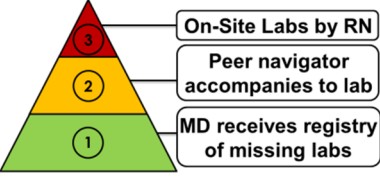


ONLINE SUPPLEMENT

- 1. eFigure: CRANIUM Intervention Details**
- 2. eBox: Clinical Vignette**
- 3. eAppendix: CRANIUM Tools**
 - a. Medication Algorithm
 - b. Interactions with Psychotropics
 - c. Urgent Care Referral Guidelines
 - d. Local Primary Care Clinics
 - e. CVD Risk Profiles of Antipsychotic Medications

eFigure: CRANIUM intervention details

Patient-centered team	Population-based care	Screening protocols	Treatment protocols
<p>Team member main roles & responsibilities:</p> <p><u>Psychiatrist</u></p> <ul style="list-style-type: none"> • Watch 1-hour on-line education video • Receive 1-pg algorithm for their own use • Review monthly registry • Attend quarterly panel meetings • Treat CVD risk factors per protocol <p><u>Consulting primary care provider</u></p> <ul style="list-style-type: none"> • Attend quarterly panel meetings • Clinical decision support via eReferral (1) <p><u>Case manager</u></p> <ul style="list-style-type: none"> • Review monthly registry • Attend quarterly panel meetings • Identify patients who would benefit from peer navigator assistance. <p><u>Peer navigators</u></p> <ul style="list-style-type: none"> • Distribute monthly registry with lab slips • Provide navigation as needed. 	<p><u>Registry</u></p> <ul style="list-style-type: none"> • The psychiatrist and case manager will receive a registry with missing labs and flagged abnormalities monthly <p><u>Panel management</u></p> <ul style="list-style-type: none"> • The patient-centered team will attend quarterly panel management meetings. • Patients missing labs will be discussed for adherence to screening protocols. • Patients with CVD risk factors will be discussed for adherence to treatment protocols. 	<p>Use of a stepped-care approach to ensure all patients obtain screening:</p> <ul style="list-style-type: none"> • <u>Step 1</u>: Registry with missing labs given to providers. • <u>Step 2</u>: Peer Navigator will assist patients to lab facility. • <u>Step 3</u>: Clinic Nurse draws labs on-site <p>Stepped-care Approach to Obtain Cardiometabolic Screening Labs</p> 	<p>User-friendly medication algorithm for management of abnormalities (see eAppendix). This tool is helpful for patients with difficulty engaging in primary care (See eBox1).</p> <p><u>On-line education video</u> on treatment protocols</p> <p><u>Additional supports</u>: Hard copies and on-line access (see eAppendix):</p> <ul style="list-style-type: none"> • Interactions with psychotropics • Urgent care referral guidelines • Local primary care clinics • CVD risk profiles of antipsychotic medications (2)

(1) Chen, A. H., Murphy, E. J., & Yee Jr, H. F. (2013). eReferral—a new model for integrated care. *The New England journal of medicine*, 368(26), 2450.

