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LAMPIRAN

LAMPIRAN

Lampiran 1 Surat Izin Studi Pendahuluan dan Observasi Data



YAYASAN BORNEO LESTARI
UNIVERSITAS BORNEO LESTARI
FAKULTAS FARMASI

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Banjarbaru, 7 November 2023

Nomor : 003 /UNBL/FF/SIF/AKD.09/1123
Lampiran : -
Perihal : Izin Melakukan Studi Pendahuluan dan Observasi Data

Kepada Yth.
Pimpinan RSUD Ratu Zalecha Martapura
di Tempat

Dengan hormat,

Sehubungan dengan diadakannya kegiatan penelitian berupa Skripsi Mahasiswa pada Semester Ganjil TA. 2023/2024 Program Studi Sarjana Farmasi Fakultas Farmasi Universitas Borneo Lestari (UNBL), maka dengan ini memohon izin untuk mahasiswa/i berikut :

Nama : Azkia Karamah
NIM : SF20120

Mengajukan permohonan izin studi pendahuluan dan observasi data untuk penelitian Skripsi Mahasiswa agar dapat melakukan Studi Pendahuluan terkait sumber dan bahan dari penelitian "Evaluasi *Potentially Inappropriate Medication* (PIM) Terhadap Peresepan Polifarmasi Pada Pasien Geriatri Di Poliklinik RSUD Ratu Zalecha Martapura" dengan ini bertujuan untuk menanyakan perihal berikut :

1. Data terkait penyakit apa saja yang sering di alami oleh para lansia, berapa banyak jumlah lansia di poliklinik geriatri dalam 3 bulan terakhir, rekam medis, dan peresepan rawat jalan di poliklinik geriatri.

Demikian surat permohonan ini kami sampaikan, atas perhatian dan perkenannya kami ucapkan terimakasih.



Apt. Esti Restiana Rusida, M.Kes.
NIK. 210211016

Lampiran 2 Surat Izin Studi Pendahuluan Dari RSUD Ratu Zalecha Martapura



PEMERINTAH KABUPATEN BANJAR
RUMAH SAKIT UMUM DAERAH RATU ZALECHA

Jl. Menteri Empat Martapura Kal-Sel Telp. (0511) 4789635
Email : rsraza@banjarkab.go.id – website : rsraza.banjarkab.go.id

SURAT IZIN STUDI PENDAHULUAN

Nomor : 000.9.2/34/RAZA

1. Dasar : a. Peraturan Menteri Dalam Negeri Republik Indonesia Nomor 3 Tahun 2018 tentang Penerbitan Surat Keterangan Penelitian.
b. Surat Dekan Fakultas Farmasi Universitas Borneo Lestari Nomor: 003/UNBL/FF/SIF/AKD.09/1123 Tanggal 07 November 2023 Perihal Izin Melakukan Studi Pendahuluan dan Observasi Data.

2. Atas dasar tersebut diatas diberikan izin untuk melakukan studi pendahuluan :

NAMA : Azkia Karamah
NIM : SF20120
Program : S-1 Farmasi
Studi/Jurusan : Fakultas Farmasi Universitas Borneo Lestari
Lama Penelitian : 3 (tiga) Bulan
Lokasi : RSUD Ratu Zalecha Martapura
Judul Penelitian : Evaluasi Potentially Inappropriate Medication (PIM) Terhadap Peresepan Polifarmasi Pada Pasien Geriatri Di Poliklinik RSUD Ratu Zalecha Martapura.
Data Yang Diperlukan : Data terkait penyakit apa saja yang sering di alami oleh para lansia, berapa banyak jumlah lansia di poliklinik geriatri dalam 3 bulan terakhir, rekam medis, dan peresepan rawat jalan di poliklinik geriatri

Dengan ketentuan sebagai berikut :

- a. Sebelum pengambilan data penelitian terlebih dahulu melapor/menemui Pejabat yang berwenang setempat.
b. Tidak dibenarkan melakukan pengambilan data penelitian yang tidak relevan/tidak ada hubungannya dengan tujuan penelitian.
c. Harus mentaati peraturan perundangan yang berlaku serta mengindahkan adat istiadat setempat.
d. Setelah selesai wajib menyerahkan/mengirimkan salinan hasil penelitian (dalam bentuk cetak dan softcopy/PDF) ke :
Bagian SDM Lantai II RSUD Ratu Zalecha Martapura
Jln. Menteri IV, Martapura
Email : sdmratuzalecha@gmail.com
Contact Person WA/Telp (jam kerja) : 081528456688 a/n Yandi Gunawan
3. Surat Izin Studi Pendahuluan ini diberikan kepada yang bersangkutan untuk dapat dipergunakan sebagaimana mestinya.

Martapura, 15 November 2023
Ditandatangani secara elektronik oleh:
Plt. Direktur



Ihwansyah, M.Kes
Pembina Utama Muda
NIP. 196708171988121002



Sesuai dengan ketentuan perundang-undangan yang berlaku, surat ini telah ditandatangani secara elektronik yang tersertifikasi oleh Balai Sertifikasi Elektronik (BSrE) sehingga tidak diperlukan tanda tangan dan stempel basah.



Dipindai dengan CamScanner

Dokumen ini telah ditandatangani secara elektronik yang ditubuhkan oleh Balai Sertifikasi Elektronik (BSrE), BSSN

Lampiran 3 Daftar 10 Besar Penyakit Terbanyak Pasien Rawat Jalan Unit/
Poliklinik Geriatri



RSUD Ratu Zalecha
Jl. Menteri Empat, Martapura, Kalimantan Selatan
E-mail : ratuzalecha@gmail.com

DAFTAR 10 BESAR PENYAKIT TERBANYAK
PASIEN RAWAT JALAN UNIT/POLIKLINIK GERIATRI
Periode Tgl. 01-01-2023 s.d 31-12-2023

No.	Kode ICD 10	Deskripsi Diagnosa	Jns. Kelamin		Total
			LK	PR	
1	I10	Essential (primary) hypertension	12	6	18
2	E11.9	Non-insulin-dependent diabetes mellitus without complications	6	5	11
3	I11.9	Hypertensive heart disease without (congestive) heart failure	0	4	4
4	M17.9	Gonarthrosis, unspecified	2	0	2
5	M25.59	Pain in joint, site unspecified	0	2	2
6	M81.96	Osteoporosis, unspecified, lower leg	0	1	1
7	E11.2	Non-insulin-dependent diabetes mellitus with renal complications	1	0	1
8	M17.0	Primary gonarthrosis, bilateral	1	0	1
9	I12.0	Hypertensive renal disease with renal failure	1	0	1
10	N39.0	Urinary tract infection, site not specified	0	1	1
Total			23	19	42

Martapura, 20 November 2023
Petugas,

Lampiran 4 Jumlah Pasien RSUD Ratu Zalecha Martapura dari Januari – Desember 2023

Penyakit	Kode ICD	Ralan	Ranap	Total
Jantung	I05.1,I10,I11.0,I11.9,I12.0,I12.9,I13.0,I13.1,I13.2,I13.9,I15.9,I20.0,I20.8,I20.9,I21.0,I21.1,I21.3,I21.4,I21.9,I22.9,I24.9,I25.1,I25.2,I25.4,I25.5,I25.9,I26.9,I31.9,I37.1,I42.0,I42.8,I42.9,I45.1,I46.9,I47.1,I47.2,I48,I49.1,I49.3,I49.8,I49.9,I50.0,I50.1,I50.9,I51.7,I51.8,I51.9,I60.4,I60.9,I67.1,I69.0,I69.3,I69.4,I69.8,I70.0,I70.2,I70.8,I70.9,I71.4,I71.9,I72.1,I72.9,I73.1,I73.9,I74.3,I77.1,I77.2,I77.5,I77.8,I77.9,I78.0,C00,C02.9,C03.0,C07,C08.0,C09.9,C10.1,C11.9,C15.9,C17.0,C17.2,C18.4,C18.7,C18.9,C19,C20,C21.0,C21.8,C22.0,C22.1,C22.2,C22.9,C25.0,C25.9,C30.0,C31.9,C32.1,C32.9,C34.8,C34.9,C37,C41.1,C43,C43.9,C44,C44.2,C44.6,C44.9,C49,C49.1,C49.2,C49.4,C50,C50.9,C51.9,C52,C53.9,C55,C56,C62.9,C64,C67.9,C69.0,C69.1,C69.5,C69.8,C69.9,C70.9,C71.9,C73,C76.0,C76.2,C77.4,C78.5,C78.7,C79.3,C79.8,C79.9,C80.0,C80.9,C84.8,C85.9,C90.0,C91.0,C92.0,C92.1,C92.9,C95.0,C95.9,C96.6,D00.0,D00.1,D02.2,D04,D06.0,D07.1,D10.3,D10.4,D10.5,D10.6,D11.0,D11.1,D12.6,D12.7,D12.8,D12.9,D13.0,D13.1,D13.2,D13.4,D13.6,D14.0,D14.1,D14.3,D15.2,D15.9,D16.2,D16.4,D16.5,D16.6,D16.9,D17.1,D17.2,D17.3,D17.5,D17.6,I61.5,I61.9,I62.9,I63.3,I63.4,I63.8,I63.9,I64	1690	524	2214
Kanker	C00,C02.9,C03.0,C07,C08.0,C09.9,C10.1,C11.9,C15.9,C17.0,C17.2,C18.4,C18.7,C18.9,C19,C20,C21.0,C21.8,C22.0,C22.1,C22.2,C22.9,C25.0,C25.9,C30.0,C31.9,C32.1,C32.9,C34.8,C34.9,C37,C41.1,C43,C43.9,C44,C44.2,C44.6,C44.9,C49,C49.1,C49.2,C49.4,C50,C50.9,C51.9,C52,C53.9,C55,C56,C62.9,C64,C67.9,C69.0,C69.1,C69.5,C69.8,C69.9,C70.9,C71.9,C73,C76.0,C76.2,C77.4,C78.5,C78.7,C79.3,C79.8,C79.9,C80.0,C80.9,C84.8,C85.9,C90.0,C91.0,C92.0,C92.1,C92.9,C95.0,C95.9,C96.6,D00.0,D00.1,D02.2,D04,D06.0,D07.1,D10.3,D10.4,D10.5,D10.6,D11.0,D11.1,D12.6,D12.7,D12.8,D12.9,D13.0,D13.1,D13.2,D13.4,D13.6,D14.0,D14.1,D14.3,D15.2,D15.9,D16.2,D16.4,D16.5,D16.6,D16.9,D17.1,D17.2,D17.3,D17.5,D17.6,I61.5,I61.9,I62.9,I63.3,I63.4,I63.8,I63.9,I64	731	451	1182
Stroke	I61.5,I61.9,I62.9,I63.3,I63.4,I63.8,I63.9,I64	56	422	478
Uro_Nefro	N00.8,N00.9,N02.9,N04.1,N04.5,N04.9,N05.8,N05.9,N10,N12,N13.1,N13.2,N13.3,N13.4,N13.6,N13.9,N14.4,N15.1,N17.9,N18.3,N18.4,N18.5,N18.9,N19,N20,N20.0,N20.1,N20.2,N20.9,N21,N21.0,N21.1,N21.9,N23,N25.0,N28.1,N28.8,N28.9,N30,N30.0,N30.8,N30.9,N32.8,N35.9,N39,N39.0,N39.1,N39.4,N39.8,N39.9,N40,N40.0,N40.1,N43,N43.3,N45,N45.0,N45.9,N46,N47,N48,N48.2,N48.5,N48.9,N49.2,N49.8,N50.8,N60.0,N60.1,N60.2,N61,N62,N64,N64.4,N64.9,N70.9,N73.9	957	754	1711

Lampiran 5 Lembar Pengumpulan Data

No. Rekam Medis	Kode Nama Pasien	Usia	Jenis Kelamin	Diagnosa Awal	Data Penggunaan Obat	Penyakit Penyerta	Diagnosa Akhir	Data Lab	<i>Creatinin Clearance</i>	Obat yang masuk daftar <i>Beers Criteria</i> 2019	Kategori obat berdasarkan <i>Beers Criteria</i> 2019
Total obat yang masuk daftar <i>Beers Criteria</i> 2019						Total obat yang masuk daftar <i>Beers Criteria</i> 2019 berdasarkan kategori					

Lampiran 6 Daftar Obat dalam *Beers Criteria* 2023

- Kategori 1: Obat-obatan yang berpotensi tidak sesuai pada sebagian besar orang lanjut usia

TABLE 2 2023 American Geriatrics Society Beers Criteria® for potentially inappropriate medication use in older adults.

Organ system, therapeutic category, drug(s)*	Rationale	Recommendation	Quality of evidence*	Strength of recommendation*
Anticholinergics First-generation anticholinergics Brompheniramine Chlorpheniramine Cyproheptadine Dimenhydrinate Diphenhydramine (oral) Doxylamine Hydroxyzine Meclizine Promethazine Triprolidine	Highly anticholinergic; clearance reduced with advanced age, and tolerance develops when used as hypnotic; risk of confusion, dry mouth, constipation, and other anticholinergic effects or toxicity. Cumulative exposure to anticholinergic drugs is associated with an increased risk of falls, delirium, and dementia, even in younger adults. Consider total anticholinergic burden during regular medication reviews and be cautious in "young-old" as well as "old-old" adults. Use of diphenhydramine in situations such as acute treatment of severe allergic reactions may be appropriate.	Avoid	Moderate	Strong
Anti-infective Nitrofurantoin	Potential for pulmonary toxicity, hepatotoxicity, and peripheral neuropathy, especially with long-term use; safer alternatives available.	Avoid in individuals with CrCl <30 mL/min or for long-term suppression.	Low	Strong
Cardiovascular and antithrombotics Aspirin for primary prevention of cardiovascular disease	Risk of major bleeding from aspirin increases markedly in older age. Studies suggest a lack of net benefit and potential for net harm when initiated for primary prevention in older adults. There is less evidence about stopping aspirin among long-term users, although similar principles for initiation may apply. Note: Aspirin is generally indicated for secondary prevention in older adults with established cardiovascular disease.	Avoid initiating aspirin for primary prevention of cardiovascular disease. Consider deprescribing aspirin in older adults already taking it for primary prevention.	High	Strong
Warfarin for the treatment of nonvalvular atrial fibrillation or venous thromboembolism (VTE)	Compared with DOACs, warfarin has higher risks of major bleeding (particularly intracranial bleeding) and similar or lower effectiveness for the treatment of nonvalvular atrial fibrillation and VTE. DOACs are thus the preferred choice for anticoagulation for most people with these conditions.	Avoid starting warfarin as initial therapy for the treatment of nonvalvular atrial fibrillation or VTE unless alternative options (i.e., DOACs) are contraindicated or there are substantial barriers to their use. For older adults who have been using warfarin long-term, it may be reasonable to continue this medication, particularly among those with well-controlled INRs (i.e., >70% time in the therapeutic range) and no adverse effects.	High	Strong

TABLE 2 (Continued)

