROLOGICALS                               | 2      | (1.8)|
| H02A CORTICOSTEROIDS FOR SYSTEMIC USE, PLAIN   | 2      | (1.8)|
| H05A PARATHYROID HORMONES AND ANALOGUES        | 4      | (3.6)|
| J01A TETRACYCLINES                             | 2      | (1.8)|
| J01D OTHER BETA-LACTAM ANTIBACTERIALS          | 2      | (1.8)|
| J01G AMINOGLYCOSIDE ANTIBACTERIALS             | 2      | (1.8)|
| J01M QUINOLONE ANTIBACTERIALS                  | 4      | (3.6)|
| J01X OTHER ANTIBACTERIALS                      | 2      | (1.8)|
| J05A DIRECT ACTING ANTIvirals                  | 2      | (1.8)|
| M01A ANTIINFLAMMATORY AND ANTIRHEUMATIC PRODUCTS, NON-STEROIDS | 8   | (7.2)|
| M02A TOPICAL PRODUCTS FOR JOINT AND MUSCULAR PAIN | 2   | (1.8)|
| M03B MUSCLE RELAXANTS, CENTRALLY ACTING AGENTS | 2      | (1.8)|
| M05B DRUGS AFFECTING BONE STRUCTURE AND MINERALIZATION | 4   | (3.6)|
| N02A OPIOIDS                                  | 8      | (7.2)|
| N02B OTHER ANALGESICS AND ANTIPYRETICS         | 9      | (8.1)|
| N03A ANTIETELEPTICS                            | 3      | (2.7)|
| N04A ANTICHOLINERGIC AGENTS                    | 2      | (1.8)|
| N05A ANTIPSYCHOTICS                            | 10     | (9.0)|
| N05B ANXIOLYTICS                               | 5      | (4.5)|
| N05C HYPNOTICS AND SEDATIVES                   | 4      | (3.6)|
| N06A ANTIDEPRESSANTS                           | 9      | (8.1)|
| N06D ANTI-DEMENTIA DRUGS                       | 16     | (14.4)|
| R03A ADRENERGICS, INHALANTS                    | 9      | (8.1)|
| R03B OTHER DRUGS FOR OBSTRUCTIVE AIRWAY DISEASES, INHALANTS | 9   | (8.1)|
| R03D OTHER SYSTEMIC DRUGS FOR OBSTRUCTIVE AIRWAY DISEASES | 5   | (4.5)|
| R06A ANTIHISTAMINES FOR SYSTEMIC USE           | 2      | (1.8)|
| NOT AVAILABLE                                  | 2      | (1.8)|
| **Total**                                      | **243*|      |

*QIs represented more than one code, resulting in 243 third levels of ATC classifications. ATC: The Anatomical Therapeutic Chemical