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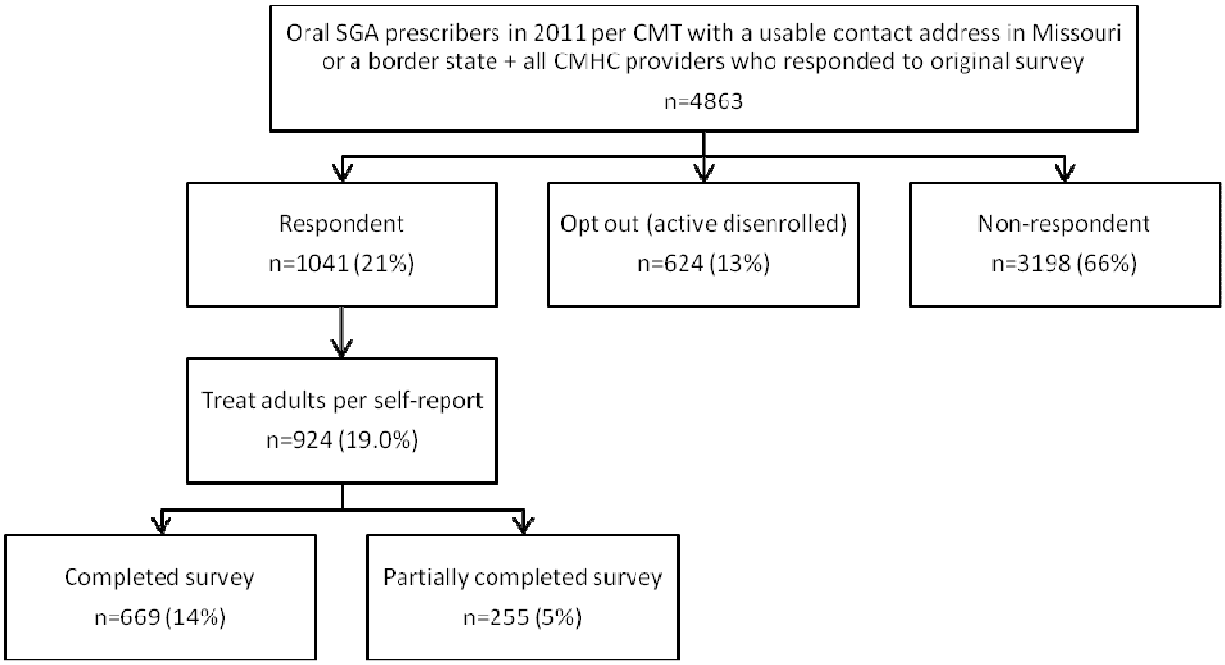
Exhibit A1. Survey disposition



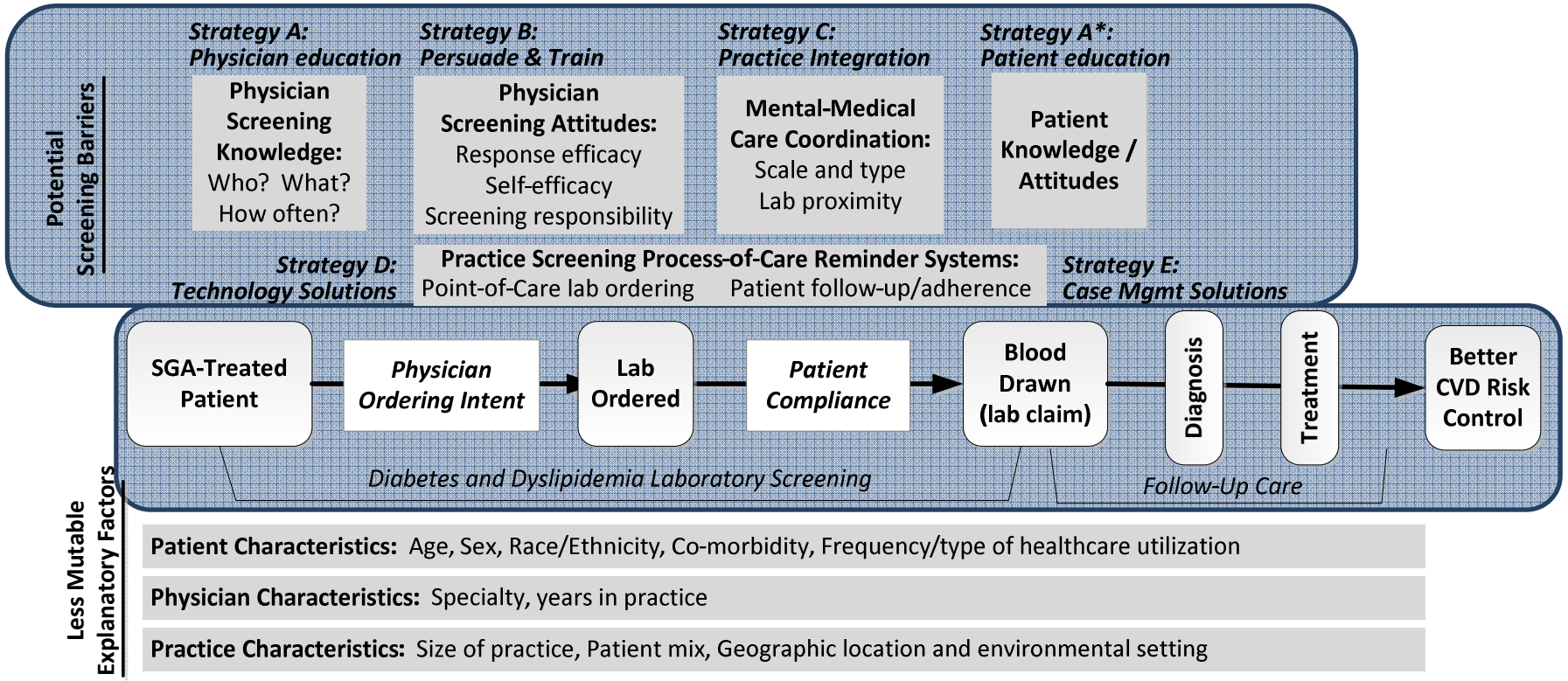
Effective response rate = 25% [1041 Respondents / (1041 Respondents + 3198 Non-Respondents)]

Exhibit A2. Oral second generation antipsychotics

ABILIFY
ABILIFY DISCMELT
CLOZAPINE
CLOZAPINE ODT
CLOZARIL
FANAPT
FAZACLO
GEODON
INVEGA
LATUDA
OLANZAPINE
OLANZAPINE ODT
OLANZAPINE-FLUOXETINE HCL
QUETIAPINE FUMARATE
RISPERDAL
RISPERDAL M-TAB
RISPERIDONE
RISPERIDONE M-TAB
RISPERIDONE ODT
SAPHRIS
SEROQUEL
SEROQUEL XR
SYMBYAX
ZIPRASIDONE HCL
ZYPREXA
ZYPREXA ZYDIS

Exhibit A3. Conceptual framework

Physician, practice, and patient factors affecting metabolic screening and follow-up treatment (with related implementation strategies) are shown in this Figure. This framework was constructed to inform survey question development and multi-level adjusted analyses.



Conceptual framework, continued

Rationale for survey question domains (in support of face validity)

Behavioral Intent

This set of questions ascertains the physician's likelihood for ordering baseline and annual glucose and lipid testing. They represent one of the secondary measures of screening in the research plan. These questions are modeled after purchase-intent questioning used in consumer behavior research. Across a broad range of consumer products, conditions, these measures possess a statistically significant degree of predictive validity.