Organ system, therapeutic category, drug(s) ^a	Rationale	Recommendation	Quality of evidence ^b	Strength of recommendation ^b
Rivaroxaban for long-term treatment of nonvalvular atrial fibrillation or venous thromboembolism (VTE)	At doses used for long-term treatment of VTE or nonvalvular atrial fibrillation, rivaroxaban appears to have a higher risk of major bleeding and GI bleeding in older adults than other DOACs, particularly apixaban. ⁴ Rivaroxaban may be reasonable in special situations, for example when once-daily dosing is necessary to facilitate medication adherence. All DOACs confer a lower risk of intracranial hemorrhage than warfarin. ⁵	See also criteria on rivaroxaban (Table 2) and dabigatran (Table 4) and footnote regarding choice among DOACs. Avoid for long-term treatment of atrial fibrillation or VTE in favor of safer anticoagulant alternatives. See also criteria on warfarin (Table 2) and dabigatran (Table 4) and footnote regarding the choice between warfarin and DOACs and among DOACs.	Moderate	Strong
Dipyridamole, oral short-acting (does not apply to extended-release combination with aspirin)	May cause orthostatic hypotension; more effective alternatives available; IV form acceptable for use in cardiac stress testing.	Avoid	Moderate	Strong
Non-selective peripheral alpha-1 blockers for the treatment of hypertension Doxazosin Prazosin Terazosin	High risk of orthostatic hypotension and associated harms, especially in older adults; not recommended as routine treatment for hypertension; alternative agents have superior risk/benefit profile.	Avoid use as an antihypertensive.	Moderate	Strong
Central alpha-agonists for the treatment of hypertension Clonidine Guafacine	High risk of adverse CNS effects; may cause bradycardia and orthostatic hypotension; not recommended as routine treatment for hypertension.	Avoid clonidine as first-line treatment for hypertension. Avoid other central alpha-agonists for the treatment of hypertension.	Low	Strong
Nifedipine, immediate release	Potential for hypotension; risk of precipitating myocardial ischemia.	Avoid	High	Strong
Amlodarone	Effective for maintaining sinus rhythm but has greater toxicities than other antiarrhythmics used in atrial fibrillation; may be reasonable first-line therapy in patients with concomitant heart failure or substantial left ventricular hypertrophy if rhythm control is preferred over rate control.	Avoid as first-line therapy for atrial fibrillation unless the patient has heart failure or substantial left ventricular hypertrophy.	High	Strong
Dronedarone	Worse outcomes in people who have permanent atrial fibrillation or severe or recently decompensated heart failure. In some circumstances, worse outcomes have also been reported in people with HFpEF (e.g., left ventricular ejection fraction <35%) who have milder symptoms (NYHA class I or II).	Avoid in individuals with permanent atrial fibrillation or severe or recently decompensated heart failure. Use caution in patients with HFpEF with less severe symptoms (NYHA class I or II).	High	Strong

(Continues)

TABLE 2 (Continued)

Organ system, therapeutic category, drug(s) ^a	Rationale	Recommendation	Quality of evidence ^b	Strength of recommendation ^b
Digoxin for first-line treatment of atrial fibrillation or heart failure	<p>Use in atrial fibrillation: should not be used as a first-line agent because there are safer and more effective alternatives for rate control.</p> <p>Use in heart failure: evidence for benefits and harms of digoxin is conflicting and of lower quality; most (but not all) evidence concerns use in HFPEF. There is strong evidence for other agents as first-line therapy to reduce hospitalizations and mortality in adults with HFPEF. In heart failure, higher dosages are not associated with additional benefits and may increase the risk of toxicity. Use caution in discontinuing digoxin among current users with HFPEF, given limited evidence suggesting worse clinical outcomes after discontinuation.</p> <p>Decreased renal clearance of digoxin may lead to an increased risk of toxic effects; further dose reduction may be necessary for those with Stage 4 or 5 chronic kidney disease.</p>	<p>Avoid this rate control agent as first-line therapy for atrial fibrillation.</p> <p>Avoid as first-line therapy for heart failure. See rationale for caution about withdrawal in long-term users with HFPEF.</p> <p>If used for atrial fibrillation or heart failure, avoid dosages >0.125 mg/day.</p>	<p>Atrial fibrillation; heart failure; low dosage > 0.125 mg/day; moderate</p>	Strong
<p>Central nervous system</p> <p>Antidepressants with strong anticholinergic activity, alone or in combination</p> <p>Amiripipryline</p> <p>Amonoxapine</p> <p>Clomipramine</p> <p>Desipramine</p> <p>Doxepin >6 mg/day</p> <p>Imipramine</p> <p>Nortriptyline</p> <p>Paroxetine</p>	<p>Highly anticholinergic, sedating, and cause orthostatic hypotension; the safety profile of low-dose doxepin (50 mg/day) is comparable to that of placebo.</p>	Avoid	High	Strong
<p>Antiparkinsonian agents with strong anticholinergic activity</p> <p>Benztropine (oral)</p> <p>Tribenzohdientyl</p> <p>Antipsychotics, first- (typical) and second- (atypical) generation</p> <p>Aripiprazole</p> <p>Haloperidol</p> <p>Olanzapine</p> <p>Quetiapine</p> <p>Risperidone</p> <p>Others^d</p>	<p>Not recommended for prevention or treatment of extrapyramidal symptoms due to antipsychotics; more effective agents available for the treatment of Parkinson disease.</p> <p>Increased risk of stroke and greater rate of cognitive decline and mortality in persons with dementia. Additional evidence suggests an association of increased risk between antipsychotic medication and mortality independent of dementia.</p>	<p>Avoid</p> <p>Avoid, except in FDA-approved indications such as schizophrenia, bipolar disorder, Parkinson disease psychosis (see Table 3), adjunctive treatment of major depressive disorder, or for short-term use as an antiemetic.</p>	<p>Moderate</p> <p>Moderate</p>	<p>Strong</p> <p>Strong</p>

TABLE 2 (Continued)

Organ system, therapeutic category, drug(s) ^a	Rationale	Recommendation	Quality of evidence ^b	Strength of recommendation ^b
<p>Barbiturates Butalbital Phenobarbital Primidone</p>	<p>Avoid antipsychotics for behavioral problems of dementia or delirium unless documented nonpharmacologic options (e.g., behavioral interventions) have failed and/or the patient is threatening substantial harm to self or others. If used, periodic deprescribing attempts should be considered to assess ongoing need and/or the lowest effective dose.</p>	Avoid	High	Strong
<p>Benzodiazepines Alprazolam Chlordiazepoxide (alone or in combination with amitriptyline or citalinium) Clonazepam Clonazepam Diazepam Estazolam Lorazepam Midazolam Oxazepam Temazepam Triazolam</p>	<p>The use of benzodiazepines exposes users to risks of abuse, misuse, and addiction. Concomitant use of opioids may result in profound sedation, respiratory depression, coma, and death. Older adults have increased sensitivity to benzodiazepines and decreased metabolism of long-acting agents, the continued use of benzodiazepines may lead to clinically significant physical dependence. In general, all benzodiazepines increase the risk of cognitive impairment, delirium, falls, fractures, and motor vehicle crashes in older adults. May be appropriate for seizure disorders, rapid eye movement sleep behavior disorder, benzodiazepine withdrawal, ethanol disorder, and procedural anesthesia.</p>	Avoid	Moderate	Strong
<p>Nonbenzodiazepine benzodiazepine receptor agonist hypnotics ("Z-drugs") Eszopiclone Zaleplon Zolpidem</p>	<p>Nonbenzodiazepine benzodiazepine receptor agonist hypnotics ("Z-drugs") have adverse events similar to those of benzodiazepines in older adults (e.g., delirium, falls, fractures, increased emergency room visits/hospitalizations, motor vehicle crashes); minimal improvement in sleep latency and duration.</p>	Avoid	Moderate	Strong
<p>Meprobamate Ergoloid mesylates (dehydrogenated ergot alkaloids)</p>	<p>High rate of physical dependence; very sedating. Lack of efficacy.</p>	Avoid Avoid	Moderate High	Strong Strong

(Continues)

TABLE 2 (Continued)

Organ system, therapeutic category, drug(s) ^a	Rationale	Recommendation	Quality of evidence ^b	Strength of recommendation ^b
Endocrine Androgens Methyltestosterone Testosterone	Potential for cardiac problems; potential risks in men with prostate cancer.	Avoid unless indicated for confirmed hypogonadism with clinical symptoms.	Moderate	Weak
Estrogens with or without progestins (includes natural and synthetic estrogen preparations)	Evidence of carcinogenic potential (breast and endometrium); lack of cardioprotective effect and cognitive protection in older women. For women who start HRT at age 60 and older, the risks of HRT are greater than the benefits, as HRT is linked to a higher risk of heart disease, stroke, blood clots, and dementia. Evidence indicates that vaginal estrogens for the treatment of vaginal dryness are safe and effective; women with a history of breast cancer who do not respond to nonhormonal therapies are advised to discuss the risks and benefits of low-dose vaginal estrogen (e.g., dosages of estradiol <25 mcg twice weekly) with their healthcare provider.	Do not initiate systemic estrogen (e.g., oral tablets or transdermal patches). Consider deprescribing among older women already using this medication. Vaginal cream or vaginal tablet: acceptable to use low-dose intravaginal estrogen for the management of dyspareunia, recurrent lower urinary tract infections, and other vaginal symptoms.	Oral and patch: high Vaginal cream or vaginal tablets: moderate	Oral and patch: strong Topical vaginal cream or tablets: weak
Insulin, sliding scale (insulin regimens containing only short- or rapid-acting insulin dosed according to current blood glucose levels without concurrent use of basal or long-acting insulin)	Higher risk of hypoglycemia without improvement in hyperglycemia management regardless of care setting. Avoid insulin regimens that include only short- or rapid-acting insulin dosed according to current blood glucose levels without concurrent use of basal or long-acting insulin. This recommendation does not apply to regimens that contain basal insulin or long-acting insulin.	Avoid	Moderate	Strong
Sulfonylureas (all, including short- and longer-acting) Glizalide Glimepiride Glipizide Glyburide (Glibenclamide)	Sulfonylureas have a higher risk of cardiovascular events, all-cause mortality, and hypoglycemia than alternative agents. Sulfonylureas may increase the risk of cardiovascular death and ischemic stroke. Among sulfonylureas, long-acting agents (e.g., glyburide, glimepiride) confer a higher risk of prolonged hypoglycemia than short-acting agents (e.g., glipizide). Concerns about cardiac effects; safer alternatives available.	Avoid sulfonylureas as first- or second-line monotherapy or add-on therapy unless there are substantial barriers to the use of safer and more effective agents. If a sulfonylurea is used, choose short-acting agents (e.g., glipizide) over long-acting agents (e.g., glyburide, glimepiride).	Hypoglycemia: High CV events and all-cause mortality: Moderate CV death and ischemic stroke: Low	Strong
Dedicated thyroid		Avoid	Low	Strong

TABLE 2 (Continued)

Organ system, therapeutic category, drug(s)*	Rationale	Recommendation	Quality of evidence ^b	Strength of recommendation ^a
Megestrol	Minimal effect on weight; increases the risk of thrombotic events and possibly death in older adults.	Avoid	Moderate	Strong
Growth hormone	Impact on body composition is small and associated with edema, arthralgia, carpal tunnel syndrome, gynecomasia, and impaired fasting glucose.	Avoid, except for patients rigorously diagnosed by evidence-based criteria with growth hormone deficiency due to an established etiology.	High	Strong
Gastrointestinal				
Proton-pump inhibitors	Risk of <i>C. difficile</i> infection, pneumonia, GI malignancies, bone loss, and fractures.	Avoid scheduled use for >8 weeks unless for high-risk patients (e.g., oral corticosteroids or chronic NSAID use), erosive esophagitis, Barrett's esophagitis, pathologic hypersecretory condition, or demonstrated need for maintenance treatment (e.g., because of failure of drug discontinuation trial or H2-receptor antagonists).	<i>C. difficile</i> , bone loss, and fractures: High Pneumonia and GI malignancies: Moderate	Strong
Dexlansoprazole				
Esomeprazole				
Lansoprazole				
Omeprazole				
Pantoprazole				
Rabeprazole				
Metoclopramide	Can cause extrapyramidal effects, including tardive dyskinesia; the risk may be greater in frail older adults and with prolonged exposure. Highly anticholinergic, uncertain effectiveness.	Avoid, unless for gastroparesis with a duration of use not to exceed 12 weeks except in rare cases.	Moderate	Strong
GI antispasmodics with strong anticholinergic activity		Avoid	Moderate	Strong
Atropine (excludes ophthalmic)				
Cidnidium-chloridiazeposide				
Dicyclomine				
Hyoscyamine				
Scopolamine				
Mineral oil, given orally	Potential for aspiration and adverse effects; safer alternatives available.	Avoid	Moderate	Strong
Genitourinary				
Desmopresin	High risk of hyponatremia; safer alternative treatments for nocturia (including non-pharmacologic).	Avoid for treatment of nocturia or nocturnal polyuria.	Moderate	Strong
Pain medications				
Non-COX-2-selective NSAIDs, oral:	Increased risk of GI bleeding or peptic ulcer disease in high-risk groups, including those >75 years old or taking oral or parenteral corticosteroids, anticoagulants, or antiplatelet agents; use of proton-pump inhibitor or misoprostol reduces but does not eliminate	Avoid chronic use unless other alternatives are not effective and the patient can take a gastroprotective agent (proton-pump inhibitor or misoprostol). Avoid short-term scheduled use in combination with oral or parenteral	Moderate	Strong
Aspirin > 325 mg/day				
Diclofenac				
Diflunisal				
Ezodolac				
Flurbiprofen				

(Continues)

TABLE 2 (Continued)

Organ system, therapeutic category, drug(s) ^a	Rationale	Recommendation	Quality of evidence ^b	Strength of recommendation ^c
Ibuprofen Indomethacin Ketorolac Meloxicam Nabumetone Naproxen Oxaprozin Piroxicam Sulindac	risk. Upper GI ulcers, gross bleeding, or perforation caused by NSAIDs occur in ~1% of patients treated for 3–6 months and in ~2%–4% of patients treated for 1 year; these trends continue with longer duration of use. Also can increase blood pressure and induce kidney injury. Risks are dose-related.	corticosteroids, anticoagulants, or antiplatelet agents unless other alternatives are not effective and the patient can take a gastroprotective agent (proton-pump inhibitor or misoprostol).		
Indomethacin Ketorolac (oral and parenteral)	Increased risk of GI bleeding/peptic ulcer disease and acute kidney injury in older adults. Of all the NSAIDs, indomethacin has the most adverse effects, including a higher risk of adverse CNS effects.	Avoid	Moderate	Strong
Meperidine	Oral analgesic not effective in dosages commonly used; may have a higher risk of neurotoxicity, including delirium, than other opioids; safer alternatives available.	Avoid	Moderate	Strong
Skeletal muscle relaxants Carisoprodol Chlorzoxazone Cyclobenzaprine Metaxalone Methocarbamol Orphenadrine	Muscle relaxants typically used to treat musculoskeletal complaints are poorly tolerated by older adults due to anticholinergic adverse effects, sedation, and increased risk of fractures; effectiveness at dosages tolerated by older adults is questionable. This criterion does not apply to skeletal muscle relaxants typically used for the management of spasticity (i.e., baclofen and tizanidine) although these drugs can also cause substantial adverse effects.	Avoid	Moderate	Strong

Abbreviations: CNS, central nervous system; COX, cyclooxygenase; CrCl, creatinine clearance; CV, cardiovascular; DOACs, direct oral anticoagulants; GI, gastrointestinal; HFpEF, heart failure with reduced ejection fraction; HRT, hormone replacement therapy; INR, international normalized ratio; NSAIDs, nonsteroidal anti-inflammatory drugs; NYHA, New York Heart Association; SIADH, syndrome of inappropriate antidiuretic hormone secretion; VTE, venous thromboembolism.
^aUnder each drug class, drugs commonly used in the United States are listed, except in cases where doing so is infeasible due to space considerations. Unless stated otherwise, all drugs within a stated drug class are considered potentially inappropriate in the context of the criterion in which they appear, even if not listed in this table.
^bQuality of evidence and strength of recommendation ratings apply to all drugs and recommendations within each criterion unless stated otherwise.
^cWhen selecting among DOACs and choosing a dose, pay special consideration to kidney function (see Table 6), indication, and body weight.
^dAntipsychotics used in the United States include: First-generation (“typical”)—chlorpromazine, fluphenazine, haloperidol, perphenazine; Second-generation (“atypical”)—aripiprazole, brexpiprazole, cariprazine, clozapine, olanzapine, risperidone, ziprasidone. This list does not include antipsychotics rarely or never used in the U.S. among older adults.

