

**Supplemental Table 1. Comparison of constructs between the surveys of HIV physicians and people living with HIV in Germany, Italy, UK, and France, 2019**

Indicator	Survey of HIV physicians	Survey of People Living with HIV
Medical conditions	<p><b>“The conditions below have been identified by HCPs as ones presenting challenges for daily oral ART intake. Based on your experience and knowledge, overall, approximately what percentage of <u>HIV patients</u> are diagnosed with the following conditions?” _____%</b></p>	
	<p><b>Malabsorption</b> “Malabsorption (inability to achieve adequate drug levels via oral route, e.g. due to opportunistic infections, disseminated MAC, inflammatory bowel disease, recurrent clostridium difficile colitis, cryptosporidiosis, abdominal fistula, abdominal resection, gastric by-pass or other post-surgical malabsorption issues)”</p>	<p><b>Malabsorption</b> “Have you been diagnosed by a doctor or other healthcare provider with any of the following medical conditions? ...” “Disseminated disease caused by MAC (mycobacterium avium complex)”, “Chronic Diarrhea (e.g. inflammatory bowel disease, recurrent clostridium difficile colitis, cryptosporidiosis)”, “Abnormal opening in your digestive tract that causes gastric fluids to leak (gastrointestinal fistula or GIF)”, “Removal of parts of the gastrointestinal system for instance after cancer (e.g. abdominal resection) or other gastrointestinal surgeries such as gastric bypass”; “Other reasons which might prevent oral drugs to pass through your gastrointestinal system into your blood stream”</p>
	<p><b>Interfering gastro-intestinal conditions</b> “Gastro-intestinal issues interfering with oral administration (Gastro-esophageal reflux disease [GERD], other disease of esophagus)”</p>	<p><b>Interfering gastro-intestinal conditions</b> “Have you been diagnosed by a doctor or other healthcare provider with any of the following medical conditions? ...” “Gastroesophageal reflux disease (GERD)”, “Diseases of food pipe”; “Ulcer”.</p>
	<p><b>Dysphagia</b> “Difficulty to swallow (e.g. phobia or pill aversion, esophagitis, mechanical obstruction, excluding CNS disorders)”</p>	<p><b>Dysphagia</b> “Please use the scale below to indicate how difficult you find swallowing pills for any reason (i.e., physical/mechanical, psychological/phobia/pill aversion or medical/infections), where 1 means ‘No difficulty to swallow pills’ and 5 means ‘High levels of difficulty to swallow pills’”  ① “No difficulty to swallow pills” ② ③ ④ ⑤  “High levels of difficulty to swallow pills”</p>
	<p><b>CNS disorders</b> “CNS disorders (e.g. Parkinson. Alzheimer), mental health issues (e.g. depression, anxiety, dementia, schizophrenia), behavioral/ mood or emotional disorder due or not to recreational drug use”</p>	<p><b>CNS disorders</b> “Have you been diagnosed by a doctor or other healthcare provider with any of the following medical conditions? ...” “Parkinson’s disease”, “Alzheimer’s disease”, “Depression”, “Anxiety”,</p>

		“Dementia”, “Schizophrenia”, “Behavioral and/or emotional disorders”, “Disorders due to recreational drug use (e.g. crystal meth, mephedrone)”, “Other mood disorders”, or “HIV Associated Neurocognitive Disorder (HAND)”
<b>Drug-drug interactions</b>	“In <u>your</u> experience, what percentage (%) of HIV patients did you have to change ART, or have additional monitoring, or change the time of intake due to potential drug-drug or drug-food interactions? (e.g. antacids, PPIs, H2-blockers, food requirement)” _____ %	“With your current HIV treatment, do you have any of the following constraints? Please select all that apply...” “I need additional monitoring when I take other medications on top of my HIV treatment”; “I had to change at least one drug of my HIV treatment to avoid issues/ complications with another drug I had to take at the same time”
<b>Suboptimal adherence</b>	“When we consider adherence to treatment, not only in terms of missed doses but also taking the pills at the right time and under the right conditions without overdosing, what percentage of your <u>patients</u> on ART do you believe are not perfectly adhering to their regimen?” _____ %	“When we consider adherence to treatment not only in terms of missed doses but also taking the pills at the right time and under the right conditions without overdosing, in the past month how often have you missed taking your HIV pills exactly as prescribed by your HIV physician?” ① “Never” ② “Rarely” ③ “Sometimes” ④ “Often” ⑤ “Very Often”
<b>Use of adherence support program</b>	“What percentage of your patients are enrolled in any kind of adherence/compliance programs (i.e. designed to improve adherence to daily oral ART) available within your practice or in your region?” _____ %	Are you part of any HIV support groups or programs that help to remind you how to best take your HIV treatment every day? ① “Yes” ② “No”
<b>Privacy concerns</b>	<p>“Based on your best estimate, what percentage of your patients living with HIV represent the below categories? Please note that the patients might fit into more than one category.” _____ % [A-D]</p> <p>“How common do you consider each of the following disclosure worries among your HIV patients? Please select one response for each statement” ① Never ② Rarely ③ Sometimes ④ Often ⑤ Don’t Know [E – L]</p> <p>A “Patients who ever reported hiding their medication to avoid revealing their HIV status. (including changing labels)”</p>	<p>How open are you about your HIV status? Please select one of the following which best describes your situation [B-D]</p> <p>A “In the past 6 months, have you ever hidden your HIV treatment to avoid revealing your HIV status? (Including changing labels or using other ways to dissimulate.) Please select one answer below” ① “Yes” ② “No”</p> <p>B “No one knows about my HIV”</p> <p>C “I am generally open in talking about my status”</p> <p>D “My status is only known to people very close to me and I would not tell others even when asked”</p> <p>E “In the past 4 weeks, I’ve limited what I tell others about my HIV...” ① “NONE of the time” ② “A LITTLE of the time” ③ “SOME of the time” ④ “A LOT of the time” ⑤ “ALL the time”</p>