Baseline evaluation is ascertained in accordance with 2004 clinical recommendations from the American Diabetes Association and the American Psychiatric Association. Annual evaluation is ascertained as a measure of general follow-up. The Missouri Department of Mental Health recommends annual assessment of serum glucose and lipids for all patients with mental disorders.

The behavioral intent and open-ended questions are asked first so that the responses are not biased by the close-ended questions.

References
American Diabetes Association, American Psychiatric Association, American Association of Clinical Endocrinologists, North American Association for the Study of Obesity. Consensus Development Conference on Antipsychotic Drugs and Obesity and Diabetes. *Diabetes Care* 2004; 27(2): 596-601.

Bernard, H. Russell, and Gery W. Ryan. (2010). Analyzing Qualitative Data: Systematic Approaches. Los Angeles, CA: Sage Publications.

Daley MF, Crane LA, Markowitz LE, Black SR, Beaty BL, Barrow BJ, Babbel C, Gottlieb SL, Liddon N, Stokley S, Dickinson LM, Kempe A. Human papillomavirus vaccination practices: a survey of US physicians 18 months after licensure. *Pediatrics*. 2010; 126(3): 425-33.

Manohar U. Kalwani and Alvin J. Silk. On the Reliability and Predictive Validity of Purchase Intention Measures. Informs Institute for Operations Research and the Management Sciences. 1982; 1(3): 243-286. Stable URL: http://www.jstor.org/stable/183929

Knowledge of Monitoring Recommendations

This set of questions ascertains the physician's knowledge of which patient groups require diabetes and dyslipidemia screening. According to the American Diabetes Association and the American Psychiatric Association, all patients receiving second-generation (atypical) antipsychotics should receive glucose and lipid assessments when initiating therapy and then regularly thereafter independent of patient age, underlying diagnosis, and duration and type of medication (e.g., lower vs. higher propensity to induce metabolic disturbances). This set of questions is designed to determine whether physicians believe all patients require glucose and lipid testing or if testing should be triaged or reserved for groups perceived to be at higher risk (e.g., patients with serious mental illness, patients with substantial weight gain).

Reference
American Diabetes Association, American Psychiatric Association, American Association of Clinical Endocrinologists, North American Association for the Study of Obesity. Consensus Development Conference on Antipsychotic Drugs and Obesity and Diabetes. *Diabetes Care* 2004; 27(2): 596-601.

Attitudes: Perceived Response Efficacy

This set of questions ascertains physician response efficacy for performing serum glucose and lipid testing. Response efficacy refers to a person's beliefs as to whether the recommended action step will actually avoid the threat. For example, will glucose screening improve cardiovascular outcomes? Individuals who perceive a greater need for threat avoidance have greater intentions and behaviors to avoid those threats. For example, in one study of family physicians, those who perceived a greater threat to patients from kidney disease demonstrated greater intentions and behaviors to test their patients' level of renal function.

References

Maddux JE, Rogers RW. Protection Motivation and Self-Efficacy: A Revised Theory of Fear Appeals and Attitude Change. Journal of Experimental Social Psychology. 1983; 19:469-479.

Roberto AJ, Goodall CE. Using the Extended Parallel Process Model to Explain Physicians' Decisions to Test Their Patients for Kidney Disease. *Journal of Health Communication*, 2009; 24(4), 400 —412.

Roberto AJ, Goodall CE, West PM, Mahan JD> Persuading Physicians to Test Their Patients' Level of Kidney Functioning: The Effects of Message Frame and Point of View. *Journal of Health Communication* 2010; 25: 2, 107 — 118.

Attitudes: Perceived Screening Responsibility

This set of questions ascertains how the physician perceives his or her responsibility for diabetes and dyslipidemia screening. We know that some psychiatrists believe that it is not their responsibility to manage the general health of their patients; it is the responsibility of the primary care physician. Other psychiatrists believe because they prescribe second generation (atypical) antipsychotics and these drugs induce metabolic abnormalities that they should be responsible for monitoring adverse health effects. We wish to understand how perceptions of screening responsibility relate to screening intent and observed screening rates.

These questions are selected from the reduced item measures from the Role Conflict and Role Ambiguity scale developed by Rizzo, House, and Lirtzman. Role conflict and ambiguity are important intervening variables that mediate the effects of various organizational practices on individuals and organizational outcomes. Because behavioral and physical health delivery are fragmented in the United States, we hypothesize that role conflict and ambiguity surrounding metabolic screening and management of persons with mental disorders may contribute to low screening rates.

References

Fenton, W. S. and M. R. Chavez . Medication-Induced Weight Gain and Dyslipidemia in Patients With Schizophrenia. 2006. *Am J Psychiatry* 163(10): 1697-1704.

Jackson SE, Schuler RS. A Meta-Analysis and Conceptual Critique of Role Conflict and Ambiguity. 1983. *Journal of Applied Psychology.* 68: 320-323.

Rizzo JR, House RJ, Lirtzman SI. Role Conflict and Ambiguity in Complex Organizations. *Administrative Science Quarterly.* 1970; 15: 150-64.

Attitudes: Perceived Self-Efficacy

This set of questions ascertains the physician's confidence in performing diabetes and dyslipidemia screening and diagnosis. According to Albert Bandura self-efficacy is "the belief in one's capabilities to organize and execute the courses of action required to manage prospective situations". Bandura and others have found that an individual's self-efficacy plays a major role in how goals, tasks, and challenges are approached. The concept of self-efficacy has been applied to physician behaviors, too. Knowledge of self-efficacy will permit better message tailoring for implementation interventions.

References

Bandura, A. Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*; 1977. 84, 191-215.

Bandura, A. (1995). *Self-Efficacy in Changing Societies.* Cambridge University Press.

Gerrity MS, Williams JW, Dietrick AJ, Olson AL. Identifying Physicians Likely to Benefit from Depression Education: A Challenge for Health Care Organizations. *Medical Care*. 2001; 39(8); 856-866.

Gramling R, Nash J, Siren K, Eaton C, Culpepper. Family Physician Self-Effi cacy With Screening for Inherited Cancer Risk *Ann Fam Med* 2004;2:130-132. DOI: 10.1370/afm.60.

Coordination of Care

This question asks the provider to classify the level of collaborative care between mental health and general medical care providers existing within their practice. The responses are from the Doherty, McDaniel, Baird Levels of Systemic Collaboration Model. The model describes degree of involvement and sophistication in

collaborative health care involving mental health professionals and other health professionals, particularly medical physicians. Options range from “minimal collaboration” to “close collaboration in a fully integrated system”.

References

Doherty, W. J., McDaniel, S. H., & Baird, M. A. (1996). Five levels of primary care/behavioral healthcare collaboration. Behavioral Healthcare Tomorrow, 25-28.

Attitudes: Perceived Screening Barriers

This set of questions ascertains physician opinions about possible barriers related to metabolic screening of patients with mental illness taking antipsychotic medication. The hypothesized barriers correspond with the conceptual framework discussed in the Specific Aims of the proposed study and previous published research discussing potential barriers.

The open-ended questions on perceived barriers will be coded using qualitative research methods employed during survey piloting. The open-ended question serves as an additional double-check to identify any new themes or constructs affecting screening rates that are not measured via the close-ended questions.

References

Druss, B.G. (2007) Improving Medical Care for Persons with Serious Mental Illness: Challenges and Solutions. *J Clin Psychiatry* 68: 40-44.