2. Kategori 2: Obat-obatan yang harus dihindari pada lanjut usia dengan kondisi tertentu

TABLE 3 2023 American Geriatrics Society Beers Criteria® for potentially inappropriate medication use in older adults due to drug-disease or drug-syndrome interactions that may exacerbate the disease or syndrome.

Disease or syndrome	Drug(s) ^a	Rationale	Recommendation	Quality of evidence ^b	Strength of recommendation ^b
Cardiovascular					
Heart failure	Cloazazol Dextromethorphan-quinidine Nondihydropyridine calcium channel blockers (CCBs) Diltiazem Verapamil Dronedarone NSAIDs and COX-2 inhibitors Thiazolidinediones Pioglitazone	Potential to promote fluid retention and/or exacerbate heart failure (NSAIDs and COX-2 inhibitors, nondihydropyridine CCBs, thiazolidinediones); potential to increase mortality in older adults with heart failure (cloazazol and dronedarone); concerns about QT prolongation (dextromethorphan-quinidine). Note: This is not a comprehensive list of medications to avoid in patients with heart failure.	Avoid: Cloazazol Dextromethorphan-quinidine Avoid in heart failure with reduced ejection fraction: Nondihydropyridine calcium channel blockers (CCBs) Diltiazem Verapamil Use with caution in patients with heart failure who are asymptomatic; avoid in patients with symptomatic heart failure: Dronedarone NSAIDs and COX-2 inhibitors Thiazolidinediones Pioglitazone	Cloazazol, dextromethorphan-quinidine, COX-2 inhibitors: <i>Low</i> Nondihydropyridine CCBs, NSAIDs: <i>Moderate</i> Dronedarone, thiazolidinediones: <i>High</i>	Strong
Syncope	Antipsychotics (selected) Chlorpromazine Olanzapine Cholinesterase inhibitors (AChEIs) Donepezil Galantamine Rivastigmine Non-selective peripheral alpha-1 blockers Doxazosin Prazosin Terazosin Tertiary (tricyclic) antidepressants (TCAs) Amitriptyline Clomipramine Doxepin Imipramine	Antipsychotics listed and tertiary TCAs increase the risk of orthostatic hypotension. AChEIs cause bradycardia and should be avoided in older adults whose syncope may be due to bradycardia. Non-selective peripheral alpha-1 blockers cause orthostatic blood pressure changes and should be avoided in older adults whose syncope may be due to orthostatic hypotension.	Avoid	High	Antipsychotics, non-selective peripheral alpha-1 blockers: <i>Weak</i> AChEIs, tertiary TCAs: Strong

TABLE 3 (Continued)

Disease or syndrome	Drug(s) ^a	Rationale	Recommendation	Quality of evidence ^b	Strength of recommendation ^c
Central nervous system					
Delirium	Anticholinergics (see Table 7)	Avoid in older adults with or at high risk of delirium because of the potential of inducing or worsening delirium.	Avoid, except in situations listed under the rationale statement.	H2-receptor antagonists: Low	Strong
	Antipsychotics ^d			All others: Moderate	
	Benzodiazepines	Antipsychotics: avoid for behavioral problems of dementia or delirium unless nonpharmacologic options (eg, behavioral interventions) have failed or are not possible and the older adult is threatening substantial harm to self or others. If used, periodic deprescribing attempts should be considered to assess ongoing need and/or the lowest effective dose.			
	Corticosteroids (oral and parenteral) ^d				
	H2-receptor antagonists				
	Cimetidine				
	Famotidine				
	Nizatidine				
	Nonbenzodiazepine benzodiazepine receptor agonist hypnotics ("Z-drugs") ^e	Corticosteroids: if needed, use the lowest possible dose for the shortest duration and monitor for delirium.			
	Eszopiclone	Opioiids: emerging data highlights an association between opioid administration and delirium. For older adults with pain, use a balanced approach, including the use of validated pain assessment tools and multimodal strategies that include non-drug approaches to minimize opioid use.			
Zaleplon					
Zolpidem					
Opioiids					
Dementia or cognitive impairment	Anticholinergics (see Table 7)	Avoid because of adverse CNS effects. See criteria on individual drugs for additional information.	Avoid	Moderate	Strong
	Antipsychotics, chronic use or persistent as-needed use ^f	Antipsychotics: increased risk of stroke and greater rate of cognitive decline and mortality in people with dementia. Avoid antipsychotics for behavioral problems of dementia or delirium unless documented nonpharmacologic options (e.g., behavioral interventions) have failed and/or the patient is threatening substantial harm to self or others. If used, periodic deprescribing attempts should be considered to assess ongoing need and/or the lowest effective dose.			
	Benzodiazepines				
	Nonbenzodiazepine benzodiazepine receptor agonist hypnotics ("Z-drugs") ^e				
	Eszopiclone				
	Zaleplon				
	Zolpidem				
	Anticholinergics (see Table 7)	May cause ataxia, impaired psychomotor function, syncope, or additional falls.	Avoid unless safer alternatives are not available.	Antidepressants, opioiids: Moderate	Strong
	Antidepressants (selected classes)	Antidepressants (selected classes): evidence for risk of falls and fractures is mixed; newer evidence suggests that SNRIs may increase falls risk.	Antiepileptics: avoid except for seizures and mood disorders.	All others: High	
	SNRIs	Benzodiazepines: shorter-acting ones are not safer than long-acting ones.	Opioiids: avoid except for pain management in the setting of severe acute pain.		
Tricyclic antidepressants (TCAs)	If one of the drugs must be used, consider reducing the use of other CNS-active medications that increase the risk of falls and fractures				
Antiepileptics					
Antipsychotics ^d					
Benzodiazepines					

(Continues)

TABLE 3 (Continued)

Disease or syndrome	Drug(s) ^a	Rationale	Recommendation	Quality of evidence ^b	Strength of recommendation ^c
History of falls and fractures, cont'd	Nonbenzodiazepine benzodiazepine receptor agonist hypnotics ("Z-drugs") Eszopiclone Zaleplon Zolpidem Opioids	(i.e., anticholinergics, selected antidepressants, antiepileptics, antipsychotics, sedative/hypnotics including benzodiazepines and nonbenzodiazepine benzodiazepine receptor agonist hypnotics, opioids) and implement other strategies to reduce fall risk.			
Parkinson disease	Antiemetics Metoclopramide Prochlorperazine Promethazine Antipsychotics (except clozapine, pimavanserin, and quetiapine)	Dopamine-receptor antagonists with the potential to worsen parkinsonian symptoms Exceptions: clozapine, pimavanserin, and quetiapine appear to be less likely to precipitate the worsening of Parkinson disease than other antipsychotics.	Avoid	Moderate	Strong
Gastrointestinal	Aspirin Non-COX-2 selective NSAIDs	May exacerbate existing ulcers or cause new/additional ulcers	Avoid unless other alternatives are not effective and the patient can take a gastroprotective agent (i.e., proton-pump inhibitor or misoprostol).	Moderate	Strong
Kidney/urinary tract	Non-selective peripheral alpha-1 blockers ^d Doxazosin Prazosin Terazosin Estrogen, oral and transdermal (excludes intravaginal estrogen)	Aggravation of incontinence (alpha-1 blockers), lack of efficacy (oral estrogen)	Avoid in women See also recommendation on estrogen (Table 2)	Non-selective peripheral alpha-1 blockers: Moderate Estrogen: High	Non-selective peripheral alpha-1 blockers: Strong Estrogen: Strong
Lower urinary tract symptoms, benign prostatic hyperplasia	Strongly anticholinergic drugs, except antimuscarinics for urinary incontinence (see Table 7)	May decrease urinary flow and cause urinary retention	Avoid in men	Moderate	Strong

Abbreviations: AChEI, acetylcholinesterase inhibitor; CCBs, calcium channel blockers; CNS, central nervous system; COPD, chronic obstructive pulmonary disease; COX, cyclooxygenase; CrCl, creatinine clearance; NSAIDs, nonsteroidal anti-inflammatory drugs; SNRIs, serotonin-norepinephrine reuptake inhibitors; SSRIs, selective serotonin reuptake inhibitors; TCAs, tricyclic antidepressants.
^aUnder each drug class, drugs commonly used in the United States are listed, except in cases where doing so is infeasible due to space considerations. Unless stated otherwise, all drugs within a stated drug class are considered potentially inappropriate in the context of the criterion in which they appear, even if not listed in this table.
^bQuality of evidence and strength of recommendation ratings apply to all drugs and recommendations within each criterion unless stated otherwise.
^cMay be required to treat concurrent schizophrenia, bipolar disorder, and other selected mental health and neuropsychiatric conditions but should be prescribed in the lowest effective dose and for the shortest possible duration.
^dExcludes inhaled and topical forms. Oral and parenteral corticosteroids may be required for conditions such as exacerbation of COPD but should be prescribed in the lowest effective dose and for the shortest possible duration.
^eData are limited for selective peripheral alpha-1 blockers (e.g., tamsulosin, silodosin, and others) but may apply as well.

3. Kategori 3: Obat-obatan yang digunakan dengan hati-hati

TABLE 4 2023 American Geriatrics Society Beers Criteria® for potentially inappropriate medications: drugs to be used with caution in older adults^a.

Drug(s) ^b	Rationale	Recommendation	Quality of evidence ^c	Strength of recommendation ^d
Dabigatran for long-term treatment of nonvalvular atrial fibrillation or venous thromboembolism (VTE)	Increased risk of GI bleeding compared with warfarin (based on head-to-head clinical trials) and of GI bleeding and major bleeding compared with apixaban (based on observational studies and meta-analyses) in older adults when used for long-term treatment of nonvalvular atrial fibrillation or VTE.	Use caution in selecting dabigatran over other DOACs (e.g., apixaban) for long-term treatment of nonvalvular atrial fibrillation or VTE. See also criteria on warfarin and rivaroxaban (Table 2) and footnote ^e regarding choice among DOACs.	Moderate	Strong
Prasugrel Ticagrelor	Both increase the risk of major bleeding in older adults compared with clopidogrel, especially among those 75 years old and older. However, this risk may be offset by cardiovascular benefits in select patients.	Use with caution, particularly in adults 75 years old and older. If prasugrel is used, consider a lower dose (5 mg) for those 75 years old and older.	Moderate	Strong
Antidepressants (selected) Mirtazapine SNRIs SSRIs TCAs Antiepileptics (selected) Carbamazepine Oxcarbazepine Antipsychotics Diuretics Tramadol	May exacerbate or cause SIADH or hyponatremia; monitor sodium levels closely when starting or changing dosages in older adults.	Use with caution	Moderate	Strong
Dextromethorphan-quinidine	Limited efficacy in patients with behavioral symptoms of dementia (does not apply to the treatment of pseudobulbar affect). May increase the risk of falls and concerns with clinically significant drug interactions and with use in those with heart failure (see Table 3).	Use with caution	Moderate	Strong
Trimethoprim-sulfamethoxazole	Increased risk of hyperkalemia when used concurrently with an ACEI, ARB, or ARNI in presence of decreased CrCl.	Use with caution in patients on ACEI, ARB, or ARNI and decreased CrCl.	Low	Strong
Sodium-glucose co-transporter-2 (SGLT2) inhibitors Canigliflozin Dapagliflozin Empagliflozin Ertugliflozin	Older adults may be at increased risk of urogenital infections, particularly women in the first month of treatment. An increased risk of euglycemic diabetic ketoacidosis has also been seen in older adults.	Use with caution. Monitor patients for urogenital infections and ketoacidosis.	Moderate	Weak

Abbreviations: ACEI, angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; ARNI, angiotensin receptor-neprilysin inhibitor; CrCl, creatinine clearance; DOAC, direct oral anticoagulant; GI, gastrointestinal; SIADH, syndrome of inappropriate antidiuretic hormone secretion; SGLT2, sodium glucose co-transporter-2; SNRIs, serotonin-norepinephrine reuptake inhibitors; SSRIs, selective serotonin reuptake inhibitors; TCAs, tricyclic antidepressants; VTE, venous thromboembolism.

^a“Use with caution” recommendations reflect concern about the balance of benefits and harms of medication compared with alternatives in the situation when those concerns do not rise to the level of “avoid” recommendations in other Tables because of limited evidence, a lesser degree of potential harm compared with alternative therapies, and/or extenuating clinical circumstances.

^bUnder each drug class, drugs commonly used in the United States are listed, except in cases where doing so is infeasible due to space considerations. Unless stated otherwise, all drugs within a stated drug class are considered potentially inappropriate in the context of the criterion in which they appear, even if not listed in this table.

^cQuality of evidence and strength of recommendation ratings apply to all drugs and recommendations within each criterion unless stated otherwise.

^dWhen selecting among DOACs and choosing a dosage, pay special consideration to kidney function (see Table 6), indication, and body weight.

4. Kategori 4: Interaksi obat-obat

TABLE 5 2023 American Geriatrics Society Beers Criteria® for potentially clinically important drug-drug interactions that should be avoided in older adults.

Object drug or class	Interacting drug or class	Risk rationale	Recommendation	Quality of evidence ^a	Strength of recommendation ^a
RAS inhibitors (ACEIs, ARBs, ARNIs, alicikren) or potassium-sparing diuretics (amilofide, triamterene)	Another RAS inhibitor or a potassium-sparing diuretic	Increased risk of hyperkalemia.	Avoid routinely using 2 or more RAS inhibitors, or a RAS inhibitor and potassium-sparing diuretic, concurrently in those with chronic kidney disease Stage 3a or higher.	Moderate	Strong
Opioids	Benzodiazepines	Increased risk of overdose and adverse events.	Avoid	Moderate	Strong
Opioids	Gabapentin Pregabalin	Increased risk of severe sedation-related adverse events, including respiratory depression and death.	Avoid; exceptions are when transitioning from opioid therapy to gabapentin or pregabalin, or when using gabapentinoids to reduce opioid dose, although caution should be used in all circumstances.	Moderate	Strong
Anticholinergic	Anticholinergic	Use of more than one medication with anticholinergic properties increases the risk of cognitive decline, delirium, and falls or fractures.	Avoid; minimize the number of anticholinergic drugs (Table 7).	Moderate	Strong
Antiepileptics (including gabapentinoids) Antidepressants (TCAs, SSRIs, and SNRIs) Antipsychotics Benzodiazepines Nonbenzodiazepine benzodiazepine receptor agonist hypnotics (i.e., "Z-drugs")	Any combination of ≥3 of these CNS-active drugs	Increased risk of falls and of fracture with the concurrent use of ≥3 CNS-active agents (antiepileptics including gabapentinoids, antiepileptics, antipsychotics, benzodiazepines, nonbenzodiazepine benzodiazepine receptor agonist hypnotics, opioids, and skeletal muscle relaxants).	Avoid concurrent use of ≥3 CNS-active drugs (among types as listed at left); minimize the number of CNS-active drugs.	High	Strong
Opioids					
Skeletal muscle relaxants					
Lithium	ACEIs ARBs ARNIs	Increased risk of lithium toxicity.	Avoid; monitor lithium concentrations.	Moderate	Strong
Lithium	Loop diuretics	Increased risk of lithium toxicity.	Avoid; monitor lithium concentrations.	Moderate	Strong
Non-selective peripheral alpha-1 blockers ^b	Loop diuretics	Increased risk of urinary incontinence in older women.	Avoid in older women, unless conditions warrant both drugs.	Moderate	Strong
Phenytoin	Trimethoprim-sulfamethoxazole	Increased risk of phenytoin toxicity	Avoid	Moderate	Strong

(Continues)

TABLE 5 (Continued)

Object drug or class	Interacting drug or class	Risk rationale	Recommendation	Quality of evidence*	Strength of recommendation*
Theophylline	Cimetidine	Increased risk of theophylline toxicity	Avoid	Moderate	Strong
Theophylline	Ciprofloxacin	Increased risk of theophylline toxicity	Avoid	Moderate	Strong
Warfarin	Amiodarone	Increased risk of bleeding.	Avoid when possible; if used together, monitor INR closely.	Moderate	Strong
	Ciprofloxacin				
	Macrolides (excluding azithromycin)				
	Trimethoprim-sulfamethoxazole				
	SSRIs				

Note: This table is not a comprehensive list of all drug-drug interactions relevant for older adults. Abbreviations: ACEIs, angiotensin-converting enzyme inhibitors; ARBs, angiotensin receptor blockers; ARNIs, angiotensin receptor-neprilysin inhibitors; CNS, central nervous system; INR, international normalized ratio; NSAIDs, nonsteroidal anti-inflammatory drugs; RAS, renin-angiotensin system; SNRIs = serotonin-norepinephrine reuptake inhibitors; SSRIs, selective serotonin reuptake inhibitors; TCAs, tricyclic antidepressants.