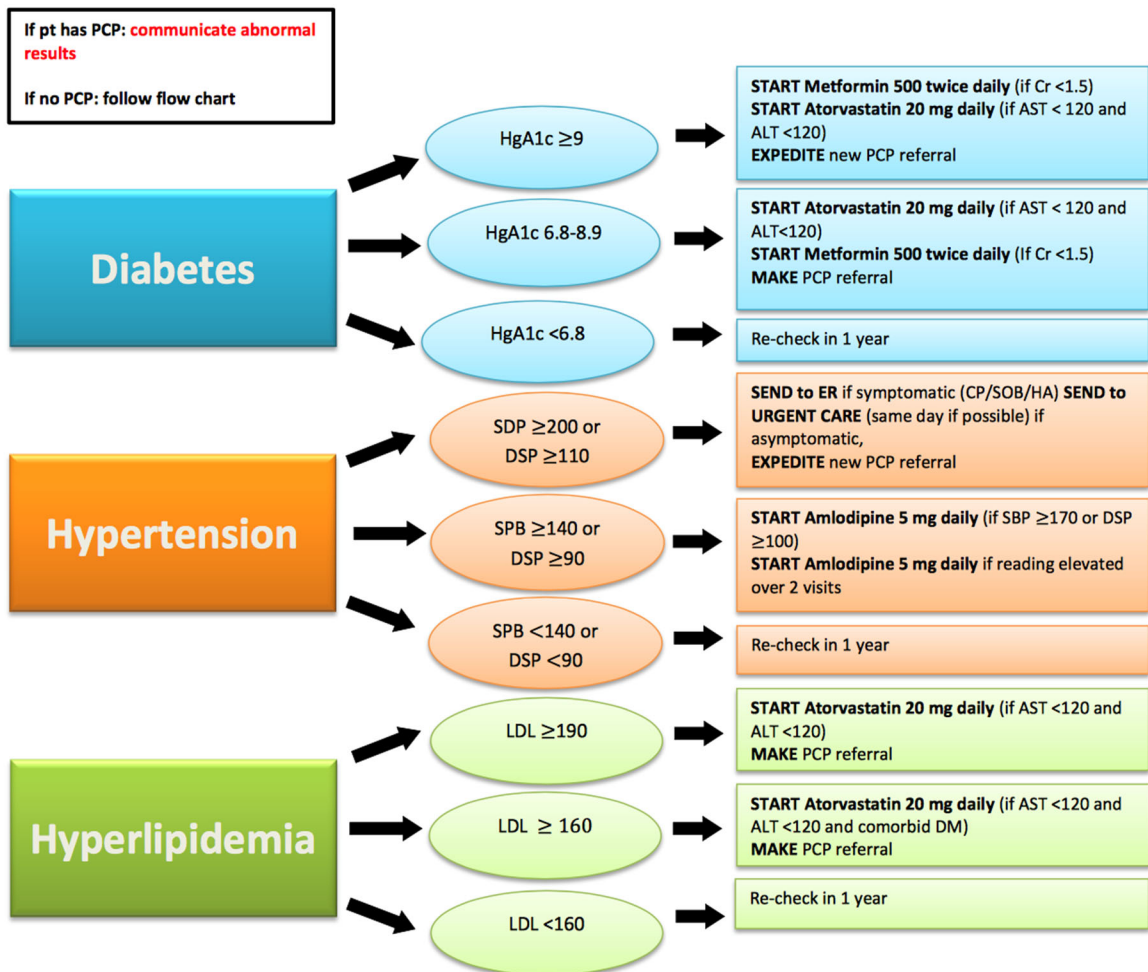
(2) Mangurian, C., Newcomer, J. W., Modlin, C., & Schillinger, D. (2016). Diabetes and cardiovascular care among people with severe mental illness: a literature review. *Journal of general internal medicine*, 31(9), 1083-1091.

eBox: Clinical Vignette

Ms. Chen is a 54-year-old woman with schizophrenia and cocaine dependence prescribed risperidone. At a prior visit, psychiatrist noted elevated blood pressure and referred to primary care. Based on her delusions, however, she refused primary care. As part of CRANIUM, her psychiatrist checks her blood pressure at regular visits. Ms. Chen has a blood pressure reading of 160/90, and then the following month has a reading even higher (180/98). The psychiatrist checks the CRANIUM treatment algorithm posted by the blood pressure machine and notes that medication is indicated. Because Ms. Chen is unlikely to go to primary care, the psychiatrist talks to the patient about the importance of blood pressure control and, using the algorithm, he writes his first amlodipine prescription. He then emails the CRANIUM primary care eConsultant to discuss the decision. Upon return to the clinic for the next visit, the patient’s blood pressure was 145/80.

eAppendix: CRANIUM Tools

1. Medication Algorithm



WEB: cranium.ucsf.edu
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REMEMBER: Advising and facilitate smoking cessation should be your number one medical priority



Available at:

<https://cranium.ucsf.edu/sites/cranium.ucsf.edu/files/CRANIUM%20Flow%20Chart%20for%20CRANIUM%20Metabolic%20Guidelinesv6.pdf>

2. Interactions with Psychotropics

CRANIUM-Interactions with CPHS Formulary Psychiatric Drugs* January 14, 2015

No absolute contraindications with any of these medications

METFORMIN

Antidepressants

- **Bupropion (Wellbutrin):** Metformin may increase serum concentration of bupropion
- **Fluoxetine (Prozac):** May increase risk of hypoglycemia with metformin

Mood Stabilizers

- **Lamotrigine (Lamictal):** Metformin may increase serum concentration of lamotrigine

Other

- **Atenolol (Tenormin) and Propranolol (Inderal):** May alter glucose metabolism, prolong hypoglycemia, mask hypoglycemic symptoms
 - **Levothyroxine (T4, Synthroid) & Liothyronine (T3, Cytomel):** May decrease hypoglycemic efficacy of metformin
 - **Nicotine replacement:** Nicotine may increase metformin levels and risk of lactic acidosis
-

AMLODIPINE (Norvasc)

Antipsychotics

- **Aripiprazole (Abilify):** Amlodipine may increase the serum concentration of aripiprazole

Antidepressants

- **Duloxetine (Cymbalta) & Fluoxetine (Luvox):** Amlodipine may increase orthostatic hypotensive effect of these medications
- **MAO Inhibitors:** May increase the hypotensive efficacy of amlodipine.