Dunbar L, Brandt T, Wheeler A, and Harrison J. (2010) Barriers and Solutions to Implementing Metabolic Risk Assessment in a Secondary Mental Health Service. *Australas Psychiatry* 18: 322-325.

Mental Health America. (2008) Communicating About Health: A Mental Health America Survey of People with Schizophrenia and Providers, Vol. July 22, 2008.

Parks, J.J. (2007) Implementing Practice Guidelines: Lessons from Public Mental Health Settings. *J Clin Psychiatry* 68: 45-48.

Practice Systems

This set of questions will be used to characterize the level of collaborative care and use of electronic reminder recall systems at the physician’s practice. The first question ascertains meaningful use of electronic health record system features, with special attention placed on those items most relevant to promoting diabetes and dyslipidemia screening. The responses are derived from the CMS meaningful use measures.

Reference

Centers for Medicare and Medicaid Services. EHR Incentive Program. Eligible Professional Meaningful Use Table of Contents: Core and Menu Set Measures. https://www.cms.gov/EHRIncentivePrograms/Downloads/EP-MU-TOC.pdf

Physician Characteristics

This set of questions ascertains demographic characteristics that have been associated with the diffusion of medical innovation (e.g., size and type of practice, number of years in practice). We hypothesize that these factors may be associated with the adoption of diabetes and dyslipidemia screening recommendations for adults receiving antipsychotic medications.

Reference

Rogers, E. M. (2003). Diffusion of Innovations. New York, Free Press.

Exhibit A4. Survey methods and instrument

Provider Survey Methods

Wave I: In late 2011-2012, all CMHC providers in the state of Missouri (n=212) were surveyed about their intentions, attitudes, beliefs, and barriers in relation to metabolic screening for patients initiating oral second-generation antipsychotics (SGA) or continuously taking these medications.

Wave II: In 2013 we surveyed all providers who had prescribed an oral SGA to an adult Missouri Medicaid patient during 2011. Providers were originally identified by Care Management Technologies. Subsequently we received Medicaid pharmacy claims data for 2011 and were able to validate which providers had prescribed an oral SGA to an adult Medicaid patient during 2011.

Up to three survey attempts were made to each provider over the initial six week period. Extra contact measures were taken for providers who were validated to have prescribed an oral SGA to an adult Medicaid patient during 2011: attempts to rectify bad addresses were made using data from ProviderPRO (a publically available healthcare provider database), internet searches, and phone calls. A final attempt to reach non-responders was made via fax/phone. The timeline is outlined below.

CMHC providers who responded in Wave I received a one-page follow-up survey with additional questions previously not included in the Wave I survey.

Week(s)	Activity
-1	Mail Preletter
0	Mail Survey #1
1	Mail Postcard
3	Mail Survey #2
5	Mail Survey #3
7-9	Identify all returned mail and attempt to update all addresses
10	Re-Mail Preletter to returned mail group
11	Re-Mail Survey #1 to returned mail group
12	Re-Mail Postcard to returned mail group
17	Re-Mail Survey #2 to returned mail group Send autodialer and fax to non-responders in first group
19	Re-Mail Survey #3 to returned mail group
21	Send autodialer and fax to returned mail group

STATE OF MISSOURI
DEPARTMENT OF MENTAL HEALTH

University of Colorado
Anschutz Medical Campus

Missouri Department of
SOCIAL SERVICES
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In a typical work week, how many outpatient visits do you provide? *Number of visits*: _____
- **Of those, what <u>percent</u> are adults?** _____%

In a typical work week, what <u>percent</u> of your adult patients are taking antipsychotics: _____%
- **Of those, what <u>percent</u> have you personally prescribed?** _____%

I wish to contribute my expertise and clinical knowledge in this important survey.
Please continue to question #1. (*Place an 'X' in the box of the <u>one</u> best answer for each question.)*

☐ **I do not wish to participate in this survey.**
Please check box and mail back in postage-paid envelope or below address to be removed from future mailings.

1. Consider the following scenario for an **ADULT** patient who is/will be receiving antipsychotic medication.

You <u>prescribe a second-generation (atypical) antipsychotic (SGA)</u>. The patient may be newly diagnosed or hasn't taken antipsychotic medication for at least 12 months and is re-starting medication.

How likely would you be to . . .

	Definitely	Probably	Probably Not	Definitely Not	Not Applicable
Order a blood glucose test? (fasting or A1C)	☐	☐	☐	☐	☐
Order a lipids profile?	☐	☐	☐	☐	☐

At the <u>one-year follow-up visit</u>, they are continuing to take their SGA medication. You may or may not have had to switch or augment medications. A year has passed. You are seeing them again for a follow-up visit.

How likely would you be to . . .

	Definitely	Probably	Probably Not	Definitely Not	Not Applicable
Order a blood glucose test? (fasting or A1C)	☐	☐	☐	☐	☐
Order a lipids profile?	☐	☐	☐	☐	☐

Their <u>glucose test reveals that they have an abnormally elevated lab value</u>--for example, greater than 6.9 mmol/L (125 mg/dL) in a fasting glucose test or an A1C of 6.5 percent or higher.

How likely would you be to . . .

	Definitely	Probably	Probably Not	Definitely Not	Not Applicable
Order a confirmatory blood glucose test?	☐	☐	☐	☐	☐
Prescribe anti-diabetic medication?	☐	☐	☐	☐	☐
Refer the patient to a primary care physician?	☐	☐	☐	☐	☐
Record and carefully monitor?	☐	☐	☐	☐	☐

2. How likely are you to **<u>recommend</u>** glucose testing for adults taking antipsychotics **<u>to a colleague</u>**?

Extremely **Neutral** **Not At**

Likely									All Likely
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

3. How strongly do you agree or disagree with the following statements about **roles and responsibility for metabolic screening and management** of your patients taking antipsychotic medication?

	Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly
My practice is responsible for glucose and lipid screening.	☐	☐	☐	☐
I am responsible for diabetes and dyslipidemia management.	☐	☐	☐	☐
I assume patients are getting screening somewhere else.	☐	☐	☐	☐

4. Based on your **understanding of metabolic monitoring recommendations** for **ADULTS** and without looking at other sources of information, please indicate whether you agree or disagree with the following statements.

	Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly	Don't Know
All adults starting SGA drugs should have a baseline glucose and lipid test.	☐	☐	☐	☐	☐
SGA-treated adults without significant weight gain do not require glucose and lipid monitoring.	☐	☐	☐	☐	☐
If I prescribe an antipsychotic with a lower metabolic risk profile, then glucose and lipid monitoring are not as necessary.	☐	☐	☐	☐	☐
Glucose and lipid monitoring are necessary even if I prescribe low-dose antipsychotics for a short duration.	☐	☐	☐	☐	☐
SGA-treated adults without diabetes and cardiovascular risk factors do not require glucose and lipid monitoring.	☐	☐	☐	☐	☐

5. How strongly do you agree or disagree with the following statements about your **expectations concerning metabolic risks** for your **ADULT** patients taking antipsychotic medication?

	Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly
My patients are at high risk for diabetes.	☐	☐	☐	☐
When one of my patients develops diabetes, the chance for effective treatment is high.	☐	☐	☐	☐
My adult patients are at high risk for dyslipidemia.	☐	☐	☐	☐
When one of my patients develops dyslipidemia, the chance for effective treatment is high.	☐	☐	☐	☐
Overall, metabolic monitoring improves cardiovascular outcomes for my patients.	☐	☐	☐	☐

6. How confident are you in **performing the following clinical tasks**?

	Very Confident	Mostly Confident	Somewhat Confident	Not Confident
Ordering blood glucose testing.	☐	☐	☐	☐
Interpreting blood glucose values and diagnosing diabetes.	☐	☐	☐	☐
Ordering lipids testing.	☐	☐	☐	☐

Interpreting lipid values and diagnosing dyslipidemia.	☐	☐	☐	☐
Clinically managing patients who are taking antipsychotics.	☐	☐	☐	☐

7. How strongly do you agree or disagree with the following statements about **possible barriers to your ability to screen and monitor** your patients taking antipsychotic medication for diabetes and dyslipidemia?

	Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly
Patient Factors: Glucose and Lipid Screening				
A. Patients refuse to get lab work done.	☐	☐	☐	☐
B. Patients forget to get lab work.	☐	☐	☐	☐
C. Fasting makes it difficult for my patients to comply.	☐	☐	☐	☐
D. Lab work for patients is cost prohibitive.	☐	☐	☐	☐
E. The added time or needed transportation is inconvenient for patients.	☐	☐	☐	☐
F. Patients do not see screening as a priority.	☐	☐	☐	☐
Clinical Practice Factors: Measuring Glucose and Lipids				
G. I do not have adequate time.	☐	☐	☐	☐
H. I do not have the necessary equipment at my office/clinic.	☐	☐	☐	☐
I. I do not know at point-of-care who needs screening.	☐	☐	☐	☐
J. I do not know which patients are following lab orders.	☐	☐	☐	☐
K. I have difficulty getting the lab results if done elsewhere.	☐	☐	☐	☐
L. Screening adds complexity to my clinical workload.	☐	☐	☐	☐
Other Factors Related to Patients Taking Antipsychotic Medications				
M. Metabolic screening guidelines are unclear.	☐	☐	☐	☐
N. At this time, metabolic screening is not a priority for me or my organization.	☐	☐	☐	☐

8. Mark the **ONE LETTER** corresponding to the above barrier that you believe is the **MOST IMPORTANT BARRIER** to screening.

A	B	C	D	E	F	G	H	I	J	K	L	M	N
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

☐ **Other**, please specify: _____

9. Do you currently use an **Electronic Medical Record (EMR)** or **Electronic Health Record (EHR) system**?

☐ NO (skip to Question 10)

☐ YES, I use my EMR/EHR to …	Agree	Disagree	Don't Know or Not Sure
A. Record and chart changes in patient vitals, including height/weight.	☐	☐	☐
B. Implement a clinical decision support rule relevant to my specialty with the ability to track compliance with that rule.	☐	☐	☐
C. Exchange diagnostic test results with other providers of care.	☐	☐	☐
D. Track clinical lab-test results as structured data	☐	☐	☐
E. Alert me when tests are need	☐	☐	☐
F. Maintain a patient medication allergy list	☐	☐	☐

G. Send patient reminders for follow-up care.	☐	☐	☐
H. E-prescribe	☐	☐	☐

10. Do you currently have the capabilities to draw blood at your practice? ☐ Yes ☐ No

11. Do you obtain glucose or lipid lab values immediately at your practice using point-of-care testing? ☐ Yes ☐ No

12. Please select the <u>one</u> response that best describes the **<u>level of collaboration between mental health and medical health providers</u>** at the setting where you see most of your patients.

☐ Work in <u>separate facilities with separate systems</u>.

☐ Work in separate facilities with separate systems, <u>but engage in periodic communication</u> about shared patients.

☐ Share the same facility, but work in separate systems.

☐ Share the <u>same facility and have some systems in common</u>, such as scheduling or charting/EMR/EHR.

☐ Share the <u>same facility and the same systems</u>.

13. How often do you use the following sources of information **<u>to learn about new medical evidence</u>**?
New evidence can include treatment guidelines, comparative effectiveness data, drug safety and patient risk management recommendations, and new models of health care delivery.

	Never	Occasionally	Frequently
Medical colleagues: in person	☐	☐	☐
Medical colleagues: via social media (e.g., physician discussion boards)	☐	☐	☐

<u>This last set of questions will help us classify survey respondents</u>.

14. Which best describes your area of expertise?

☐ Primary Care (Family Medicine, Internal Medicine) ☐ Advanced Practice Nurse Prescriber

☐ Psychiatry (General, Child and Adolescent) ☐ Physician Assistant

☐ Other clinical specialty/subspecialty area, *please specify* _____

15. In your primary outpatient practice, roughly what percentages of your patients are in the following groups?
(Please approximate; groups may not sum up to 100%)

	0%	1-9%	10-24%	25-49%	50-74%	75-100%
Private Insurance	☐	☐	☐	☐	☐	☐
Medicaid	☐	☐	☐	☐	☐	☐
Uninsured	☐	☐	☐	☐	☐	☐

16. Which of the following <u>best</u> describes your practice?

☐ **Stand-alone practice**

⋯▶ *How many providers are at your practice?* _____

☐ **Part of a multi-site system**

17. What is your gender? ☐ Male ☐ Female

18. In what year were you born? 19 _____

19. How many years have you been in practice? *Number of years*: _____

20. Are you of Hispanic, Latino, or Spanish origin?

☐ Yes (Mexican, Mexican American, Chicano, Cuban, Puerto Rican, or Other) ☐ No

21. What is your race?

☐ American Indian or Alaska Native ☐ Asian ☐ Native Hawaiian or Other Pacific Islander

☐ Black or African American ☐ White ☐ Other, *please specify*_____

***<u>Thank you for your input</u>*.**

If you would like the results of the survey, please provide an email address: _____

Please mail the survey back to us in the postage-paid envelope or to:
Elaine Morrato
University of Colorado Denver / Mail Stop F443
13199 E. Montview Blvd, Suite 300 Aurora, CO 80045

Exhibit A5. Characteristics of survey population by response status

	Survey population (N=4863)		Respondents who treat adults (N=924)		All others (N=3939)				
	N or median	% or interquartile range	N or median	% or interquartile range	N or median	% or interquartile range	test statistic	df	p
Provider									
Specialty-Setting[a]							531.78	3	<.001
Behavioral health (CMHC)	193	4	156	17	37	1			
Behavioral health (non-CMHC)	506	10	103	11	403	10			
Primary care	2,418	50	451	49	1,967	50			
Other	1,746	36	214	23	1,532	39			
Birth cohort[b]							3.75	3	.290
'G.I./silent generation' (1901-1945)	351	7	78	8	273	7			
'Baby boomers' (1946-1964)	1,900	39	370	40	1,530	39			
'Generation X' (1965-1985)	1,316	27	237	26	1,079	27			
Missing	1,296	27	239	26	1,057	27			
Gender[b]							9.74	2	.008
Female	1,234	25	252	27	982	25			
Male	2,859	59	556	60	2,303	59			
Missing	770	16	116	13	654	17			
Title[b]							33.78	3	<.001
MD	3,216	66	591	64	2,625	67			
DO	712	15	165	18	547	14			
Other	160	3	51	6	109	3			
Missing	775	16	117	13	658	17			
State[a,b]							.02	2	.991
MO	4,248	87	806	87	3,442	87			
KS	288	6	55	6	233	6			
Other border state	327	7	63	7	264	7			
Urban setting[a-c]	3,363	69	601	65	2,762	70	9.37	1	.002
Practice									
Office size[b]	4	2-14	4	1-10	4	2-15	12.86	1	<.001
Number of employees[b]	13	6-53	13	3-40	16	6-54	13.05	1	<.001
Prescribing Trends[d]									
Oral SGA prescriber for a Medicaid patient in CY2011, %	4,824	99	893	97	3,931	100	93.46	1	<.001
Oral SGA prescriber for an adult Medicaid patient in CY2011, %	4,072	84	799	87	3,273	83	6.28	1	.012
Count of adult Medicaid patients with an oral SGA prescription in 2011	2	1-7	3.5	1-17	1	1-5	119.35	1	<.001
Count of oral SGA prescriptions for adults on Medicaid in 2011	5	1-35	15	2-80	4	1-23	114.93	1	<.001
…per unique patients	2.5	1-5	3.8	1-6	2	1-5	67.83	1	<.001

SOURCE: Author's analysis of data from Care Management Technologies (CMT), ProviderPRO healthcare provider database, and 2011 Missouri Medicaid claims data.