*Quality of evidence and strength of recommendation ratings apply to all drugs and recommendations within each criterion unless stated otherwise.

†Data are limited for selective peripheral alpha-1 blockers (e.g., tamsulosin, silodosin, and others) but may apply as well.

The anticoagulants also dominated the panel's attention when updating drugs to avoid or reduce doses with varying levels of kidney function (Table 6). The criterion for apixaban has been removed given the evidence for its safe use in patients with end-stage renal disease. Rivaroxaban's dosing in reduced kidney function is variable and is based on indication; thus, the criteria refer to the product label. Baclofen has been added with a recommendation to avoid its use when eGFR is <60 mL/min because of the increased risk for encephalopathy in older adults. Finally, the use of NSAIDs by patients with a CrCl <30 mL/min was moved from Table 3 to Table 6 for consistency of presentation.

DISCUSSION

The AGS Beers Criteria® continues to evolve to address the changing landscape of available medications and emerging data about their harms and benefits. Some of the most notable updates from the 2019 criteria include a series of new and revised criteria regarding anticoagulants and expanding the "avoid" recommendation for sulfonylureas, which previously focused on long-acting sulfonylureas but now includes all medications in this class (in particular, avoiding them as first- or second-line therapy, while still advising that if a sulfonylurea is used, shorter-acting ones pose less risk of hypoglycemia than longer-acting ones).

The introductory section of this article describes the intent of the criteria. In addition, we strongly encourage readers to understand and apply the guidance on how to interpret the recommendations, apply them to policy and practice, use best practices for deprescribing, and understand the criteria's strengths and limitations. These are explained below.

Interpreting recommendations

The original Beers Criteria used "avoid" as a recommendation, meaning "the medication should be avoided except under unusual circumstances."¹ Such circumstances include (but are not limited to) when a safer alternative did not achieve the desired therapeutic outcome. Thus, PIMs "would be chosen infrequently through such careful considerations of benefit and risk."¹ "Avoid" in the 2023 AGS Beers Criteria® has the same meaning. "Avoid" is not defined as an absolute contraindication unless specified in the medication's label. It is the expert panel's intent that when a PIM is chosen, it is done so through shared decision-making that includes recognition of its potential harms and consideration of

5. Kategori 5: Penyesuaian obat berdasarkan fungsi ginjal

TABLE 6 2023 American Geriatrics Society Beers Criteria® for medications that should be avoided or have their dosage reduced with varying levels of kidney function in older adults.

Drug	CrCl (mL/min) at which action is required	Rationale	Recommendation	Quality of evidence	Strength of recommendation
Anti-Infective					
Ciprofloxacin	<30	Increased risk of CNS effects (e.g., seizures, confusion) and tendon rupture.	Dosages used to treat common infections typically require reduction when CrCl <30 mL/min.	Moderate	Strong
Nitrofurantoin	<30	Potential for pulmonary toxicity, hepatotoxicity, and peripheral neuropathy, especially with long-term use. (See also Table 2).	Avoid if CrCl <30 mL/min	Low	Strong
Trimethoprim-sulfamethoxazole	<30	Increased risk of worsening of kidney function and hyperkalemia; risk of hyperkalemia especially prominent with concurrent use of an ACE, ARB, or ARNI.	Reduce dosage if CrCl is 15–29 mL/min. Avoid if CrCl <15 mL/min.	Moderate	Strong
Cardiovascular and antithrombotics					
Amiloride	<30	Hyperkalemia and hyponatremia	Avoid	Moderate	Strong
Dabigatran	<30	Lack of evidence for efficacy and safety in individuals with a CrCl <30 mL/min. Label dose for patients with CrCl 15–30 mL/min based on pharmacokinetic data.	Avoid when CrCl <30 mL/min; dose adjustment is advised when CrCl >30 mL/min in the presence of drug-drug interactions.	Moderate	Strong
Dofetilide	<60	QTc prolongation and torsades de pointes.	Reduce dose if CrCl is 20–59 mL/min. Avoid if CrCl <20 mL/min.	Moderate	Strong
Edoxaban	15–50 <15 or >95	Lack of evidence of efficacy or safety in patients with CrCl <20 mL/min	Reduce dose if CrCl is 15–50 mL/min Avoid if CrCl <15 or >95 mL/min	Moderate	Strong
Enoxaparin	<30	Increased risk of bleeding	Reduce dose	Moderate	Strong
Fondaparinux	<30	Increased risk of bleeding	Avoid	Moderate	Strong
Rivaroxaban	<50	Lack of efficacy or safety evidence in people with CrCl <15 mL/min; limited evidence for CrCl 15–30 mL/min.	Avoid if CrCl <15 mL/min. Reduce the dose if CrCl is 15–50 mL/min following manufacturer dosing recommendations based on indication-specific dosing.	Moderate	Strong

TABLE 6 (Continued)

Drug	CrCl (mL/min) at which action is required	Rationale	Recommendation	Quality of evidence	Strength of recommendation
Spirolactone	<30	Hyperkalemia	Avoid	Moderate	Strong
Triamterene	<30	Hyperkalemia and hyponatremia	Avoid	Moderate	Strong
Central nervous system and analgesics					
Baclofen	eGFR <60	Increased risk of encephalopathy requiring hospitalization in older adults with eGFR <60 mL/min or who require chronic dialysis.	Avoid baclofen in older adults with impaired kidney function (eGFR <60 mL/min). When baclofen cannot be avoided, use the lowest effective dose and monitor for signs of CNS toxicity, including altered mental status.	Moderate	Strong
Duloxetine	<30	Increased GI adverse effects (nausea, diarrhea)	Avoid	Moderate	Weak
Gabapentin	<60	CNS adverse effects	Reduce dose	Moderate	Strong
Levetiracetam	≤80	CNS adverse effects	Reduce dose	Moderate	Strong
NSAIDs (non-selective, COX-2 selective, and nonacetylated salicylates, oral and parenteral) ^a	<30	May increase the risk of acute kidney injury and a further decline in kidney function	Avoid	Moderate	Strong
Pregabalin	<60	CNS adverse effects	Reduce dose	Moderate	Strong
Tramadol	<30	CNS adverse effects	Immediate release: reduce dose Extended-release: avoid	Low	Weak
Gastrointestinal					
Cimetidine	<50	Mental status changes	Reduce dose	Moderate	Strong
Famotidine	<50	Mental status changes	Reduce dose	Moderate	Strong
Nizatidine	<50	Mental status changes	Reduce dose	Moderate	Strong
Hyperuricemia					
Colchicine	<30	GI, neuromuscular, and bone marrow toxicity	Reduce dose; monitor for adverse effects.	Moderate	Strong
Probenecid	<30	Loss of effectiveness	Avoid	Moderate	Strong

Note: This table is not a comprehensive list of all drugs that should be avoided or dose-adjusted in older adults with renal impairment.

Abbreviations: ACEI, angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; ARNI, angiotensin receptor-neprilysin inhibitor; CNS, central nervous system; CrCl, creatinine clearance; eGFR, estimated glomerular filtration rate; GI, gastrointestinal.

^aNSAIDs include: Non-selective: diclofenac, diflunisal, etodolac, flurbiprofen, ibuprofen, indomethacin, ketorolac, meloxicam, nabumetone, naproxen, oxaprozin, piroxicam, sulindac; COX-2 selective: celecoxib; Nonacetylated salicylates: diflunisal, magnesium salicylate. This list does not include NSAIDs rarely or never used in the U.S. among older adults.

the older person's preferences and goals of care. As in previous updates to the AGS Beers Criteria®, the panel has included caveats about when choosing a PIM may be reasonable, for example, a benzodiazepine for alcohol withdrawal.

The panel also deliberated about and recognizes that clinicians and older adults may face substantial financial pressures to use PIMs—such as when a safer treatment option incurs substantially higher out-of-pocket costs—and that drug affordability is an important consideration

Lampiran 7 Surat Izin Penelitian Universitas Borneo Lestari



YAYASAN BORNEO LESTARI
UNIVERSITAS BORNEO LESTARI
FAKULTAS FARMASI

Jl. Kelapa Sawit 8 Bumi Berkat Telp. (0511) 4783717 Kel. Sei. Besar Kec. Banjarbaru Selatan Kode Pos 70714
www.unbl.ac.id – email : fakultas.farmasiunbl@gmail.com



Banjarbaru, 5 Februari 2024

Nomor : 44 /UNBL/FF/S1F/AKD.09/0224
Lampiran : -
Perihal : Surat Permohonan Izin Melakukan Penelitian

Kepada Yth.

Pimpinan RSUD Ratu Zalecha Martapura
di Tempat

Dengan hormat,

Sehubungan dengan diadakannya kegiatan penelitian berupa Skripsi Mahasiswa pada Semester Genap TA. 2023/2024 Program Studi Sarjana Farmasi Fakultas Farmasi Universitas Borneo Lestari (UNBL), maka dengan ini memohon izin untuk mahasiswa/i berikut melakukan penelitian ditempat Bapak/Ibu :

Nama : Azkia Karamah
NIM : SF20120
Judul Penelitian : Evaluasi *Potentially Inappropriate Medication* (PIM)
Pada Pasien Geriatri Di Poliklinik RSUD Ratu Zalecha
Martapura
Tempat Penelitian : RSUD Ratu Zalecha Martapura

Demikian surat permohonan ini kami sampaikan. Besar harapan kami agar mahasiswa/i kami dapat diterima oleh Bapak/Ibu, atas perhatiannya kami ucapkan terimakasih.

Dekan Fakultas Farmasi
Universitas Borneo Lestari

Apt. Esty Restiana Rusida, M.Kes.
NPK 210211016

Lampiran 8 Surat Izin Penelitian Dari RSUD Ratu Zalecha Martapura



PEMERINTAH KABUPATEN BANJAR
RUMAH SAKIT UMUM DAERAH RATU ZALECHA

Alamat : Jl. Menteri Empat Telp. (0511) 478 9635 Fax. 478 9635
Website : rsraza.banjarkab.go.id Email : rsraza@banjarkab.go.id

SURAT IZIN PENELITIAN

NOMOR : 000.9.2/269/RAZA

1. Dasar Surat :
 - a. Peraturan Menteri Dalam Negeri Republik Indonesia Nomor 3 Tahun 2018 tentang Penerbitan Surat Keterangan Penelitian.
 - b. Surat Dekan Fakultas Farmasi Universitas Borneo Lestari Nomor 198/UNBL/FF/S1F/AKD.09/0224 Perihal Surat Permohonan Izin Melakukan Penelitian
 - c. Surat Keterangan dari Badan Kesatuan Bangsa dan Politik Nomor 200.1.3/289-II/KESBANGPOL/2023 tanggal 29 Maret 2023 tentang Surat Keterangan Penelitian

2. Atas dasar tersebut diatas diberikan izin untuk melakukan Penelitian :

NAMA	: Azkia Karamah
NIM	: SF20120
Program	: Program Studi S-1 Farmasi
Studi/Jurusan	: Fakultas Farmasi Universitas Borneo Lestari
Lama Penelitian	: 3 (Tiga) Bulan
Lokasi	: RSUD Ratu Zalecha Martapura
Judul Penelitian	: Evaluasi <i>Potentially Inappropriate Medication</i> (PIM) Pada Pasien Geriatri Di Poliklinik RSUD Ratu Zalecha Martapura

Dengan ketentuan sebagai berikut :

- a. Sebelum pengambilan data penelitian terlebih dahulu melapor/menemui Pejabat yang berwenang setempat.
 - b. Tidak dibenarkan melakukan pengambilan data penelitian yang tidak relevan/tidak ada hubungannya dengan tujuan penelitian.
 - c. Harus mentaati peraturan perundangan yang berlaku serta mengindahkan adat istiadat setempat.
 - d. Setelah selesai wajib menyerahkan/mengirimkan salinan hasil penelitian (dalam bentuk cetak dan softcopy/PDF) ke :
Bagian SDM Lantai II RSUD Ratu Zalecha Martapura
Jln. Menteri IV, Martapura
Email : sdmratuzalecha@gmail.com
Contact Person WA/Telp (jam kerja) : 081528456688 a/n Yandi Gunawan
3. Surat Izin penelitian ini diberikan kepada yang bersangkutan untuk dapat dipergunakan sebagaimana mestinya.

Martapura, 16 Februari 2024
Direktur,
RUMAH SAKIT UMUM
RATU ZALECHA
Arjef Rachman, S.Si.Apt., M.MKes
Pembina J. N.
NIP. 198105012005011012

Tembusan ini disampaikan kepada :

1. Dekan Fakultas Farmasi Universitas Borneo Lestari
2. Kepala Bagian/Bidang RSUD Ratu Zalecha
3. Koordinator/Kepala Ruang Perawatan/Instalasi/Unit
4. Ketua TIMKORDIK
5. Arsip

Lampiran 9 Surat Permohonan Izin Kode Etik (*Ethical Clearance*)



**YAYASAN BORNEO LESTARI
UNIVERSITAS BORNEO LESTARI
FAKULTAS FARMASI**



Jl. Kelapa Sawit 8 Bumi Berkat Telp. (0511) 4783717 Kel. Sei. Besar Kec. Banjarbaru Selatan Kode Pos 70714
www.unbl.ac.id - email: fakultas.farmasiunbl@gmail.com

Banjarbaru, 24 Januari 2024

Nomor : 40 /UNBL/FF/SIF/AKD.09/0323
Lampiran : -
Perihal : Permohonan *Ethical Clearance*

Kepada Yth.

Ketua Komite Etik Penelitian

Universitas Muhammadiyah Banjarmasin

di Tempat

Sehubungan dengan diadakannya kegiatan penelitian berupa Skripsi Mahasiswa pada Semester Ganjil TA. 2023/2024 Program Studi Sarjana Farmasi Fakultas Farmasi Universitas Borneo Lestari (UNBL), maka dengan ini mengajukan permohonan kepada Bapak/Ibu untuk dapat menerima mahasiswa/i kami agar dapat melakukan *Ethical Clearance* di Komite Etik Penelitian Universitas Muhammadiyah Banjarmasin. Adapun nama mahasiswa/i sebagai berikut :

NO	NIM	NAMA MAHASISWA (i)	JUDUL SKRIPSI
1	SF20120	Azkie Karamah	Evaluasi <i>Potentially Inappropriate Medication</i> (PIM) Pada Pasien Geriatri Di Poliklinik RSUD Ratu Zalecha Martapura

Demikian surat permohonan ini disampaikan, atas perhatian dan pertimbangan Bapak/Ibu kami ucapkan terima kasih.