Mood Stabilizers

- **Carbamazepine (Tegretol) & oxcarbazepine (Trileptal):** May decrease the hypotensive efficacy of amlodipine

Other

- **Methylphenidate (Ritalin):** May diminish the antihypertensive efficacy of amlodipine
-

ATORVOSTATIN (Lipitor)

Antipsychotics

- **Aripiprazole (Abilify):** Atorvastatin may increase the serum concentration of Aripiprazole

Antidepressants

Fluoxetine (Prozac), Fluvoxamine (Luvox), and Nefazodone (Serzone): May increase statin level and increase risk of myopathy and rhabdomyolysis

Mood Stabilizers

- **Carbamazepine (Tegretol) & Oxcarbazepine (Trileptal):** May diminish antihyperlipidemic efficacy

Other

- **Atenolol (Tenormin) and Propranolol (Inderal):** May decrease antihyperlipidemic efficacy
- **Naloxegol (Movantic):** Atorvastatin may increase concentration of naloxegol.

*Interactions between metformin, amlodipine, and atorvastatin were checked against all medication on the CBHS formulary (<http://www.sfdph.org/dph/files/CBHSdocs/DPHFormularyComparisonforPsychiatricMedicationsDec2013.pdf>) on Epocrates (<http://online.epocrates.com>, January 13, 2015) and Lexicomp (<http://online.lexi.com/crisql/servlet/crionline>, December 1, 2014)

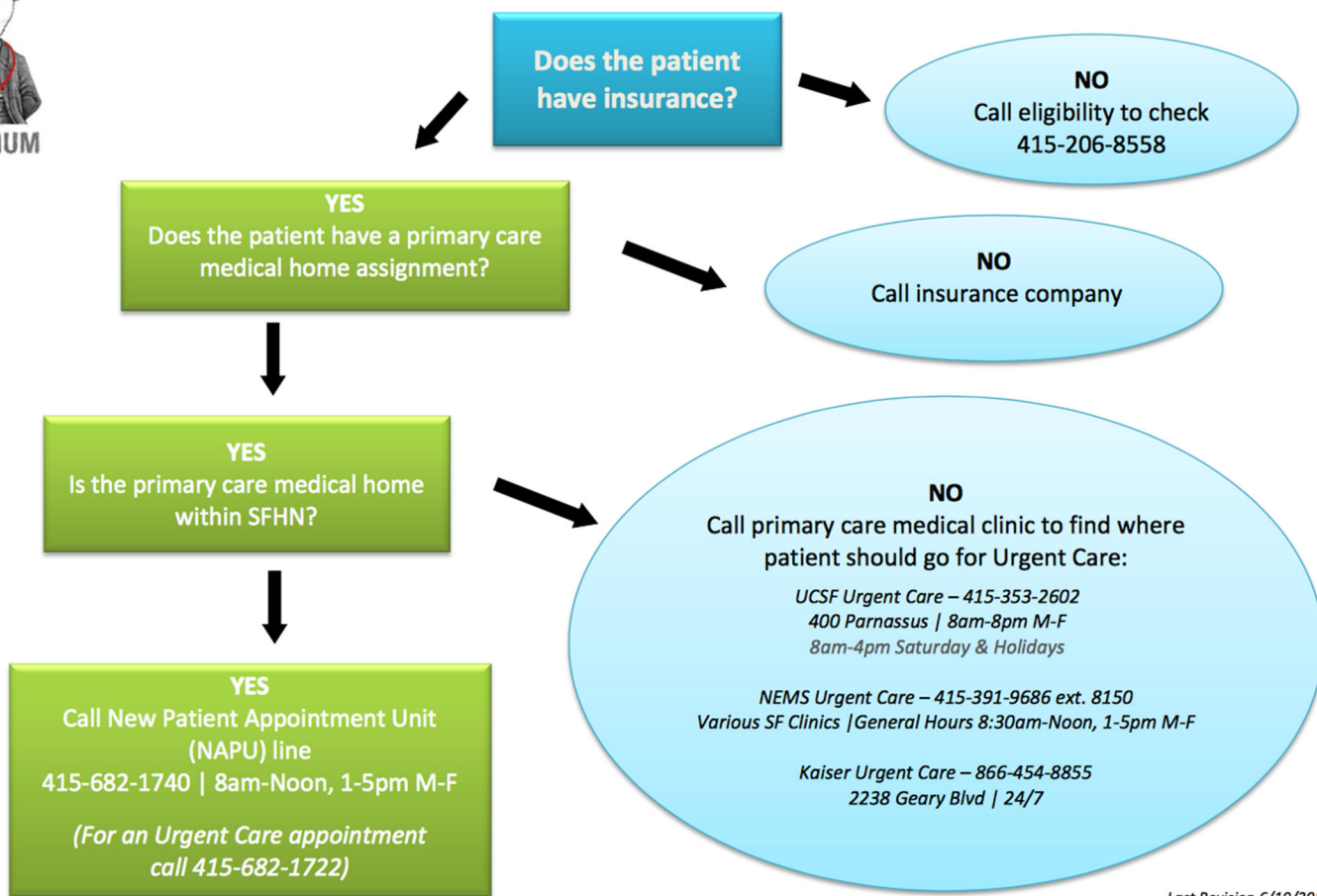
Available at:

<https://cranium.ucsf.edu/sites/cranium.ucsf.edu/files/CRANIUM%20medication%20interactions.pdf>

3. Urgent Care Referral Guidelines



CRANIUM URGENT CARE PROCEDURE



WEB: cranium.ucsf.edu
E-MAIL: cranium@ucsf.edu

**If you have any concerns about sending a patient to Urgent Care, please contact the CRANIUM eConsultant
Dr. Liz Goldman at Lauren.Goldman@ucsf.edu**

Last Revision 6/19/2015



Available at:

https://cranium.ucsf.edu/sites/cranium.ucsf.edu/files/CRANIUM%20Flow%20Chart%20for%20CRANIUM%20Urgent%20Care%20Guidelines_0.pdf

4. Local Primary Care Clinics



CRANIUM Primary Care Medical Homes Guide
Date Prepared 11/4/14

SF Health Network Clinics	Non SF Health Network Clinics
<u>Chinatown Public Health Center</u> 1490 Mason Street (at Broadway) (415) 364-7600	<u>Glide Health Services:</u> 330 Ellis St (at Taylor) (415) 674-6140
<u>Curry Senior Center</u> 333 Turk St (at Leavenworth) (415) 885-2274	<u>Haight Ashbury Free Clinics</u> 1735 Mission St (at 14 th St)**(Multiple Locations) (415)-746-1950
<u>Family Health Center at SFGH</u> 995 Potrero Ave (at 22 nd St) (415) 206-5252	<u>Kaiser Permanente</u> New Patient Appointments: (415)-833-2200 2238 Geary Blvd (at Divisadero)
<u>General Medical Clinic at SFGH</u> 1001 Potrero Ave (at 23 rd St) (415) 206-8494	<u>Lyon - Martin Women's Health Services</u> 1748 Market St (at Valencia) (415) 565-7667
<u>Maxine Hall Health Center</u> 1301 Pierce Street (at Ellis) (415) 292-1300	<u>Mission Neighborhood Health Center</u> 240 Shotwell St (at 16 th St)**(Multiple Locations) (415) 552-3870
<u>Ocean Park Health Center</u> 1351 24th Avenue (at Judah & Irving) (415)-682-1900	<u>Native American Health Center</u> 160 Capp St (at 17 th St) (415) 621-8051
<u>Potrero Hill Health Center</u> 1050 Wisconsin St (at Coral) (415)-648-3022	<u>North East Medical Services</u> 1520 Stockton St (at Columbus)**(Multiple Locations) (415)-391-9686
<u>Silver Avenue Family Health Center</u> 1525 Silver Ave (at San Bruno) (415)-657-1700	<u>San Francisco Community Clinic Consortium</u> 1550 Bryant St (at Alameda) (415) 355-2222
<u>Southeast Health Center</u> 2401 Keith St (at Armstrong) (415)-671-7000	<u>San Francisco Free Clinic</u> 4900 California St (at 11 th St) (415) 750-9894
<u>Tom Waddell Health Center</u> 230 Golden Gate Ave (at Leavenworth) (415)-355-7500	<u>South of Market Health Center</u> 229 7th St (at Howard) (415) 503-6000
<u>Transgender Clinic</u> 230 Golden Gate Ave (at Leavenworth) (415) 355-7400	<u>St. Anthony Free Clinic</u> 150 Golden Gate Avenue (at Leavenworth) (415) 241-2600
	<u>UCSF Center for Geriatric Care</u> New Patient Appointments: (844) 727-8273 3575 Geary Boulevard (at Arguello) (415) 353-4900
	<u>UCSF Family Medicine at Lakeshore</u> New Patient Appointments: (844) 727-8273 1569 Sloat Blvd (at Clairfield) (415) 353-9339
	<u>UCSF General Internal Medicine</u> New Patient Appointments: (844) 727-8273 1545 Divisadero St (at Post) (415) 353-7900
	<u>UCSF General Internal Medicine</u> New Patient Appointments: (844) 727-8273 1701 Divisadero St., Suite 500 (at Sutter) (415) 353-7999
	<u>UCSF Primary Care at Laurel Village</u> New Patient Appointments: (844) 727-8273 3490 California Street, Suite 200 (at Laurel) (415) 514-6200
	<u>UCSF Women's Health Primary Care</u> New Patient Appointments: (844) 727-8273 2356 Sutter St., 4th Floor (at Divisadero) (415) 885-7788
	<u>Women's Community Clinic</u> 1833 Fillmore Street (at Sutter) (415) 379-7800