NOTES: The column 'All Others' include non-respondents (n=3198), those who actively disenrolled (n=624), and respondents that did not indicate they treat adults (n=117). Urban setting excludes five observations with missing values. Percentages within categories may not add to 100% due to rounding. Test statistics, degrees of freedom (df), and p-values (p) are from Pearson's chi-square test of association (categorical variables) or the Kruskal-Wallis test (continuous variables) comparing characteristics between respondents who treat adults and all others.

SGA = second-generation antipsychotic.

[a] Data from CMT.

[b] Data from ProviderPRO.

[c] Urban setting is determined by the mailing zip code (from CMT and ProviderPRO) and the zip code level Rural-Urban Commuting Area Codes.

[d] Data from Medicaid claims data.

Exhibit A6. Provider survey respondents: metabolic screening intent, barriers, attitudes, and capabilities

	Total (N=924)		Provider specialty: CMHC (N=156)		Psychiatry non-CMHC (N=136)		Primary Care (N=499)		Other (N=133)	
	N	%	N	%	N	%	N	%	N	%
Intent										
Order confirmatory glucose test (if elevated)?	389	46	46	46	37	29*	273	56	33	25**
When glucose level is elevated, I…										
Prescribe anti-diabetic medication?	105	13	1	1	1	1	96	20***	7	6
Refer the patient to a primary care physician?										
Definitely	261	61	88	56	101	74	NA		72	54***
Other Response	106	25	15	10	32	24	NA		59	44***
Missing	58	14	53	34	3	2	NA		2	2***
Record and carefully monitor?	590	69	78	78	103	79	353	72	56	43***
Barriers										
Patient										
Patients refuse lab work.	130	14	16	11	34	26**	66	13	14	11
Lab work is cost prohibitive for patients.	94	11	8	8	20	15	55	11	11	9
Practice										
I do not have adequate time.	35	4	14	9	6	5	9	2***	6	5
I do not know who needs screening.	28	3	8	5	9	7	3	1***	8	7
I do not know which patients follow lab orders.	40	4	19	12	5	4*	9	2***	7	6
System										
Metabolic screening guidelines are unclear.	34	4	4	3	6	5	15	3	9	7
Attitudes										
Responsibility										
I am responsible for diabetes management.	481	53	19	12	6	5	431	87***	25	20
Patients are getting screening elsewhere.	57	7	4	4	10	8	12	2	31	25***
Knowledge										
Some patients do not require monitoring:										
Patients without significant weight gain.	17	2	1	1	4	3	8	2	4	3
If I prescribe an SGA with lower risk.	12	1	1	1	6	4	4	1	1	1
If I prescribe low-dose SGAs for a short duration.	246	27	68	45	46	34	109	22***	23	18***
Patients without risk factors.	15	2	3	2	3	2	4	1	5	4
Response efficacy										
The chance for effective treatment is high.	344	38	20	13	38	28**	254	51***	32	26*
Overall, metabolic monitoring improves the cardiovascular outcomes for my patients.	560	63	98	65	81	62	322	66	59	48*
Self-efficacy										
I am confident ordering testing.	831	91	137	90	113	84	482	97***	99	78*
I am confident managing SGA patients.	490	54	126	81	92	69*	242	49***	30	24***
Capabilities										
I can draw blood at my practice.	615	71	54	51	38	28***	437	88***	86	68*
I can get immediate lab values with point of care tests.	388	45	53	52	22	16***	267	54	46	37

SOURCE: Author's analysis of data from the provider survey.

NOTES: Reported values are given as column-% (n) of providers who responded "definitely", "strongly agree", "very confident", or "yes". Other responses include "probably", "probably not", "definitely not", "not applicable", "agree somewhat", "disagree somewhat", etc. Missing/skipped values have been excluded when < 10% for all specialties combined. Percentages within categories may not add to 100% due to rounding. Significance denotes differences between CMHC and each specialty tested by Pearson's chi-square test of association and adjusted for multiple comparisons with the Bonferroni method. * p<.05, ** p<.01, *** p<.001.

CMHC = Community Mental Health Center; NA = Not Applicable; SGA = second-generation antipsychotic.

Exhibit A7. Characteristics of the primary provider survey respondent cohort and those with complete data for modeling

	Primary cohort (N=924)		Model cohort (N=669)				
	N	%	N	%	χ^2	df	p
Provider							
Specialty-Setting					83.35	3	<.001
Behavioral health (CMHC)	156	17	69	10			
Behavioral health (non-CMHC)	133	14	90	13			
Primary care	499	54	401	60			
Other	136	15	109	16			
Year of birth					15.03	2	<.001
G.I./silent generation (1901-1945)	95	10	55	8			
Baby boomers (1946-1964)	480	52	343	51			
Generation X (1965-1985)	349	38	271	41			
Female	320	35	234	35	.13	1	.721
Race: White	670	79	546	82	12.97	1	<.001
Practice							
Practice type: stand-alone	332	40	268	40	.22	1	.642
Shared mental health and medical health facilities	217	24	159	24	.05	1	.827
Use of an electronic medical/health record system	654	74	510	76	6.27	1	.012
Patient population on Medicaid					3.43	3	.33
< 10%	205	25	165	25			
10-24%	193	23	152	23			
25-49%	216	26	182	27			
50-100%	219	26	170	25			
State: Missouri	806	87	574	86	4.45	1	.035
Urban setting	601	65	418	62	7.00	1	.008
Prescribing trends							
Percent of adult patients taking antipsychotics in a typical week					1.90	1	.168
0-49	697	83	547	82			
50-100	146	17	122	18			
Percent provider has personally prescribed					10.02	2	.007
None	145	17	103	15			
Jan-49	406	49	326	49			
50-100	286	34	240	36			
Oral SGA prescriptions per unique adult patients on Medicaid in 2011					1.55	3	.671
0-1	232	25	171	26			
1.1-3.9	236	26	170	25			
4-5.9	208	23	155	23			
6 or more	248	27	173	26			
Intent (response = definitely)							
Order baseline glucose test?	372	41	260	39	3.67	1	.055
Order glucose test at annual visit?	539	59	393	59	.13	1	.716
Barriers							
Patient Agree strongly…							
Patients forget to get lab work done.	213	24	159	24	.01	1	.904
Patients do not see screening as a priority.	154	18	123	18	.15	1	.697
Fasting makes it difficult for patients to comply.	93	10	62	9	3.12	1	.077
The time or transportation is inconvenient.	85	10	63	9	1.46	1	.226
Practice							
Agree strongly…							
I do not have the necessary equipment.	144	16	95	14	6.56	1	.010
I have difficulty getting the lab results.	110	12	84	13	.29	1	.589
Disagree strongly…							
Screening adds complexity to my workload.	339	38	258	39	1.15	1	.283
System Disagree strongly…							