Dekan Fakultas Farmasi
Universitas Borneo Lestari

apt. Esty Restiana Rusda, M.Kes.

NIK. 210211016

Lampiran 10 *Etical Clearance*



KOMISI ETIK PENELITIAN
UNIVERSITAS MUHAMMADIYAH BANJARMASIN

Nomor KEPK: 0128226371

Alamat: Kampus Universitas Muhammadiyah Banjarmasin, Telp/Fax: (0511) 3363002
Web: <https://umbjm.ac.id/komisi-etik/> Email: komisietik@umbjm.ac.id



KETERANGAN KELAYAKAN ETIK PENELITIAN
ETHICAL APPROVAL LETTER

No. 040/UMB/KE/II/2024

Komisi Etik Penelitian Universitas Muhammadiyah Banjarmasin, setelah mempelajari dan melakukan kajian etik secara seksama usulan rancangan penelitian, dengan ini menyatakan bahwa penelitian dengan:

The Research Ethics Commission of Muhammadiyah University Banjarmasin, having thoroughly scrutinized and completed ethical reviews on the research plan proposal, hereby certifies that:

Judul : Evaluasi Potentially Inappropriate Medication (PIM) pada Pasien Geriatri Di Poliklinik RSUD Ratu Zalecha Martapura
Title : *Evaluation of Potentially Inappropriate Medication (PIM) in Geriatric Patients at the Ratu zalecha Martapura Regional Hospital Poliklinik*

Peneliti : Azkia Karamah
Researcher

NPM : SF20120
Student Reg. Nr.

Pembimbing : 1. apt. H. Syahrizal Ramadhani, M.Clin.Pharm.
Research Advisor 2. apt. Sari Wahyunita, M.Farm.

Dengan ini menyatakan bahwa protokol tersebut **DITERIMA**.
Hereby declares that the protocol is APPROVED.

Banjarmasin, 2 Februari 2024
Ketua,
Chairman

Ahmad Juljadi, Ns., M. Kep
NIDN. 1103078701



CS Dipindai dengan CamScanner

Lampiran 11 Surat Permohonan Izin Badan Kesatuan Bangsa dan Politik (KESBANGPOL)



**YAYASAN BORNEO LESTARI
UNIVERSITAS BORNEO LESTARI
FAKULTAS FARMASI**

Jl. Kelapa Sawit 8 Bumi Berkat Telp. (0511) 4783717 Kel. Sel. Besar Kec. Banjarbaru Selatan Kode Pos 70714
www.unbl.ac.id – email : fakultas.farmasiunbl@gmail.com



Banjarbaru, 25 Januari 2024

Nomor : 145 /UNBL/FF/SIF/AKD.09/0124
Lampiran : -
Perihal : Surat Permohonan Izin Melakukan Penelitian

Kepada Yth.

**Kepala Badan Kesatuan Bangsa dan Politik (KESBANGPOL)
Kabupaten Banjar
di Tempat**

Dengan hormat,

Sehubungan dengan diadakannya kegiatan penelitian berupa Skripsi Mahasiswa pada Semester Genap TA. 2023/2024 Program Studi Sarjana Farmasi Fakultas Farmasi Universitas Borneo Lestari (UNBL), maka dengan ini memohon izin untuk mahasiswa/i berikut melakukan penelitian ditempat Bapak/Ibu :

Nama : Azkia Karamah
NIM : SF20120
Judul Penelitian : Evaluasi *Potentially Inappropriate Medication* (PIM)
Pada Pasien Geriatri Di Poliklinik RSUD Ratu Zalecha
Martapura
Tempat Penelitian : RSUD Ratu Zalecha Martapura

Demikian surat permohonan ini kami sampaikan. Besar harapan kami agar mahasiswa/i kami dapat diterima oleh Bapak/Ibu, atas perhatiannya kami ucapkan terimakasih.

Dekan Fakultas Farmasi
Universitas Borneo Lestari

Apt. Irena Kristina Rusida, M.Kes.
NIK 210211016

Lampiran 12 Surat Izin Badan Kesatuan Bangsa dan Politik
(KESBANGPOL)



PEMERINTAH KABUPATEN BANJAR
BADAN KESATUAN BANGSA DAN POLITIK
Jl. A. Yani Km. 40 Lt. III Gedung Berintan Telp/Fax. (0511) 4721113 KodePos 70611 Martapura
Web: kesbangpol.banjarkab.go.id Email: kesbangpol@banjarkab.go.id

SURAT KETERANGAN PENELITIAN

Nomor : 200.1.3/106-II/ KESBANGPOL / 2024

- A. Dasar : 1. Peraturan Menteri Dalam Negeri Republik Indonesia Nomor 3 Tahun 2018 Tentang Penerbitan surat keterangan penelitian;
2. Peraturan Bupati Banjar Nomor 50 Tahun 2012 Tentang Uraian Tugas Badan Kesatuan Bangsa dan Politik Kabupaten Banjar.
- B. Menimbang : Surat Dekan Fakultas Farmasi Universitas Borneo Lestari Nomor : 199/UNBL/FF/SIF/AKD.09/0224 Tanggal 5 Februari 2024 Perihal Permohonan Izin Melakukan Penelitian
- a. Nama/ Obyek : **AZKIA KARAMAH**
- b. Alamat/Tempat/ Identitas/NIP/NI M /NIK : Desa Pabaungan Hulu RT/RW. 001/001Pabaungan Hulu, Candi Laras Selatan / 6305054101020002
- c. Untuk : 1) Melakukan Penelitian/ Permintaan Data , dengan Proposal berjudul : **EVALUASI POTENTIALLY INAPPROPRIATE MEDICATION (PIM) PADA PASIEN GERIATRI DI POLIKLINIK RSUD RATU ZALECHA MARTAPURA**
2) Lokasi Penelitian : DI Wilayah Kerja RSUD Ratu Zalecha Martapura Kab. Banjar
3) Waktu/Lama Penelitian : Januari 2024 s/d April 2024
4) Bidang Penelitian : Farmasi
5) Status Penelitian : Baru
6) Penanggung Jawab : apt. H. Syahrizal Ramadhani, M. Clin. Pharm
7) Anggota Peneliti : -
- d. Melaporkan Hasil Penelitian Kepada Bupati Banjar C.q. Kepala Badan Kesatuan Bangsa dan Politik Kabupaten Banjar, Paling lambat 6 (Enam) bulan setelah Penelitian .

Martapura, 6 Februari 2024

Ditandatangani secara elektronik oleh:
An. Kepala Badan Kesatuan Bangsa dan Politik Kabupaten Banjar
Sekretaris



Drs. Wasis Nugraha
Pembina Tingkat I
NIP. 19700925 199101 1 001



Sesuai dengan ketentuan perundang-undangan yang berlaku, surat ini telah ditandatangani secara elektronik yang tersertifikasi oleh Balai Sertifikasi Elektronik (BSrE) sehingga tidak diperlukan tanda tangan dan stempel basah.



- Tembusan Yth.
1. Direktur RSUD Ratu Zalecha Martapura
 2. Dekan Fakultas Farmasi Universitas Borneo Lestari
 3. Yang bersangkutan
 4. Arsip

Lampiran 13 Lembar hasil pengumpulan data

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
1.	443094	SA	66	P	dm tipe 2 hipertensi dislipidemia	amlodipine 10 mg tab jml 30 ; bisoprolol 5 mg tab jml 30 ; candesartan 16 mg tab jml 30 ; mecobalamin caps 500 mcg jml 7 ; meloxicam 15 mg tab jml 7 ; metformin 500 tab jml 30 ; miniaspi 80 mg tab jml 30 ; omeprazol 20 kap jml 7 ; simvastatin 10 mg tab jml 30	<i>non-insulin-dependent diabetes mellitus without complications ; hyperlipidaemia , unspecified ; essential (primary) hypertension</i>	<i>follow-up exam after other treatment for other conditions</i>	-	-	meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung. omeprazol → risiko infeksi <i>c difficile</i> dan pengeroposan tulang serta patah tulang.	kategori 1 kategori 1
2.	322364	SI	84	P	dm tipe 2 hipertensi <i>dyspepsia</i>	gliclazide 80 mg tab jml 30 ; alprazolam 0,5 mg tab jml 7 ; amlodipine 10 mg tab jml 30 ; lansoprazole 30 mg jml 7 ; metformin 500 tab jml 60 ;	<i>non-insulin-dependent diabetes mellitus without complications ; essential (primary) hypertension ; functional dyspepsia</i>	<i>follow-up exam after other treatment for other conditions</i>	-	-	alprazolam → meningkatkan resiko gangguan kognitif, derilium, jatuh, patah tulang, dan kecelakaan kendaraan bermotor pada orang dasa yang lebih tua.	kategori 1 kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
						sucralfat susp 100ml jml 1					lansoprazol → risiko infeksi <i>c difficile</i> dan pengeposan tulang serta patah tulang	
3.	463718	AR	69	P	osteoporosis urtokaria	calcium carbonat 500 mg tab jml 30 ; ristonat 35mg jml 2 ; cetirizine hcl 10 mg tab jml 7 ; meloxicam 15 mg tab jml 7 ; paracetamol 500 mg tab jml 20	<i>urticaria, unspecified</i>	<i>osteoporosis, unspecified, lower leg</i>	-	-	meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung	kategori 1
4.	292500	MA	78	L	hipertensi faringitis	anemolat 1 mg tab jml 60 ; methylprednisolon 8 mg jml 10 ; alprazolam 0,5 mg tab jml 5 ; amlodipine 5 mg tab jml 30 ; cetirizine hcl 10	<i>acute pharyngitis, unspecified</i>	<i>essential (primary) hypertension</i>	-	-	alprazolam (menghindari) → meningkatkan resiko gangguan kognitif, derilium, jatuh, patah tulang, dan kecelakaan	kategori 1 kategori 4

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
						mg tab jml 10 ; codein 10 mg tab jml 10 ; hemafort tab jml 7					kendaraan bermotor pada orang dasa yang lebih tua. codein → opioid berinteraksi dengan benzodiazepin, peningkatan risiko overdosis.	
5.	362628	AT	75	P	hipertensi <i>dyspepsia</i> allopurinol insomnia	spiriva respimat 2,5 mcg reusable jml 1 ; allopurinol 100 mg tab jml 30 ; alprazolam 0,5 mg tab jml 7 ; candesartan 8 mg tab jml 30 ; lansoprazole 30 mg jml 7 ; meloxicam 15 mg tab jml 7 ; miniaspi 80 mg tab jml 30 ;	<i>disorders of initiating and maintaining sleep [insomnias] ; functional dyspepsia</i>	<i>essential (primary) hypertension</i>	-	-	alprazolam (menghindari) → meningkatkan resiko gangguan kognitif, derilium, jatuh, patah tulang, dan kecelakaan kendaraan bermotor pada orang dasa yang lebih tua. meloxicam → peningkatan	kategori 1 kategori 1 kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
						symbicort turb 160 jml 1					resiko pendarahan gastrointestinal atau penyakit tukak lambung. lansoprazole → risiko infeksi <i>c difficile</i> dan pengeroposan tulang serta patah tulang.	
6.	40968	AB	75	L	hipertensi <i>dyspepsia lbp</i>	alpentin 100 mg tab jml 30 ; amlodipine 5 mg tab jml 30 ; candesartan 8 mg tab jml 30 ; meloxicam 15 mg tab jml 7 ; miniaspi 80 mg tab jml 30 ; omeprazol 20 kap jml 7 ; paracetamol 500 mg tab jml 20 ;	<i>functional dyspepsia ; low back pain, site unspecified</i>	<i>essential (primary) hypertension</i>	-	-	meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung. omeprazol → risiko infeksi <i>c difficile</i> dan pengeroposan	kategori 1 kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
						sucralfat susp 100ml jml 1					tulang serta patah tulang.	
7.	275115	NU	74	P	dm tipe 2 hipertensi hiperuricemia oa genu	allopurinol 100 mg tab jml 30 ; alprazolam 0,5 mg tab jml 10 ; amlodipine 10 mg tab jml 30 ; cetirizine hcl 10 mg tab jml 10 ; levemir flexpen jml 2 ; meloxicam 15 mg tab jml 7 ; metformin 500 tab jml 30	<i>hyperuricaemia without signs of inflammatory arthritis and tophaceous disease ; essential (primary) hypertension ; primary gonarthrosis, bilateral</i>	<i>non-insulin-dependent diabetes mellitus without complications</i>	-	-	alprazolam (menghindari) → meningkatkan resiko gangguan kognitif, derilium, jatuh, patah tulang, dan kecelakaan kendaraan bermotor pada orang dasa yang lebih tua. meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung	kategori 1 kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
8.	373980	TR	64	L	cholesistitis perbaikan dislipidimia oa genu dispepsia	atorvastatin 20 mg tab jml 30 ; meloxicam 7.5 mg tab jml 14 ; ranitidin 150 mg tab jml 10	-	-	-	-	meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung. ranitidin (menghindari) → hindari pada orang lanjut usia dengan atau beresiko tinggi mengigau karena berpotensi memicu dan memperburuk delirium.	kategori 1 kategori 2
9.	272064	NO	74	P	hf pjk vertigo dispepsia lbp instabilitas	flunarizin 5 mg tab jml 15 ; laktulosa 3.335 gr 60 ml syr jml 1 ; betahistin 24 mg tab jml 8 ; amitriptyline 25	<i>chronic ischaemic heart disease, unspecified ; functional dyspepsia ; low back pain,</i>	<i>hypertensive heart disease without (congestive</i>	-	-	meloxicam → peningkatan resiko pendarahan gastrointestinal	kategori 1 kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
						mg tab jml 4 ; clopidogrel 75 mg tab jml 30 ; fenofibrate 100 mg cap jml 30 ; isosorbide dinitrat 5mg tab jml 90 ; lansoprazole 30 mg jml 10 ; meloxicam 15 mg tab jml 15 ; paracetamol 500 mg tab jml 11 ; ramipril 2,5 mg tab jml 15 ; vitamin b complex tab jml 30	<i>site unspecified ; dizziness and giddiness</i>) <i>heart failur</i>			atau penyakit tukak lambung. lansoprazole → risiko infeksi <i>c difficile</i> dan pengeroposan tulang serta patah tulang.	
10.	462030	KL	74	L	ht bph dispepsia dislipidemia	anemolat 1 mg tab jml 30 ; harnal ocas tab jml 30 ; amlodipine 10 mg tab jml 30 ; candesartan 8 mg tab jml 30 ;	<i>hyperlipidaemia, unspecified ; functional dyspepsia ; hyperplasia of prostate</i>	<i>essential (primary) hypertension</i>	-	-	ranitidin (menghindari) → hindari pada orang lanjut usia dengan atau beresiko tinggi mengigau karena	kategori 2

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
						fenofibrate 100 mg cap jml 30 ; ranitidin 150 mg tab jml 10					berpotensi memicu dan memperburuk delirium.	
11.	397663	HJ	70	P	chf insomnia dispepsia konstipasi obs febris	amitriptyline 25 mg tab jml 4 ; amlodipine 10 mg tab jml 30 ; bisoprolol 5 mg tab jml 30 ; candesartan 16 mg tab jml 30 ; codein 10 mg tab jml 15 ; curcuma fct tab jml 15 ; omeprazol 20 kap jml 10 ; ondansetron 4 mg tab jml 15 ; paracetamol 500 mg tab jml 15 ; spironolacton 25 mg tab jml 30 ; vitamin b	<i>disorders of initiating and maintaining sleep [insomnias] ; functional dyspepsia ; constipation ; fever, unspecified</i>	<i>hypertensive heart disease without (congestive) heart failure</i>	-	-	omeprazol → risiko infeksi <i>c difficile</i> dan pengeroposan tulang serta patah tulang. Spironolactone → hati-hati dapat memperburuk atau menyebabkan siadh atau hyponatremia.	kategori 1 kategori 3