1. If the patient's medical home is assigned to a San Francisco Health Network clinic by their insurance, call the New Patient Assessment Unit (415-682-1740) to assist in expediting appointment.
2. If the patient's medical home is outside of San Francisco Health Network, please call assigned clinic directly.
3. If the patient has no assigned medical home or it is unknown, call their insurance.

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Available at:

<https://cranium.ucsf.edu/sites/cranium.ucsf.edu/files/CRANIUM%20San%20Francisco%20Primary%20Care%20Medical%20Homes%20Guide.pdf>

5. CVD Risk Profiles of Antipsychotic Medications

Antipsychotic Medication Side Effects (1)

Class	Generic Name	Trade Name	Metabolic abnormalities ^µ	EPS/TD [¶]	Hyperprolactinemia
Second Generation Antipsychotics	Aripiprazole	Abilify	+	++	+
	Asenapine	Saphris	Unknown	Unknown	Unknown
	Clozapine	Clozaril	++++	+	+
	Iloperidone	Fanapt	Unknown	Unknown	Unknown
	Lurasidone	Latuda	Unknown	Unknown	Unknown
	Olanzapine†	Zyprexa	++++	++	++
	Paliperidone†	Invega	+++	+++	++++
	Quetiapine†	Seroquel	+++	+	+
	Risperidone†	Risperdal	+++	+++	++++
	Ziprasidone	Geodon	+	++	++
Commonly Used First Generation Antipsychotics	Chlorpromazine	Thorazine	++++	++	+++
	Fluphenazine†	Prolixin	++	++++	++++
	Haloperidol†	Haldol	++	++++	++++
	Perphenazine	Trilafon	+++	+++	+++

+ = minimal risk ++ = low risk +++ = moderate risk ++++ = high risk

† Long-acting injectables are assumed to have the same side effect profile as the oral preparations. However, some advantages for long-acting preparations due to more uniform serum concentrations may be possible.

^µGiven the significant overlap in risk, weight gain, lipid abnormalities, and diabetes were combined into one category.

[¶]EPS = Extrapyramidal symptoms; TD = tardive dyskinesia.

Sources: The primary source for all ratings is The 2009 Schizophrenia PORT Psychopharmacologic Treatment Recommendations and Summary Statements (Buchanan 2009). Since no single source covers all of the side effects for all drugs, additional sources for specific side effects include: Weight/metabolic (Newcomer 2005, Allison 1999, Nasrallah 2009), EPS/TD (Sadock 2007, Miyamoto 2008, Nasrallah 2009), and Hyperprolactinemia (Bushe 2008). Expert consultation was used when sources conflicted.

(1) This table originally published in Mangurian, C., Newcomer, J. W., Modlin, C., & Schillinger, D. (2016). Diabetes and cardiovascular care among people with severe mental illness: a literature review. *Journal of general internal medicine*, 31(9), 1083-1091.

Available at:

<https://integration.ucsf.edu/tools-clinicians#3-Table-1-Antipsychotic-Medication-Side-Effects>