	Primary cohort (N=924)		Model cohort (N=669)				
	N	%	N	%	χ^2	df	p
Metabolic screening is not a priority for my organization.	494	58	396	59	.84	1	.359
Attitudes (response =agree strongly or very confident)							
Advocacy							
Promoters[a]	449	52	350	52	.03	1	.854
Responsibility							
My practice is responsible for screening.	630	69	481	72	8.44	1	.004
Knowledge							
All adults starting SGAs should be screened.	515	57	372	56	.88	1	.349
Response efficacy							
My patients are at high risk for diabetes.	369	41	284	42	2.27	1	.132
Self-efficacy							
I am confident interpreting blood glucose values and diagnosing diabetes.	732	80	555	83	11.52	1	<.001

SOURCE: Author's analysis of data from Care Management Technologies (CMT), Missouri Medicaid claims data, and the provider survey.
NOTES: Missing/skipped values have been excluded when < 10%. Percentages within categories may not add to 100% due to rounding. Test statistics, degrees of freedom (df), and p-values (p) are from Pearson's chi-square test of association comparing characteristics between primary cohort providers included and excluded from the model cohort. CMHC = Community Mental Health Center; SGA = second-generation antipsychotic.

Exhibit A8. Unadjusted and adjusted relative risk of knowledge related to metabolic screening

Outcome = Knowledge: all adults starting SGA drugs should have a baseline glucose and lipid test. (agree strongly)

	Unadjusted		Adjusted	
	Response rate	**CI**	**Response rate**	**CI**
Provider				
Specialty-Setting				
Behavioral health (CMHC)	Reference		Reference	
Behavioral health (non-CMHC)	.71	(.59-.85)	.62	(.40-.92)
Primary care	.62	(.54-.71)	.58	(.47-.74)
Other	.45	(.34-.60)	.35	(.20-.59)
Year of birth				
G.I./silent generation (1901-1945)	1.00	(.77-1.30)	1.06	(.91-1.23)
Baby boomers (1946-1964)	1.04	(.90-1.19)	.88	(.63-1.15)
Generation X (1965-1985)	Reference		Reference	
Female	1.10	(.96-1.26)	1.06	(.92-1.21)
Race: White versus other	.74	(.64-.85)	.78	(.67-.92)
Practice				
Practice type: stand-alone versus multi-site	.86	(.75-1.00)	.92	(.79-1.07)
Shared mental health and medical health facilities versus separate	1.02	(.88-1.20)	1.06	(.89-1.24)
Use of an electronic medical/health record system: yes versus no	.92	(.79-1.07)	.99	(.83-1.18)
Patient population on Medicaid				
< 10%	Reference		Reference	
10-24%	.84	(.68-1.04)	.85	(.68-1.04)
25-49%	.95	(.78-1.14)	.88	(.72-1.06)
50-100%	1.10	(.93-1.32)	.94	(.72-1.18)
State: Missouri versus bordering state	1.23	(.98-1.55)	1.12	(.91-1.46)
Urban setting	1.07	(.92-1.23)	1.01	(.87-1.15)
Prescribing trends				
Percent of adult patients taking antipsychotics in a typical week				
0-49	Reference		Reference	
50-100	1.29	(1.11-1.49)	.98	(.76-1.25)
Percent provider has personally prescribed				
None	Reference		Reference	
1-49	1.40	(1.09-1.79)	1.27	(1.02-1.56)
50-100	1.39	(1.08-1.79)	1.07	(1.02-1.56)
Oral SGA prescriptions per unique adult patients on Medicaid in 2011				
0-1	Reference		Reference	
1.1-3.9	1.02	(.82-1.26)	1.02	(.85-1.21)
4-5.9	1.27	(1.05-1.54)	1.21	(1.00-1.42)
6 or more	1.20	(.99-1.45)	1.09	(.91-1.29)

SOURCE: Author's analysis of data from the provider survey, ProviderPRO healthcare provider database, and 2011 Missouri Medicaid claims data.
NOTES: Reported results are relative risk (95% confidence intervals). Multivariable log-binomial regression was used to model each outcome with the primary predictor of provider specialty. Adjusted relative risk results control for all variables presented in the table. Available sample size for the modeling was 669. CMHC = Community Mental Health Center; SGA = second-generation antipsychotic.

Exhibit A9. Unadjusted and adjusted relative risk of responsibility related to metabolic screening

Outcome = Responsibility: my practice is responsible for glucose and lipid screening for patients taking antipsychotic medication. (agree strongly)

	Unadjusted		Adjusted	
	Response rate	**CI**	**Response rate**	**CI**
Provider				
Specialty-Setting				
Behavioral health (CMHC)	Reference		Reference	
Behavioral health (non-CMHC)	.95	(.77-1.17)	.99	(.80-1.14)
Primary care	1.22	(1.03-1.43)	1.36	(1.09-1.82)
Other	.35	(.24-.52)	.57	(.32-.84)
Year of birth				
G.I./silent generation (1901-1945)	.97	(.80-1.19)	1.13	(1.03-1.23)
Baby boomers (1946-1964)	1.09	(.98-1.20)	1.01	(.86-1.16)
Generation X (1965-1985)	Reference		Reference	
Female	1.09	(.99-1.20)	1.09	(.99-1.20)
Race: White versus other	1.03	(.91-1.17)	.97	(.88-1.09)
Practice				
Practice type: stand-alone versus multi-site	1.00	(.91-1.10)	1.00	(.91-1.10)
Shared mental health and medical health facilities versus separate	.98	(.88-1.10)	1.09	(.99-1.20)
Use of an electronic medical/health record system: yes versus no	1.09	(.97-1.23)	1.07	(.96-1.21)
Patient population on Medicaid				
< 10%	Reference		Reference	
10-24%	1.00	(.88-1.15)	1.00	(.87-1.12)
25-49%	.99	(.87-1.13)	.98	(.85-1.09)
50-100%	1.00	(.87-1.14)	1.05	(.88-1.17)
State: Missouri versus bordering state	1.12	(.96-1.31)	.95	(.84-1.10)
Urban setting	.84	(.76-092)	.91	(.84-1.00)
Prescribing trends				
Percent of adult patients taking antipsychotics in a typical week				
0-49	Reference		Reference	
50-100	.98	(.86-1.11)	1.00	(.85-1.15)
Percent provider has personally prescribed				
None	Reference		Reference	
1-49	1.43	(1.18-1.73)	1.12	(.97-1.28)
50-100	1.38	(1.14-1.68)	1.19	(1.03-1.38)
Oral SGA prescriptions per unique adult patients on Medicaid in 2011				
0-1	Reference		Reference	
1.1-3.9	1.24	(1.07-1.44)	1.09	(.96-1.20)
4-5.9	1.33	(1.15-1.54)	1.13	(1.01-1.25)
6 or more	1.22	(1.05-1.42)	1.07	(.94-1.19)

SOURCE: Author's analysis of data from the provider survey, ProviderPRO healthcare provider database, and 2011 Missouri Medicaid claims data.
NOTES: Reported results are relative risk (95% confidence intervals). Multivariable log-binomial regression was used to model each outcome with the primary predictor of provider specialty. Adjusted relative risk results control for all variables presented in the table. Available sample size for the modeling was 669. CMHC = Community Mental Health Center; SGA = second-generation antipsychotic.