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
						complex tab jml 8						
12.	322364	SI	84	P	dm tipe 2 hipertensi <i>dyspepsia atralgia</i>	gliclazide 80 mg tab jml 30 ; alprazolam 0,5 mg tab jml 7 ; amlodipine 10 mg tab jml 30 ; lansoprazole 30 mg jml 7 ; meloxicam 15 mg tab jml 7 ; metformin 500 tab jml 60 ; paracetamol 500 mg tab jml 30 ; sucralfat susp 100ml jml 1	<i>non-insulin-dependent diabetes mellitus without complications ; essential (primary) hypertension ; functional dyspepsia ; pain in joint</i>	<i>follow-up exam after other treatment for other conditions</i>	-	-	alprazolam (menghindari) → meningkatkan resiko gangguan kognitif, derilium, jatuh, patah tulang, dan kecelakaan kendaraan bermotor pada orang dasa yang lebih tua meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung. lansoprazole →	kategori 1 kategori 1 kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
											risiko infeksi <i>c difficile</i> dan pengeroposan tulang serta patah tulang.	
13.	443094	SA	66	P	hipertensi dm tipe 2 ; <i>dyspepsia</i> <i>dyslipidemia</i>	amlodipine 10 mg tab jml 30 ; bisoprolol 5 mg tab jml 30 ; candesartan 16 mg tab jml 30 ; meloxicam 15 mg tab jml 7 ; metformin 500 tab jml 30 ; miniaspi 80 mg tab jml 30 ; omeprazol 20 kap jml 7 ; simvastatin 10 mg tab jml 30 ; vitamin b complex tab jml 30	<i>non-insulin-dependent diabetes mellitus without complications ; hyperlipidaemia, unspecified (primary) hypertension ; functional dyspepsia</i>	<i>follow-up exam after other treatment for other condition</i>	-	-	meloxicam → peningkatan risiko perdarahan gastrointestinal atau penyakit tukak lambung. omeprazol → risiko infeksi <i>c difficile</i> dan pengeroposan tulang serta patah tulang.	kategori 1 kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
14.	463718	AR	69	P	osteoporosis urtikaria	calcium carbonat 500 mg tab jml 30 ; ristonat 35mg jml 2 ; cetirizine hcl 10 mg tab jml 15 ; meloxicam 15 mg tab jml 7 ; paracetamol 500 mg tab jml 30	<i>urticaria, unspecified ; osteoporosis, unspecified, lower leg</i>	<i>follow-up exam after other treatment for other conditions</i>	-	-	meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung.	kategori 1
15.	292500	MA	78	L	hipertensi ckd st iv faringitis	anemolat 1 mg tab jml 60 ; methylprednisol on 8 mg jml 10 ; alprazolam 0,5 mg tab jml 5 ; amlodipine 10 mg tab jml 30 ; cetirizine hcl 10 mg tab jml 5 ; codein 10 mg tab jml 10 ; hemafort tab jml 7	<i>hypertensive renal disease with renal failure ; acute pharyngitis, unspecified</i>	<i>follow-up exam after other treatment for other conditions</i>	-	-	alprazolam (menghindari) → meningkatkan resiko gangguan kognitif, derilium, jatuh, patah tulang, dan kecelakaan kendaraan bermotor pada orang dasa yang lebih tua. codein → opioid berinteraksi	kategori 1 kategori 4

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
											dengan benzodiazepin, peningkatan risiko overdosis	
16.	40968	AB	75	L	hipertensi <i>dyspepsia oa genu sin</i>	triamcinolone acetonide 10mg/ml inj jml 1 ; alpentin 100 mg tab jml 30 ; amlodipine 5 mg tab jml 30 ; candesartan 8 mg tab jml 30 ; meloxicam 15 mg tab jml 7 ; miniaspi 80 mg tab jml 30 ; omeprazol 20 kap jml 7 ; paracetamol 500 mg tab jml 20 ; sucralfat susp 100ml jml 1	<i>essential (primary) hypertension ; functional dyspepsia ; primary gonarthrosis, bilateral</i>	<i>follow-up exam after other treatment for other conditions</i>	-	-	meloxicam → peningkatan risiko perdarahan gastrointestinal atau penyakit tukak lambung. omeprazol → risiko infeksi <i>c difficile</i> dan pengeroposan tulang serta patah tulang.	kategori 1 kategori 1
17.	275115	NU	74	P	dm tipe 2 hipertensi <i>dyslipidem</i>	allopurinol 100 mg tab jml 30 ; alprazolam 0,5	<i>non-insulin-dependent diabetes</i>	<i>follow-up exam after other</i>	-	-	alprazolam (menghindari) →	kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
					<i>ia hiperuricemia oa genu bilateral gr 3</i>	mg tab jml 20 ; amlodipine 10 mg tab jml 30 ; cetirizine hcl 10 mg tab jml 10 ; levemir flexpen jml 2 ; meloxicam 15 mg tab jml 7 ; metformin 500 tab jml 30	<i>mellitus without complications ; hyperlipidaemia, unspecified ; hyperuricaemia without signs of inflammatory arthritis and tophaceous disease ; essential (primary) hypertension ; primary gonarthrosis, bilateral</i>	<i>treatment for other conditions</i>			meningkatkan resiko gangguan kognitif, derilium, jatuh, patah tulang, dan kecelakaan kendaraan bermotor pada orang dasa yang lebih tua. meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung	kategori 1
18.	258228	SY	76	L	<i>hypertensive heart disease post stroke dislipidemia</i>	concor 1.25mg tab jml 30 ; candesartan 8 mg tab jml 30 ; curcuma fct tab jml 14 ; furosemid 40	<i>hyperlipidaemia, unspecified ; hyperuricaemia without signs of inflammatory</i>	<i>follow-up exam after other treatment for other conditions</i>	-	-	furosemid → hati-hati dapat memperburuk atau menyebabkan	kategori 3

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
					<i>hiperuricemia</i>	mg tab jml 15 ; spironolacton 25 mg tab jml 30	<i>arthritis and tophaceous disease ; hypertensive heart disease without (congestive) heart failure ; sequelae of stroke, not specified as haemorrhage or infarction</i>				siadh atau hiponatremia	
19.	304172	MI	69	P	<i>hypertensive heart disease anoreksia geriatri</i>	bisoprolol 2.5 mg tab jml 30 ; alprazolam 0,5 mg tab jml 5 ; amlodipine 10 mg tab jml 30 ; candesartan 8 mg tab jml 30 ; curcuma fct tab jml 14	<i>hypertensive heart disease without (congestive) heart failure ; anorexia</i>	<i>follow-up exam after other treatment for other conditions</i>	-	-	alprazolam (menghindari) → meningkatkan resiko gangguan kognitif, derilium, jatuh, patah tulang, dan kecelakaan kendaraan bermotor pada orang dasa yang lebih tua	Kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
20.	397663	HJ	70	P	chf konstipasi dispepsia insomnia hipertriglis eridemia pjk	laktulosa 3.335 gr 60 ml syr jml 1 ; alprazolam 0,5 mg tab jml 5 ; amlodipine 10 mg tab jml 30 ; bisoprolol 5 mg tab jml 30 ; candesartan 16 mg tab jml 30 ; curcuma fct tab jml 14 ; omeprazol 20 kap jml 10 ; spironolacton 25 mg tab jml 30	<i>pure hyperglycerid aemia ; disorders of initiating and maintaining sleep [insomnias] ; chronic ischaemic heart disease, unspecified ; functional dyspepsia ; constipation</i>	<i>hypertensi ve heart disease without (congestive) heart failure</i>	-	-	alprazolam (menghindari) → meningkatkan resiko gangguan kognitif, derilium, jatuh, patah tulang, dan kecelakaan kendaraan bermotor pada orang dasa yang lebih tua. omeprazol → risiko infeksi <i>c difficile</i> dan pengeroposan tulang serta patah tulang. Spironolactone → hati-hati dapat memperburuk atau menyebabkan	Kategori 1 Kategori 1 Kategori 3

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
											siadh atau hyponatremia.	
21.	443094	SA	66	P	hipertensi dm tipe 2 frozen shoulder dex	amlodipine 10 mg tab jml 30 ; bisoprolol 5 mg tab jml 30 ; candesartan 16 mg tab jml 30 ; meloxicam 15 mg tab jml 7 ; metformin 500 tab jml 30 ; miniaspi 80 mg tab jml 30 ; omeprazole 20 kap jml 7 ; simvastatin 10 mg tab jml 30 ; vitamin b complex tab jml 30	<i>non-insulin-dependent diabetes mellitus without complications ; essential (primary) hypertension ; adhesive capsulitis of shoulder</i>	<i>follow-up exam after other treatment for other conditions</i>	-	-	meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung. omeprazol → risiko infeksi <i>c difficile</i> dan pengeroposan tulang serta patah tulang.	kategori 1 kategori 1
22.	455237	MU	80	P	hipertensi <i>dyspepsia</i>	concor 1.25mg tab jml 30 ; domperidon 10 mg tab jml 20 ; miniaspi 80 mg	<i>functional dyspepsia</i>	<i>essential (primary) hypertension</i>	-	-	omeprazol → risiko infeksi <i>c difficile</i> dan pengeroposan	kategori 1 kategori 3

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
						tab jml 30 ; omeprazol 20 kap jml 7 ; ramipril 2,5 mg tab jml 15 ; spironolacton 25 mg tab jml 30					tulang serta patah tulang. Spironolactone → hati-hati dapat memperburuk atau menyebabkan siadh atau hyponatremia.	
23.	258228	SY	76	L	<i>hypertensi ve heart disease dislipidemia (hipertrigli seridemia) osteoarthri tis genuae hiperurice mia dm tipe ii</i>	bisoprolol 2.5 mg tab jml 30 ; candesartan 8 mg tab jml 30 ; fenofibrate 100 mg cap jml 30 ; furosemid 40 mg tab jml 15 ; meloxicam 15 mg tab jml 7 ; metformin 500 tab jml 30 ; miniaspi 80 mg tab jml 30 ;	<i>non-insulin- dependent diabetes mellitus without complications ; hyperlipidaem ia, unspecified ; hyperuricaemi a without signs of inflammatory arthritis and tophaceous</i>	<i>follow-up exam after other treatment for other conditions</i>	asam urat : 7.1 ; glukosa sewaktu : 143.3 ; hdl kolesterol : 43.6 ; kolesterol : 182.6 ; kreatinin : 1.213 mg/dL ; ldl kolesterol : 99.7 ;	kreatinin : 61.9 ml/min	meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung. spironolacton (menghindari) → peningkatan kalium furosemid →	kategori 1 kategori 3

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
						spironolacton 25 mg tab jml 30	<i>disease ; gonarthrosis, unspecified ; observation for other suspected cardiovascular diseases</i>		trigliserida : 320.2		hati-hati dapat memperburuk atau menyebabkan siadh atau hyponatremia.	
24.	469753	HJ	75	P	dm tipe ii hipertensi anoreksia geriatri	alprazolam 0,5 mg tab jml 5 ; amlodipine 10 mg tab jml 30 ; glimepiride 2 mg tab jml 30 ; mecobalamin caps 500 mcg jml 14 ; metformin 500 tab jml 60 ; sucalfat susp 100ml jml 1	<i>disorders of initiating and maintaining sleep [insomnias] ; functional dyspepsia</i>	<i>follow-up exam after other treatment for other conditions</i>	asam urat : 5.2 ; blood urea nitrogen (bun) : 38.5 ; glukosa sewaktu : 404.9 ; kolesterol : 199.2 ; kreatinin : 0.985 ; trigliserida : 156.7 ; ureum : 82.4	kreatinin : 59.8 ml/min	alprazolam (menghindari) → meningkatkan resiko gangguan kognitif, derilium, jatuh, patah tulang, dan kecelakaan kendaraan bermotor pada orang dasa yang lebih tua	kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
25.	397663	HJ	70	P	<i>hypertensive heart disease dispepsia insomnia</i>	bisoprolol 2.5 mg tab jml 30 ; alprazolam 0,5 mg tab jml 7 ; amlodipine 5 mg tab jml 30 ; candesartan 8 mg tab jml 30 ; omeprazol 20 kap jml 10 ; spironolacton 25 mg tab jml 30	<i>disorders of initiating and maintaining sleep [insomnias] ; functional dyspepsia ; observation for other suspected cardiovascular diseases</i>	<i>follow-up exam after other treatment for other conditions</i>	asam urat : 6.1 ; basofil : 2.3 ; chcm : 30.9 ; eosinofil : 4.5 ; eritrosit : 4.39 ; glukosa sewaktu : 126.3 ; hdl kolesterol : 40.5 ; hdw : 3.56 ; hematokrit : 36.8 ; hemoglobin : 11.5 ; kolesterol : 156.4 ; ldl kolesterol : 88.8 ; leukosit : 10.20 ; limfosit : 29.6 ; luc : 3.6 ; mch :	-	alprazolam (menghindari) → meningkatkan resiko gangguan kognitif, derilium, jatuh, patah tulang, dan kecelakaan kendaraan bermotor pada orang dasa yang lebih tua. omeprazol → risiko infeksi <i>c difficile</i> dan pengeroposan tulang serta patah tulang. Spironolactone → hati-hati dapat memperburuk atau	kategori 1 kategori 1 kategori 3

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
									26.2 ; mhc : 31.3 ; mcv : 83.8 ; monosit : 5.9 ; mpv : 8.5 ; neutrofil : 54.1 ; rdw : 15.4 ; trigliserida : 165.1 ; trombosit : 245		menyebabkan siadh atau hyponatremia.	
26.	443094	SA	66	P	dm tipe 2 hipertensi <i>dyspepsia hiper-tg frozen shoulder d</i>	amlodipine 10 mg tab jml 30 ; bisoprolol 5 mg tab jml 30 ; candesartan 16 mg tab jml 30 ; fenofibrate 100 mg cap jml 30 ; meloxicam 7.5 mg tab jml 7 ; metformin 500 tab jml 30 ; omeprazol 20	<i>non-insulin-dependent diabetes mellitus without complications ; essential (primary) hypertension ; functional dyspepsia ; adhesive</i>	<i>follow-up exam after other treatment for other conditions</i>	glukosa 2 jam pp : 165.0 ; glukosa sewaktu : 102.6		meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung. omeprazole → risiko infeksi <i>c difficile</i> dan pengeroposan	kategori 1 kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
						kap jml 4 ; vitamin b complex tab jml 30	<i>capsulitis of shoulder</i>				tulang serta patah tulang.	
27.	149926	SI	79	P	hipertensi atralgia ihd insomnia hhd	bisoprolol 2.5 mg tab jml 30 ; alprazolam 0,5 mg tab jml 5 ; candesartan 8 mg tab jml 30 ; meloxicam 7.5 mg tab jml 14 ; miniaspi 80 mg tab jml 30 ; omeprazol 20 kap jml 7 ; spironolacton 25 mg tab jml 30	<i>disorders of initiating and maintaining sleep [insomnias] ; essential (primary) hypertension ; pain in joint, site unspecified ; observation for other suspected cardiovascular diseases</i>	<i>follow-up exam after other treatment for other conditions</i>	asam urat : 6.1 ; egfr : 43 ; glukosa sewaktu : 93.9 ; hdl kolesterol : 45.3 ; kolesterol : 215.3 ; kreatinin : 1.2mg/dL ; ldl kolesterol : 144.2 ; trigliserida : 114.4 ; ureum : 42.8	kreatinin : 46.0 ml/min	alprazolam (menghindari) → meningkatkan resiko gangguan kognitif, derilium, jatuh, patah tulang, dan kecelakaan kendaraan bermotor pada orang dasa yang lebih tua. meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung	kategori 1 kategori 1 kategori 5