	<p>B “Patients who have not disclosed their HIV status to anyone”</p> <p>C “Patients who are generally open in talking about their HIV status to anyone”</p> <p>D “Patients whose HIV status is only known to people very close to them and they would not tell others even when asked”</p> <p>E “Patients have been limited about what they tell others about their HIV”</p> <p>F “Patients have been worried about family members finding out that they have HIV”</p> <p>G “Patients have been worried about people at their job/routine daily activities finding out about their HIV treatment”</p> <p>H “Patients have been afraid to tell other people about their HIV treatment that they are on”</p> <p>I “Patients have been worried that they’ll lose their source of income if other people find out that they have HIV”</p> <p>J “Patients have been worried that someone would see their pills and know about their HIV”</p> <p>K “When on holiday with friends, patients have been worried about their friends finding and asking about their HIV treatment”</p> <p>L “When travelling for leisure or business, patients have been worried about airport security or customs finding and asking about their HIV treatment”</p>	<p>F “In the past 4 weeks, I’ve been worried about my family members finding out about my HIV treatment” ① “NONE of the time” ② “A LITTLE of the time” ③ “SOME of the time” ④ “A LOT of the time” ⑤ “ALL the time”</p> <p>G “In the past 4 weeks, I’ve been worried about people at my job/routine daily activities finding out about my HIV treatment” ① “NONE of the time” ② “A LITTLE of the time” ③ “SOME of the time” ④ “A LOT of the time” ⑤ “ALL the time”</p> <p>H “In the past 4 weeks, I’ve been afraid to tell other people about the HIV treatment I am on” ① “NONE of the time” ② “A LITTLE of the time” ③ “SOME of the time” ④ “A LOT of the time” ⑤ “ALL the time”</p> <p>I “I have been worried that I’ll lose my source of income if other people find out that I have HIV” ① “NONE of the time” ② “A LITTLE of the time” ③ “SOME of the time” ④ “A LOT of the time” ⑤ “ALL the time”</p> <p>J “Keeping my pills at home or with me during the day, I have been worried someone would see them and know about my HIV” ① “NONE of the time” ② “A LITTLE of the time” ③ “SOME of the time” ④ “A LOT of the time” ⑤ “ALL the time”</p> <p>K “When on holiday, I have been worried about my friends finding and asking about my HIV treatment” ① “NONE of the time” ② “A LITTLE of the time” ③ “SOME of the time” ④ “A LOT of the time” ⑤ “ALL the time”</p> <p>L “While travelling for leisure or business, I have been worried about airport security or customs finding and asking about my HIV treatment” ① “NONE of the time” ② “A LITTLE of the time” ③ “SOME of the time” ④ “A LOT of the time” ⑤ “ALL the time”</p>
Emotional challenges with daily tablet requirement	<p>Below is a list of worries that have been reported by patients in qualitative research. How common would you consider each of the following to be among your patients? Please select one response for each statement.”</p> <p>① Never ② Rarely ③ Sometimes ④ Often ⑤ Don’t Know</p>	<p>“Below is a list of worries that have been reported by patients in qualitative research. How common would you consider each of the following to be among your patients? Please select one response for each statement.”</p> <p>① “Strongly disagree” ② ③ “Neither agree nor disagree” ④ ⑤ “Strongly agree”</p> <p>A “I sometimes worry about long-term effects of these HIV treatments”</p>

A	"I sometimes worry about long-term effects of these HIV treatments"	B	"I am not worried, but I would rather not have to think about taking the pills every day"
B	"I am not worried, but I would rather not have to think about taking the pills every day"	C	"I wish my HIV treatment was a smaller part of my life"
C	"I wish my HIV treatment was a smaller part of my life"	D	"Taking daily HIV treatment reminds me that I have HIV and/or of a mistake or bad memory from my past"
D	"Taking daily HIV treatment reminds me that I have HIV and/or of a mistake or bad memory from my past"	E	"I worry about missing doses and not being suppressed anymore"
E	"I worry about missing doses and not being suppressed anymore"	F	"I just want to forget that I have HIV"
F	"I just want to forget that I have HIV"	G	"I worry about missing /forgetting to take my HIV treatment or take it later than I planned"
G	"I worry about missing /forgetting to take my HIV treatment or take it later than I planned"	H	"Having to remember to take my HIV treatment at the right time every day causes me stress or anxiety"
H	"Having to remember to take my HIV treatment at the right time every day causes me stress or anxiety"	I	"I worry about missing doses and transmitting the disease which is impacting my sex life"
I	"I worry about missing doses and transmitting the disease which is impacting my sex life"	J	"Being tied to my daily HIV treatment limits me in my day-to-day life"
J	"Being tied to my daily HIV treatment limits me in my day-to-day life"	K	"My HIV medication disrupts my day-to-day leisure activities"
K	"My HIV medication disrupts my day-to-day leisure activities"	L	"The routine I have in place to remember to take my daily HIV treatment causes me stress or anxiety"
L	"The routine I have in place to remember to take my daily HIV treatment causes me stress or anxiety"	M	"My HIV medication disrupts my day-to-day work routine"
M	"My HIV medication disrupts my day-to-day work routine"		

Note: Solid circles were classified as a positive response, where applicable.