Exhibit A10. Unadjusted and adjusted relative risk of response efficacy related to metabolic screening

Outcome = Response efficacy: my patients are at high risk for diabetes. (agree strongly)

	Unadjusted		Adjusted	
	Response rate	**CI**	**Response rate**	**CI**
Provider				
Specialty-Setting				
Behavioral health (CMHC)	Reference		Reference	
Behavioral health (non-CMHC)	.76	(.57-1.01)	.75	(.47-1.14)
Primary care	.70	(.56-.87)	.72	(.52-1.05)
Other	.52	(.36-.75)	.51	(.28-.87)
Year of birth				
G.I./silent generation (1901-1945)	.82	(.58-1.16)	1.08	(.89-1.29)
Baby Boomers (1946-1964)	.78	(.65-.93)	.75	(.46-1.09)
Generation X (1965-1985)	Reference		Reference	
Female	1.16	(.97-1.38)	.79	(.64-.95)
Race: White versus other	.74	(.61-.90)	.79	(.65-1.00)
Practice				
Practice type: stand-alone versus multi-site	.84	(.70-1.01)	.91	(.73-1.10)
Shared mental health and medical health facilities versus	1.01	(.82-1.24)	1.05	(.82-1.29)
Use of an electronic medical/health record system: yes	1.07	(.87-1.33)	1.12	(.91-1.44)
Patient population on Medicaid				
< 10%	Reference		Reference	
10-24%	.80	(.61-1.06)	.75	(.55-.98)
25-49%	.89	(.70-1.15)	.78	(.57-1.01)
50-100%	1.19	(.95-1.49)	.96	(.71-1.31)
State: Missouri versus bordering state	.98	(.76-1.26)	.81	(.65-1.08)
Urban setting	.95	(.79-1.14)	.91	(.75-1.11)
Prescribing trends				
Percent of adult patients taking antipsychotics in a				
0-49	Reference		Reference	
50-100	1.28	(1.05-1.56)	1.05	(.76-1.38)
Percent provider has personally prescribed				
None	Reference		Reference	
1-49	1.20	(.90-1.59)	1.06	(.82-1.40)
50-100	1.24	(.92-1.67)	.98	(.71-1.32)
Oral SGA prescriptions per unique adult patients on				
0-1	Reference		Reference	
1.1-3.9	1.14	(.87-1.49)	1.14	(.88-1.43)
4-5.9	1.39	(1.08-1.80)	1.39	(1.09-1.72)
6 or more	1.25	(.96-1.62)	1.25	(.96-1.55)

SOURCE: Author's analysis of data from the provider survey, ProviderPRO healthcare provider database, and 2011 Missouri Medicaid claims data.
NOTES: Reported results are relative risk (95% confidence intervals). Multivariable log-binomial regression was used to model each outcome with the primary predictor of provider specialty. Adjusted relative risk results control for all variables presented in the table. Available sample size for the modeling was 669. CMHC = Community Mental Health Center; SGA = second-generation antipsychotic.

Exhibit A11. Unadjusted and adjusted relative risk of self-efficacy related to metabolic screening

Outcome = Self-efficacy: interpreting blood glucose values and diagnosing diabetes. (very confident)

	Unadjusted		Adjusted	
	Response rate	**CI**	**Response rate**	**CI**
Provider				
Specialty-Setting				
Behavioral health (CMHC)	Reference		Reference	
Behavioral health (non-CMHC)	.99	(.78-1.25)	.99	(.87-1.09)
Primary care	1.55	(1.29-1.87)	1.46	(1.25-1.79)
Other	1.02	(.80-1.29)	1.02	(.89-1.14)
Year of birth				
G.I./silent generation (1901-1945)	.99	(.86-1.13)	.98	(.91-1.05)
Baby boomers (1946-1964)	1.01	(.94-1.08)	1.05	(.94-1.15)
Generation X (1965-1985)	Reference		Reference	
Female	.93	(.86-1.00)	1.00	(.94-1.07)
Race: White versus other	.97	(.89-1.05)	.91	(.85-.99)
Practice				
Practice type: stand-alone versus multi-site	1.04	(.97-1.12)	.99	(.92-1.06)
Shared mental health and medical health facilities versus separate	.99	(.91-1.08)	1.07	(.98-1.14)
Use of an electronic medical/health record system: yes versus no	1.08	(.99-1.19)	.99	(.93-1.07)
Patient Population on Medicaid				
< 10%	Reference		Reference	
10-24%	1.02	(.94-1.11)	1.01	(.90-1.11)
25-49%	.96	(.88-1.05)	.97	(.87-1.07)
50-100%	.86	(.77-.95)	.96	(.86-1.08)
State: Missouri versus bordering state	1.21	(1.05-1.38)	.99	(.91-1.09)
Urban setting	.87	(.82-.93)	.94	(.88-1.01)
Prescribing trends				
Percent of adult patients taking antipsychotics in a typical week				
0-49	Reference		Reference	
50-100	.74	(.65-.85)	.99	(.89-1.08)
Percent provider has personally prescribed				
None	Reference		Reference	
1-49	1.20	(1.08-1.35)	1.15	(1.03-1.26)
50-100	.95	(.83-1.08)	1.07	(.96-1.18)
Oral SGA prescriptions per unique adult patients on Medicaid in 2011				
0-1	Reference		Reference	
1.1-3.9	1.18	(1.06-1.31)	1.06	(.97-1.14)
4-5.9	1.20	(1.08-1.33)	1.05	(.96-1.14)
6 or more	1.13	(1.01-1.26)	1.04	(.96-1.12)

SOURCE: Author's analysis of data from the provider survey, ProviderPRO healthcare provider database, and 2011 Missouri Medicaid claims data.
NOTES: Reported results are relative risk (95% confidence intervals). Multivariable log-binomial regression was used to model each outcome with the primary predictor of provider specialty. Adjusted relative risk results control for all variables presented in the table. Available sample size for the modeling was 669. CMHC = Community Mental Health Center; SGA = second-generation antipsychotic.

Exhibit A12. Unadjusted and adjusted relative risk of advocacy related to metabolic screening

Outcome = Advocacy: how likely are you to recommend glucose testing for adults taking antipsychotics to a colleague? (promoter)

	Unadjusted		Adjusted	
	Response rate	**CI**	**Response rate**	**CI**
Provider				
Specialty-Setting				
Behavioral health (CMHC)	Reference		Reference	
Behavioral health (non-CMHC)	.89	(.72-1.08)	.92	(.61-1.31)
Primary care	.68	(.57-.81)	.73	(.54-.97)
Other	.49	(.36-.67)	.52	(.29-.84)
Year of birth				
G.I./silent generation (1901-1945)	1.01	(.76-1.32)	1.09	(.93-1.26)
Baby boomers (1946-1964)	1.00	(.86-1.16)	.85	(.58-1.15)
Generation X (1965-1985)	Reference		Reference	
Female	1.15	(1.00-1.33)	1.01	(.86-1.16)
Race: White versus other	.83	(.70-.97)	.88	(.74-1.07)
Practice				
Practice type: stand-alone versus multi-site	.95	(.82-1.10)	.99	(.85-1.15)
Shared mental health and medical health facilities versus separate	1.04	(.89-1.23)	1.07	(.89-1.26)
Use of an electronic medical/health record system: yes versus no	.89	(.76-1.04)	.95	(.80-1.14)
Patient population on Medicaid				
< 10%	Reference		Reference	
10-24%	1.07	(.86-1.33)	1.09	(.89-1.34)
25-49%	.97	(.78-1.21)	.95	(.76-1.17)
50-100%	1.22	(1.00-1.49)	1.08	(.86-1.37)
State: Missouri versus bordering state	1.04	(.84-1.29)	1.02	(.82-1.33)
Urban setting	1.15	(.99-1.34)	1.12	(.94-1.32)
Prescribing trends				
Percent of adult patients taking antipsychotics in a typical week				
0-49	Reference		Reference	
50-100	1.33	(1.14-1.55)	1.10	(.83-1.37)
Percent provider has personally prescribed				
None	Reference		Reference	
1-49	1.54	(1.17-2.03)	1.33	(1.08-1.67)
50-100	1.54	(1.16-2.04)	1.12	(.86-1.44)
Oral SGA prescriptions per unique adult patients on Medicaid in 2011				
0-1	Reference		Reference	
1.1-3.9	1.11	(.89-1.38)	1.12	(.91-1.34)
4-5.9	1.19	(.95-1.48)	1.15	(.93-1.38)
6 or more	1.29	(1.05-1.59)	1.20	(.98-1.44)