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
											Spirolactone → hati-hati dapat memperburuk atau menyebabkan siadh atau hyponatremia.	
28.	208891	HJ	76	P	<i>frail geriatri ischialgia neuropati perifer cholelithiasis hipertensi</i>	eperison hcl 50 mg tab jml 14 ; ursodeoxychilic acid 250 mg tab jml 30 ; alprazolam 0,5 mg tab jml 5 ; amlodipine 10 mg tab jml 30 ; mecobalamin caps 500 mcg jml 7 ; meloxicam 7.5 mg tab jml 14 ; spironolacton 25 mg tab jml 30	<i>essential (primary) hypertension; other cholelithiasis</i>	<i>sciatica, site unspecified</i>	-	-	alprazolam (menghindari) → meningkatkan resiko gangguan kognitif, derilium, jatuh, patah tulang, dan kecelakaan kendaraan bermotor pada orang dasa yang lebih tua. meloxicam → peningkatan resiko pendarahan	kategori 1 kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
											gastrointestinal atau penyakit tukak lambung.	
29.	258228	SY	76	L	<i>hypertensi ve heart disease dm tipe ii osteoarthritis genuae grade dislipidemia</i>	betahistin 6 mg tab jml 15 ; bisoprolol 2.5 mg tab jml 30 ; adalat oros 30 mg tab jml 30 ; candesartan 8 mg tab jml 30 ; fenofibrate 100 mg cap jml 30 ; furosemid 40 mg tab jml 15 ; meloxicam 15 mg tab jml 7 ; metformin 500 tab jml 30 ; miniaspi 80 mg tab jml 30 ; spironolacton 25 mg tab jml 30		<i>contusion of knee</i>	asam urat : 6.5 ; egfr : 65 ; glukosa sewaktu : 160.1 ; hdl kolesterol : 36.2 ; kolesterol : 152.3 ; kreatinin : 1.1mg/dL ; ldl kolesterol : 81.1 ; trigliserida : 175.0 ; ureum : 34.2	kreatinin : 69.6 ml/min	meloxicam → peningkatan resiko perdarahan gastrointestinal atau penyakit tukak lambung. furosemid → hati-hati dapat memperburuk atau menyebabkan siadh atau hyponatremia Spironolactone → hati-hati dapat memperburuk atau menyebabkan	kategori 1 kategori 3 kategori 5

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
											siadh atau hyponatremia.	
30.	477069	RU	64	L	dm tipe ii terkontrol ckd stg iv <i>chronic heart disease cf ii</i> hiperuricemia	asam folat 1 mg jml 30 ; digoxin 0.25 mg tab jml 30 ; hemafort tab jml 7 ; spironolacton 25 mg tab jml 30	<i>chronic kidney disease, stage 4</i>	<i>non-insulin-dependent diabetes mellitus without complications</i>	asam urat : 8.74 ; egfr : ; eritrosit : 3.39 ; glukosa sewaktu : 134.5 ; granulosit % : 69.8 ; hematokrit : 29.5 ; hemoglobin : 9.7 ; kolesterol : 130.0 ; kreatinin : 4.2 mg/dL ; leukosit : 5.77 ; limfosit % : 16.0 ; mch : 28.7 ; mchc : 33.0 ; mcv : 87.0 ;	kreatinin : 15.0 ml/min	Digoxin →hindari agen pengontrol laju ini sebagai terapi lini pertama untuk fibrasi atrium. hindari sebagai terapi lini pertama untuk gagal jantung. jika digunakan untuk fibrasi atrium atau gagal jantung hindari dosis > 0,125 mg/hari. spironolacton (menghindari) → peningkatan kalium.	kategori 1 kategori 3

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
									mid % : 14.2 ; mpv : 6.9 ; rdw : 15.4 ; trigliserida : 54.8 ; trombosit : 107 ; ureum : 57.8		Spirolactone → hati-hati dapat memperburuk atau menyebabkan siadh atau hyponatremia.	
31.	40968	AB	75	L	hipertensi oa genu <i>dyspepsia</i> katarak os post opp	gabapentin 100 mg jml 30 ; amlodipine 5 mg tab jml 30 ; aspilets tab jml 30 ; candesartan 8 mg tab jml 30 ; meloxicam 15 mg tab jml 7 ; omeprazol 20 kap jml 7 ; paracetamol 500 mg tab jml 20 ; sucralfat susp 100ml jml 1	functional dyspepsia ; gonarthrosis, unspecified	follow-up exam after other treatment for other conditions	asam urat : 6.7 ; egfr : 84 ; glukosa sewaktu : 88.6 ; kolesterol : 155.0 ; kreatinin : 0.9 mg/dL ; trigliserida : 103.2	krea tinin : 81.1 ml/min	meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung. omeprazol → risiko infeksi <i>c difficile</i> dan pengeroposan tulang serta patah tulang.	kategori 1 kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
32.	149926	SI	79	P	hipertensi atralgia cad insomnia	bisoprolol 2.5 mg tab jml 30 ; alprazolam 0,5 mg tab jml 5 ; aspilets tab jml 30 ; candesartan 8 mg tab jml 30 ; meloxicam 7.5 mg tab jml 14 ; omeprazol 20 kap jml 7 ; spironolacton 25 mg tab jml 30	<i>pain in joint, site unspecified</i>	<i>follow-up exam after other treatment for other conditions</i>	basofil : 5.8 ; chcm : 33.5 ; eosinofil : 3.3 ; eritrosit : 3.64 ; hdw : 3.29 ; hematokrit : 31.4 ; hemoglobi n : 10.8 ; kolesterol : 146.1 ; leukosit : 6.10 ; limfosit : 25.9 ; luc : 1.6 ; mch : 29.6 ; mchc : 34.4 ; mcv : 86.1 ; monosit : 6.8 ; mpv : 7.2 ; neutrofil : 62.4 ; rdw		alprazolam (menghindari) → meningkatkan resiko gangguan kognitif, derilium, jatuh, patah tulang, dan kecelakaan kendaraan bermotor pada orang dasa yang lebih tua meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung. omeprazol → risiko infeksi <i>c difficile</i> dan pengeroposan	kategori 1 kategori 1 kategori 1 kategori 3

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
									: 13.1 ; trombosit : 340		tulang serta patah tulang. Spironolactone → hati-hati dapat memperburuk atau menyebabkan siadh atau hyponatremia.	
33.	275115	NU	74	P	dm tipe 2 hipertensi <i>dyslipidemia atralgia</i>	gliclazide 80 mg tab jml 30 ; alprazolam 0,5 mg tab jml 10 ; amlodipine 10 mg tab jml 30 ; cetirizine hcl 10 mg tab jml 10 ; levemir flexpen jml 2 ; meloxicam 15 mg tab jml 7 ; metformin 500 tab jml 60 ;	<i>unspecified diabetes mellitus without complications ; hyperlipidaemia, unspecified ; essential (primary) hypertension ; pain in joint, site unspecified</i>	<i>follow-up exam after other treatment for other conditions</i>	glukosa sewaktu : 233.3		alprazolam (menghindari) → meningkatkan resiko gangguan kognitif, derilium, jatuh, patah tulang, dan kecelakaan kendaraan bermotor pada orang dasa yang lebih tua.	kategori 1 kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
						paracetamol 500 mg tab jml 30					meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung	
34.	478464	H	78	L	hipertensi <i>benign prostate hyperthrop hy nefropati hiperurice mia anemia of chronic disease</i>	harnal ocas tab jml 30 ; alprazolam 0,5 mg tab jml 7 ; digoxin 0.25 mg tab jml 30 ; furosemid 40 mg tab jml 30 ; glimepiride 1 mg tab jml 30 ; hemafort tab jml 7 ; spironolacton 25 mg tab jml 30	<i>anaemia, unspecified ; hyperuricaemia without signs of inflammatory arthritis and tophaceous disease ; disorder of kidney and ureter, unspecified ; benign prostatic hyperplasia with lower urinary tract symptoms (im)</i>	<i>essential (primary) hypertension</i>	asam urat : 9.5 ; basofil : 3.3 ; chcm : 29.6 ; egfr : ; eosinofil : 1.6 ; eritrosit : 3.42 ; glukosa sewaktu : 125 ; hdw : 3.31 ; hematokrit : 30.6 ; hemoglobin : 9 ; kolesterol : 156.3 ;	krea tinin : 31.6 ml/min	alprazolam (menghindari) → meningkatkan resiko gangguan kognitif, derilium, jatuh, patah tulang, dan kecelakaan kendaraan bermotor pada orang dasa yang lebih tua. digoxin →hindari agen pengontrol laju ini sebagai	kategori 1 kategori 1 kategori 3 kategori 3

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
									kreatinin : 2.1 ; leukosit : 7.2 ; limfosit : 22.2 ; luc : 2 ; mch : 26.5 ; mchc : 29.5 ; mcv : 89.7 ; monosit : 6.7 ; mpv : 7.7 ; neutrofil : 67.4 ; rdw : 16.9 ; trigliserida : 104.5 ; trombosit : 268		terapi lini pertama untuk fibrasi atrium. hindari sebagai terapi lini pertama untuk gagal jantung. jika digunakan untuk fibrasi atrium atau gagal jantung hindari dosis > 0,125 mg/hari. . furosemid → hati-hati dapat memperburuk atau menyebabkan siadh atau hyponatremia Spironolactone → hati-hati dapat	

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
											memperburuk atau menyebabkan siadh atau hyponatremia.	
35.	443094	SA	66	P	dm tipe 2 hipertensi <i>dyslipidemia</i> <i>dyspepsia</i>	amlodipine 10 mg tab jml 30 ; bisoprolol 5 mg tab jml 30 ; candesartan 16 mg tab jml 30 ; meloxicam 15 mg tab jml 7 ; metformin 500 tab jml 30 ; omeprazol 20 kap jml 15			asam urat : 3.6 ; egfr : 95 ; glukosa sewaktu : 105.0 ; hdl kolesterol : 46.4 ; kolesterol : 172.0 ; kreatinin : 0.6 ; ldl kolesterol : 169.8 ; trigliserida : 210.5	krea tinin : 98.9 ml/min	meloxicam → peningkatan resiko perdarahan gastrointestinal atau penyakit tukak lambung. omeprazol → risiko infeksi <i>c difficile</i> dan pengeroposan tulang serta patah tulang.	kategori 1 kategori 1
36.	149926	SI	79	P	hipertensi <i>atralgia cad</i>	bisoprolol 2.5 mg tab jml 30 ; alpentin 100 mg tab jml 30 ; alprazolam 0,5	<i>disorders of initiating and maintaining</i>	<i>pain in joint, site unspecified</i>	asam urat : 4.4 ; egfr : 83 ; hdl kolesterol : 45.3 ;	krea tinin : 87.9 ml/min	alprazolam (menghindari) → meningkatkan resiko gangguan	kategori 1 kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
					insomnia <i>post thr dx</i>	mg tab jml 7 ; amlodipine 10 mg tab jml 30 ; aspilets tab jml 30 ; candesartan 16 mg tab jml 30 ; meloxicam 15 mg tab jml 7 ; omeprazole 20 kap jml 30 ; spironolacton 25 mg tab jml 30	<i>sleep</i> <i>[insomnias]</i>		kolesterol : 96.6 ; kreatinin : 0.7 ; ldl kolesterol : 72.2 ; trigliserida : 58.3 ; ureum : 25.7		kognitif, derilium, jatuh, patah tulang, dan kecelakaan kendaraan bermotor pada orang dasa yang lebih tua. meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung omeprazole→ risiko infeksi <i>c</i> <i>difficile</i> dan pengeroposan tulang serta patah tulang. Spironolactone → hati-hati	kategori 1 kategori 3

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
											dapat memperburuk atau menyebabkan siadh atau hyponatremia.	
37.	275115	NU	74	P	dm tipe 2 hipertensi <i>dyslipidemia atralgia</i>	gliclazide 80 mg tab jml 30 ; triamcinolone acetonide 10mg/ml inj jml 1 ; alprazolam 0,5 mg tab jml 10 ; amlodipine 10 mg tab jml 30 ; cetirizine hcl 10 mg tab jml 10 ; levemir flexpen jml 2 ; meloxicam 15 mg tab jml 7 ; metformin 500 tab jml 60 ; paracetamol 500 mg tab jml 30	<i>non-insulin-dependent diabetes mellitus without complications ; hyperlipidaemia, unspecified ; essential (primary) hypertension</i>	<i>follow-up exam after other treatment for other conditions</i>	glukosa sewaktu : 133.6		alprazolam (menghindari) → meningkatkan resiko gangguan kognitif, derilium, jatuh, patah tulang, dan kecelakaan kendaraan bermotor pada orang dasa yang lebih tua meloxicam → peningkatan resiko pendarahan gastrointestinal	kategori 1 kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
											atau penyakit tukak lambung	
38.	203624	SY	75	L	hipertensi <i>benign prostat hyperthrophy insomnia insufisiensi renal instabilitas</i>	alprazolam 0,5 mg tab jml 7 ; amlodipine 10 mg tab jml 30 ; bisoprolol 5 mg tab jml 30 ; candesartan 16 mg tab jml 30	<i>disorders of initiating and maintaining sleep [insomnias] ; hyperplasia of prostate</i>	<i>follow-up exam after other treatment for other conditions</i>	basofil : 3.4 ; chcm : 32.3 ; egfr : 42 ; eosinofil : 0.9 ; eritrosit : 4.00 ; glukosa sewaktu : 103.4 ; hdw : 3.19 ; hematokrit : 35.0 ; hemoglobin : 11.7 ; kreatinin : 1.6 ; leukosit : 10.82 ; limfosit : 21.6 ; luc : 1.9 ; mch : 29.4 ;	krea tinin : 44.7 ml/min	alprazolam (menghindari) → meningkatkan resiko gangguan kognitif, derilium, jatuh, patah tulang, dan kecelakaan kendaraan bermotor pada orang dasa yang lebih tua	kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
									mhc : 33.5 ; mcv : 87.6 ; monosit : 6.0 ; mpv : 7.1 ; neutrofil : 69.6 ; rdw : 14.8 ; trombosit : 271			
39.	275115	NU	74	P	dm tipe 2 hipertensi <i>dyslipidemia oa genu tinitus as</i>	gliclazide 80 mg tab jml 30 ; amlodipine 10 mg tab jml 30 ; levemir flexpen jml 3 ; meloxicam 15 mg tab jml 7 ; metformin 500 tab jml 60 ; paracetamol 500 mg tab jml 30	<i>non-insulin-dependent diabetes mellitus without complications ; hyperlipidaemia, unspecified (primary) hypertension ; gonarthrosis, unspecified</i>	<i>follow-up exam after other treatment for other conditions</i>	asam urat : 4.1 ; egfr : 86 ; glukosa puasa : 202.1 ; hdl kolesterol : 49.0 ; kolesterol : 157.8 ; kreatinin : 0.7 ; ldl kolesterol : 99.3 ; trigliserida : 154.6 ;	krea tinin : 90.7 ml/min	meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung.	kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
									ureum : 27.8			
40.	344417	H	82	L		meloxicam 15 mg tab jml 10 ; ranitidin 150 mg tab jml 10	<i>essential (primary) hypertension ; chronic ischaemic heart disease, unspecified</i>	<i>gonarthrosis, unspecified</i>	egfr : 56 ; eritrosit : 3.55 ; glukosa sewaktu : 72.4 ; granulosit % : 46.0 ; hematokrit : 35.1 ; hemoglobin : 11.5 ; kreatinin : 1.2 ; leukosit : 5.59 ; limfosit % : 45.7 ; mch : 32.2 ; mchc : 32.6 ; mcv : 98.9 ; mid % : 8.3 ; mpv : 5.4 ; rdw :	kreatinin : 1.2	meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung. ranitidin menghindari) → hindari pada orang lanjut usia dengan atau beresiko tinggi mengigau karena berpotensi memicu dan memperburuk delirium.	kategori 1 kategori 2

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
									14.1 ; trombosit : 151			
41.	477069	RU	64	L	ckd dm	asam folat 1 mg jml 60 ; furosemid 40 mg tab jml 10 ; hemafort tab jml 7 ; spironolacton 25 mg tab jml 30	<i>unspecified diabetes mellitus without complications ; congestive heart failure</i>	<i>follow-up exam after other treatment for other conditions</i>	asam urat : 6.0 ; egfr : 9 ; eritrosit : 3.78 ; glukosa puasa : 114.2 ; granulosit % : 72.3 ; hematokrit : 31.3 ; hemoglobi n : 9.9 ; kolesterol : 160.2 ; kreatinin : 5.8 ; leukosit : 5.90 ; limfosit % : 16.8 ; mch : 26.2 ; mhc : 31.6 ; mcv	krea tinin : 10.2 ml/min	spironolacton (menghindari) → peningkatan kalium. furosemid → hati-hati dapat memperburuk atau menyebabkan siadh atau <i>hyponatremia</i> . Spironolactone → hati-hati dapat memperburuk atau menyebabkan siadh atau <i>hyponatremia</i> .	kategori 5 kategori 3 kategori 3

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
									: 82.9 ; mid % : 10.9 ; mpv : 7.4 ; rdw : 16.5 ; trigliserida : 66.5 ; trombosit : 143			
42.	482235	SU	81	P	dm tipe 2 hipertensi konstipasi atralgia	laktulosa 3.335 gr 60 ml syr jml 1 ; amlodipine 5 mg tab jml 30 ; glimepiride 2 mg tab jml 30 ; meloxicam 15 mg tab jml 7 ; metformin 500 tab jml 60 ; vitamin b complex tab jml 30	<i>pain in joint, site unspecified</i>	<i>constipation</i>	bakteri : negatif ; berat jenis : 1.020 ; bilirubin : negatif ; epitel : (+) positif ; eritrosit : 1-2 ; glukosa sewaktu : 335.8 ; jamur : negatif ; kejernihan : jernih ; keton :		meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung	Kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
									negatif ; kristal : negatif ; leukosit : 1-2 ; nitrit : negatif ; ph : 6.0 ; protein : negatif ; reduksi : positif (+++) silinder / cash : negatif ; urobilin : negatif ; warna : kuning			
43.	292500	MA	78	L	<i>hipertensi dyspepsia oa genu anemia bph hiperurise mia</i>	allopurinol 300 mg tab jml 30 ; alprazolam 0,5 mg tab jml 5 ; candesartan 16 mg tab jml 30 ; harnal 0.2 mg tab jml 30 ;	<i>essential (primary) hypertension ; functional dyspepsia ; gonarthrosis, unspecified</i>	<i>follow-up exam after other treatment for other conditions</i>	asam urat : 9.5 ; bakteri : (-) negatif ; basofil : 0.5 ; berat jenis : 1.025 ;	krea tinin : 40.8 ml/min	alprazolam (menghindari) → meningkatkan resiko gangguan kognitif, derilium, jatuh,	Kategori 1 Kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
						hemafort tab jml 7 ; omeprazole 20 kap jml 30 ; paracetamol 500 mg tab jml 30			bilirubin : negatif ; chcm : 33.9 ; egfr : 38 ; eosinofil : 2.9 ; epitel : (+) positif ; eritrosit : 0 - 1 ; eritrosit : 3.06 ; glukosa sewaktu : 90.2 ; hdl kolesterol : 37.2 ; hdw : 3.93 ; hematokrit : 30.0 ; hemoglobi n : 9.8 ; jamur : (-) negatif ; kejernihan : jernih ; keton : (-) negatif ;		patah tulang, dan kecelakaan kendaraan bermotor pada orang dasa yang lebih tua. omeprazole → risiko infeksi <i>c difficile</i> dan pengeroposan tulang serta patah tulang.	

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
									kolesterol : 155.2 ; kreatinin : 1.7 mg/dL ; kristal : (-)) negatif ; ldl kolesterol : 109.9 ; leukosit : 1 - 3 ; leukosit : 8.96 ; limfosit : 29.0 ; luc : 2.7 ; mch : 32.1 ; mchc : 32.8 ; mcv : 98.0 ; monosit : 7.9 ; mpv : 7.8 ; neutrofil : 57.0 ; nitrit : (-) negatif ; ph : 5.5 ; protein :			

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
									trace (+/-) ; rdw : 13.7 ; reduksi : negatif ; silinder / cash : (-) negatif ; trigliserida : 99.7 ; trombosit : 276 ; urobilin : negatif ; warna : kuning			
44.	480671	AB	65	L	<i>rhinitis oa genu dispepsia</i>	cefixime 100 mg tab jml 10 ; meloxicam 15 mg tab jml 7 ; omeprazole 20 kap jml 30 ; paracetamol 500 mg tab jml 30 ; sucralfat susp 100ml jml 1	<i>functional dyspepsia ; primary gonarthrosis, bilateral</i>	<i>follow-up exam after other treatment for other conditions</i>	asam urat : 8.2 ; basofil : 0.6 ; chcm : 30.9 ; egfr : 89 ; eosinofil : 5.3 ; eritrosit : 4.64 ; glukosa sewaktu :	krea tinin : 94.8 ml/min	meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung. omeprazole → risiko infeksi <i>c difficile</i> dan	Kategori 1 Kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
									100.7 ; hdw : 4.37 ; ; hematokrit : 40.7 ; hemoglobi n : 12.0 ; kreatinin : 0.9 ; leukosit : 11.67 ; limfosit : 18.8 ; luc : 1.7 ; mch : 25.8 ; mchc : 29.5 ; mcv : 87.6 ; monosit : 6.8 ; mpv : 7.7 ; neutrofil : 66.7 ; rdw : 18.1 ; trombosit : 364		pengeroposan tulang serta patah tulang.	

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
45.	362628	AT	75	P	dm tipe 2 <i>hipertensi</i> <i>dyspepsia</i> <i>ppok</i> <i>xerotic skin</i> katarak	spiolto respimat 2.5 mcg reusable jml 1 ; gabapentin 100 mg jml 30 ; allopurinol 100 mg tab jml 30 ; alprazolam 0,5 mg tab jml 10 ; candesartan 8 mg tab jml 30 ; cetirizine hcl 10 mg tab jml 6 ; isosorbide dinitrat 5mg tab jml 10 ; lansoprazole 30 mg jml 7 ; meloxicam 15 mg tab jml 7 ; miniaspi 80 mg tab jml 30 ; simvastatin 20 mg tab jml 30	<i>essential (primary) hypertension ; chronic obstructive pulmonary disease, unspecified ; functional dyspepsia</i>	<i>follow-up exam after other treatment for other conditions</i>	asam urat : 4.5 ; egfr : 90 ; glukosa puasa : 78.2 ; hdl kolesterol : 35.4 ; kolesterol : 153.0 ; kreatinin : 0.6 ; ldl kolesterol : 91.5 ; trigliserida : 130.3 ; ureum : 36.4	krea tinin : 93.5 ml/min	alprazolam (menghindari) → meningkatkan resiko gangguan kognitif, derilium, jatuh, patah tulang, dan kecelakaan kendaraan bermotor pada orang dasa yang lebih tua. meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung. lansoprazole → risiko infeksi <i>c difficile</i> dan pengeroposan	Kategori 1 Kategori 1 Kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
											tulang serta patah tulang.	
46.	292500	MA	78	L	hipertensi bph oa genu <i>dyspepsia</i> hiperuricemia nefropati	triamcinolone acetonide 10mg/ml inj jml 1 ; alprazolam 0,5 mg tab jml 5 ; candesartan 16 mg tab jml 30 ; hemafort tab jml 7 ; lidocain 2 % inj jml 1 ; omeprazole 20 kap jml 30 ; paracetamol 500 mg tab jml 30	<i>hyperuricaemia without signs of inflammatory arthritis and tophaceous disease ; functional dyspepsia ; gonarthrosis, unspecified</i>	<i>follow-up exam after other treatment for other conditions</i>	asam urat : 10.0 ; egfr : 18 ; kreatinin : 3.1	kreatinin : 3.1	alprazolam (menghindari) → meningkatkan resiko gangguan kognitif, derilium, jatuh, patah tulang, dan kecelakaan kendaraan bermotor pada orang dasa yang lebih tua. omeprazole → risiko infeksi <i>c difficile</i> dan pengeroposan tulang serta patah tulang.	Kategori 1 Kategori 1
47.	392347	SI	80	P	<i>frail geriatri</i>	eperison hcl 50 mg tab jml 10 ;	<i>essential (primary)</i>	<i>follow-up exam after</i>	albumin : 4.41 ;	kreatinin :	meloxicam	Kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
					<i>hipertensi neuropati perifer</i>	laktulosa 3.335 gr 60 ml syr jml 1 ; bisoprolol 2.5 mg tab jml 30 ; gabapentin 100 mg jml 30 ; amlodipine 10 mg tab jml 30 ; candesartan 16 mg tab jml 30 ; meloxicam 7.5 mg tab jml 10 ; spironolactone 100 mg tab jml 30	<i>hypertension ; senility</i>	<i>other treatment for other conditions</i>	basofil : 1.7 ; chcm : 31.4 ; egfr : 83 ; eosinofil : 1.6 ; eritrosit : 4.27 ; eritrosit : 4.47 ; glukosa sewaktu : 128.1 ; granulosit % : 46.8 ; hbsag (elisa) kuantitatif : 0.29 ; hdw : 3.26 ; hematokrit : 39.0 ; hematokrit : 39.8 ; hemoglobi n : 12.1 ; hemoglobi	87.4 ml/min	→ peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung. Spironolactone → hati-hati dapat memperburuk atau menyebabkan siadh atau hyponatremia.	Kategori 3

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
									n : 12.4 ; kreatinin : 0.7 mg/dL ; leukosit : 11.23 ; leukosit : 11.70 ; limfosit % : 44.9 ; limfosit : 3.1 ; luc : 3.4 ; mch : 27.6 ; mch : 28.3 ; mchc : 31.0 ; mcv : 89.1 ; mcv : 91.3 ; mid % : 8.3 ; monosit : 18.6 ; mpv : 6.1 ; mpv : 7.9 ; neutrofil : 71.6 ; rdw : 14.3 ; rdw : 16.0			

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
									; trombosit : 402 ; trombosit : 414			
48.	203624	SY	75	L	<i>bph hipertensi frail geriatri</i>	alprazolam 0,5 mg tab jml 7 ; amlodipine 10 mg tab jml 30 ; bisoprolol 5 mg tab jml 30 ; candesartan 16 mg tab jml 30	<i>essential (primary) hypertension</i>	<i>follow-up exam after other treatment for other conditions</i>	basofil : 0.4 ; chcm : 32.1 ; egfr : 45 ; eosinofil : 1.8 ; eritrosit : 3.94 ; eritrosit : 4.16 ; glukosa sewaktu : 96.4 ; granulosit % : 57.3 ; hdw : 3.59 ; hematokrit : 34.1 ; hematokrit : 36.0 ; hemoglobin : 11.3 ;	krea tinin : 48.2 ml/min	alprazolam (menghindari) → meningkatkan resiko gangguan kognitif, derilium, jatuh, patah tulang, dan kecelakaan kendaraan bermotor pada orang dasa yang lebih tua.	Kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
									hemoglobin : 11.5 ; kreatinin : 1.5 mg/dL; leukosit : 7.86 ; leukosit : 8.63 ; limfosit % : 34.7 ; limfosit : 18.3 ; luc : 4.8 ; mch : 27.2 ; mch : 29.2 ; mchc : 31.5 ; mchc : 33.7 ; mcv : 86.0 ; mcv : 86.5 ; mid % : 8.0 ; monosit : 49.4 ; mpv : 5.0 ; mpv : 7.5 ; neutrofil :			

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
									25.3 ; rdw : 14.6 ; rdw : 15.6 ; trombosit : 265 ; trombosit : 297			
49.	376676	AJ	69	p	dm hipertensi neuropati stroke athralgia	eperison hcl 50 mg tab jml 10 ; amlodipine 5 mg tab jml 30 ; clopidogrel 75 mg tab jml 30 ; glimepiride 1 mg tab jml 30 ; mecobalamin caps 500 mcg jml 7 ; meloxicam 7.5 mg tab jml 10 ; metformin 500 tab jml 30 ; omeprazole 20 kap jml 10	<i>non-insulin-dependent diabetes mellitus without complications ; essential (primary) hypertension</i>	<i>follow-up exam after other treatment for other conditions</i>	glukosa puasa : 131.3		meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung. omeprazole → resiko infeksi <i>c difficile</i> dan pengeroposan tulang serta patah tulang.	kategori 1 kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
50.	459456	ja	71	p	dm tipe 2 neuropati atralgia inkontinensia uri	gabapentin 100 mg jml 30 ; glimepiride 1 mg tab jml 30 ; meloxicam 15 mg tab jml 7 ; paracetamol 500 mg tab jml 30 ; vitamin b complex tab jml 30	<i>polyneuropathy, unspecified</i>	<i>non-insulin-dependent diabetes mellitus without complications</i>	bakteri : negatif ; basofil : 1.0 ; berat jenis : 1.005 ; bilirubin : negatif ; chcm : 32.6 ; egfr : 65 ; eosinofil : 4.3 ; epitel : (++) positif ; eritrosit : 1-2 ; eritrosit : 3.98 ; glukosa sewaktu : 118.1 ; hdw : 3.45 ; hematokrit : 35.1 ; hemoglobin : 11.3 ;	krea tinin : 68.3 ml/min	meloxicam → peningkatan resiko pendarahan gastrointestinal atau penyakit tukak lambung	kategori 1

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
									jamur : negatif ; kejernihan : agak keruh ; keton : negatif ; kreatinin : 0.9mg/dL ; kristal : negatif ; leukosit : 4-5 ; leukosit : 5.04 ; limfosit : 33.6 ; luc : 2.1 ; mch : 28.3 ; mchc : 32.1 ; mcv : 88.1 ; monosit : 5.8 ; mpv : 8.5 ; neutrofil : 53.3 ; nitrit : negatif ;			

No.	No. Rekam medis	Kode nama pasien	Usia	JK	Diagnosa awal	Data penggunaan obat	Penyakit penyerta	Diagnosa akhir	Data lab	<i>Creatinin clearance</i>	Obat yang masuk daftar <i>beers criteria</i> 2019	Kategori obat berdasarkan <i>Beers criteria</i> 2019
									ph : 7.5 ; protein : negatif ; rdw : 14.4 ; reduksi : negatif ; silinder / cash : negatif ; trombosit : 143 ; urobilin : negatif ; warna : kuning			
Total obat yang masuk daftar <i>beers criteria</i> 2019							Total obat yang masuk daftar <i>beers criteria</i> 2019 berdasarkan kategori					
104 obat							<ol style="list-style-type: none"> 1. Kategori 1 obat-obatan yang berpotensi tidak sesuai pada sebagian besar orang lanjut usia = 81 obat (alprazolam, meloxicam, digoxin, omeprazol, lansoprazol) 2. Kategori 2 obat-obatan yang biasanya harus dihindari pada orang lanjut usia dengan kondisi tertentu = 3 obat (ranitidin) 3. Kategori 3 obat yang harus digunakan dengan hati-hati = 16 obat (furosemid, spironolacton) 4. Kategori 4 interaksi obat-obat = 2 obat (codein + alprazolam) 5. Kategori 5 penyesuaian dosis obat berdasarkan fungsi ginjal = 2 obat (spironolacton) 					