SOURCE: Author's analysis of data from the provider survey, ProviderPRO healthcare provider database, and 2011 Missouri Medicaid claims data.
NOTES: Reported results are relative risk (95% confidence intervals). Multivariable log-binomial regression was used to model each outcome with the primary predictor of provider specialty. Adjusted relative risk results control for all variables presented in the table. Available sample size for the modeling was 669. CMHC = Community Mental Health Center; SGA = second-generation antipsychotic.

Exhibit A13. Unadjusted and adjusted relative risk of practice barriers related to metabolic screening

Outcome = Practice Barriers: I do not have the necessary equipment at my office/clinic. (agree strongly)

	Unadjusted		Adjusted	
	Response rate	**CI**	**Response rate**	**CI**
Provider				
Specialty-Setting				
Behavioral health (CMHC)	Reference		Reference	
Behavioral health (non-CMHC)	1.00	(.71-1.43)	1.02	(.61-1.96)
Primary care	.06	(.03-.12)	.05	(.02-.15)
Other	.26	(.14-.50)	.23	(.07-.59)
Year of birth				
G.I./silent generation (1901-1945)	2.70	(1.61-4.53)	.91	(.62-1.32)
Baby boomers (1946-1964)	1.20	(.78-1.83)	1.34	(.77-2.25)
Generation X (1965-1985)	Reference		Reference	
Female	1.13	(.77-1.66)	1.11	(.79-1.61)
Race: White versus other	.42	(.29-.62)	.65	(.45-.95)
Practice				
Practice type: stand-alone versus multi-site	1.29	(.89-1.87)	1.45	(.98-2.21)
Shared mental health and medical health facilities versus separate	.29	(.15-.60)	.28	(.10-.52)
Use of an electronic medical/health record system: yes versus no	.43	(.30-.62)	.92	(.67-1.30)
Patient population on Medicaid				
< 10%	Reference		Reference	
10-24%	1.09	(.59-2.01)	1.42	(.87-2.14)
25-49%	1.36	(.78-2.38)	1.49	(.97-2.32)
50-100%	1.73	(1.01-2.95)	.89	(.51-1.56)
State: Missouri versus bordering state	.55	(.36-.84)	1.04	(.69-1.78)
Urban setting	1.78	(1.15-2.75)	1.04	(.72-1.55)
Prescribing trends				
Percent of adult patients taking antipsychotics in a typical week				
0-49	Reference		Reference	
50-100	3.26	(2.28-4.66)	1.10	(.70-1.67)
Percent provider has personally prescribed				
None	Reference		Reference	
1-49	.73	(.36-1.48)	.67	(.34-1.26)
50-100	2.66	(1.42-4.98)	.74	(.46-1.51)
Oral SGA prescriptions per unique adult patients on Medicaid in 2011				
0-1	Reference		Reference	
1.1-3.9	.66	(.38-1.13)	.99	(.56-1.54)
4-5.9	.68	(.40-1.18)	.82	(.48-1.24)
6 or more	.99	(.62-1.58)	.75	(.45-1.21)

SOURCE: Author's analysis of data from the provider survey, ProviderPRO healthcare provider database, and 2011 Missouri Medicaid claims data.
NOTES: Reported results are relative risk (95% confidence intervals). Multivariable log-binomial regression was used to model each outcome with the primary predictor of provider specialty. Adjusted relative risk results control for all variables presented in the table. Available sample size for the modeling was 669.
CMHC = Community Mental Health Center; SGA = second-generation antipsychotic.

Exhibit A14. Unadjusted and adjusted relative risk of system barriers related to metabolic screening

Outcome = System Barriers: at this time, metabolic screening is not a priority for me or my organization. (disagree strongly)

	Unadjusted		Adjusted	
	Response rate	**CI**	**Response rate**	**CI**
Provider				
Specialty-Setting				
Behavioral health (CMHC)	Reference		Reference	
Behavioral health (non-CMHC)	.66	(.56-.79)	.49	(.31-.74)
Primary care	.69	(.61-.77)	.67	(.55-.85)
Other	.35	(.26-.48)	.24	(.13-.42)
Year of birth				
G.I./silent generation (1901-1945)	1.03	(.81-1.31)	1.27	(1.11-1.44)
Baby boomers (1946-1964)	1.03	(.90-1.17)	1.00	(.76-1.24)
Generation X (1965-1985)	Reference		Reference	
Female	1.29	(1.14-1.45)	1.04	(.91-1.19)
Race: White versus other	.92	(.79-1.07)	.95	(.80-1.16)
Practice				
Practice type: stand-alone versus multi-site	.91	(.80-1.04)	.97	(.85-1.11)
Shared mental health and medical health facilities versus	.93	(.80-1.09)	1.00	(.85-1.17)
Use of an electronic medical/health record system: yes	.96	(.83-1.11)	1.02	(.87-1.24)
Patient population on Medicaid				
< 10%	Reference		Reference	
10-24%	1.03	(.85-1.24)	1.03	(.86-1.22)
25-49%	.97	(.81-1.17)	.91	(.75-1.08)
50-100%	1.16	(.97-1.37)	1.00	(.78-1.22)
State: Missouri versus bordering state	1.05	(.87-1.26)	.92	(.78-1.11)
Urban setting	1.00	(.87-1.13)	1.00	(.88-1.14)
Prescribing trends				
Percent of adult patients taking antipsychotics in a				
0-49	Reference		Reference	
50-100	1.30	(1.14-1.48)	1.04	(.82-1.27)
Percent provider has personally prescribed				
None	Reference		Reference	
1-49	1.33	(1.06-1.68)	1.10	(.92, 1.33)
50-100	1.46	(1.15,-1.84)	1.11	(.88-1.34)
Oral SGA prescriptions per unique adult patients on				
0-1	Reference		Reference	
1.1-3.9	1.08	(.90-1.31)	1.04	(.87-1.22)
4-5.9	1.15	(.96-1.39)	1.08	(.90-1.27)
6 or more	1.17	(.98-1.40)	1.07	(.87-1.24)

SOURCE: Author's analysis of data from the provider survey, ProviderPRO healthcare provider database, and 2011 Missouri Medicaid claims data.
NOTES: Reported results are relative risk (95% confidence intervals). Multivariable log-binomial regression was used to model each outcome with the primary predictor of provider specialty. Adjusted relative risk results control for all variables presented in the table. Available sample size for the modeling was 669.
CMHC = Community Mental Health Center; SGA = second-generation antipsychotic.