

**Supplemental Material****Supplemental Table 1. Barriers to prescribing opioids for SCD chronic pain (N=105)**

	<b>Not a barrier n(%)</b>	<b>Minimal barrier n(%)</b>	<b>Somewhat a barrier n(%)</b>	<b>Moderate barrier n(%)</b>	<b>Complete barrier n(%)</b>	<b>Missing n</b>
Dependence	1 (1.2)	10 (11.9)	20 (23.8)	40 (47.6)	13 (15.5)	21
Tolerance	2 (2.4)	11 (13.3)	20 (24.1)	52 (50.6)	8 (9.6)	22
Addiction	3 (3.6)	13 (15.7)	22 (26.5)	28 (33.7)	17 (20.5)	22
Community perception	18 (21.7)	21 (25.3)	17 (20.5)	18 (21.7)	9 (10.8)	22
Regulatory	9 (11.1)	26 (32.1)	22 (27.2)	18 (22.2)	6 (7.4)	24
Lack of Efficacy	20 (24.4)	22 (26.8)	19 (23.2)	20 (24.4)	1 (1.2)	23
Time-commitment to prescribing*	19 (23.2)	27 (32.9)	18 (22.0)	16 (19.5)	2 (2.4)	23
Cognitive effects	10 (12.0)	26 (31.3)	31 (37.3)	16 (19.3)	0 (0)	22
Training in prescribing opioids	28 (33.7)	26 (31.3)	15 (18.1)	10 (12.0)	4 (4.8)	22
Provider restrictions	17 (21.3)	26 (32.5)	23 (28.8)	11 (13.8)	3 (3.8)	25
Diversion	22 (26.8)	23 (28.0)	23 (28.0)	12 (14.6)	2 (2.4)	23
Psychomotor effects	14 (17.1)	29 (35.4)	26 (31.7)	12 (14.6)	1 (1.2)	23
Respiratory effects	17 (20.5)	27 (32.5)	28 (33.7)	10 (12.0)	1 (1.2)	22
Cost	25 (32.9)	31 (40.8)	13 (17.1)	7 (9.2)	0 (0)	29
Overview	5 (50.0)	3 (30.0)	1 (10.0)	0 (0)	1 (10.0)	95
Availability	33 (40.2)	35 (42.7)	13 (15.9)	1 (1.2)	0 (0)	23

\*prior authorization, dose adjustments and/or state database assessment \*\*missing values not included in the denominator for percentages

**Supplemental Table 2**

<b>19. Which of the following CRITERIA do you use to place patients with sickle cell disease on hydroxyurea therapy? (check all that apply) (variable name)</b>		
Episodes of acute chest syndrome (ps_q14___1)	45	42. 9%
At least three painful episodes/year requiring hospitalization (ps_q14___2)	44	41. 9%
At least three painful episodes/year at home (ps_q14___3)	33	31. 4%
Chronic pain requiring excessive or frequent opioid use (ps_q14___4)	37	35. 2%
Stroke history (ps_q14___5)	33	31. 4%
Renal failure (ps_q14___6)	15	14. 3%
Priapism (ps_q14___7)	18	17. 1%
Low hemoglobin F levels (ps_q14___8)	22	21. 0%
Pulmonary hypertension (ps_q14___9)	16	15. 2%
Symptomatic severe anemia (ps_q14___10)	30	28. 6%
Elevated white cell count without evidence of infection (ps_q14___11)	16	15. 2%
Leg ulcers (ps_q14___12)	11	10. 5%
Patient or family request (ps_q14___13)	23	21. 9%
Presence of hypoxemia (ps_q14___14)	11	10. 5%
Other (ps_q14___15)	14	13. 3%
Prefer not to respond (ps_q14___999)	14	13. 3%
Total number of responses	105	

**Supplemental Table 3. Factors that influence the prescribing of hydroxyurea (N=105)**

	Don't know/Prefer not to respond n(%)	Not important n(%)	Somewhat important n(%)	Important n(%)	Very important n(%)	Missing n
Patient anticipation of side effects	1 (1.7)	6 (10.3)	19 (32.8)	22 (37.9)	10 (17.2)	47
Concerns for hydroxyurea causing infertility in male patients	2 (3.6)	15 (27.3)	11 (20.0)	16 (29.1)	11 (20.0)	50
Patient/family adherence with hydroxyurea	1 (1.8)	9 (15.8)	19 (31.6)	18 (31.6)	10 (17.5)	48
Provider lacks time/resources to adequately explain risks/benefits	2 (3.8)	16 (30.8)	9 (17.3)	13 (25.0)	12 (23.1)	53
There is a lack of formal guidelines for use in children	2 (4.3)	16 (34.8)	6 (13.0)	6 (13.0)	16 (34.8)	59
Hydroxyurea is not FDA approved for use in children*	2 (4.3)	18 (39.1)	5 (10.9)	5 (10.9)	16 (34.8)	59
Age of patient (patient is too young)	1 (2.1)	18 (37.5)	9 (18.8)	9 (18.8)	11 (22.9)	57
My discomfort with carcinogenesis potential	1 (1.8)	22 (39.3)	9 (16.1)	8 (14.3)	16 (28.6)	49
Patient/family adherence with required blood tests	1 (1.7)	8 (13.8)	23 (39.7)	18 (31.0)	8 (13.8)	47
Doubt the effectiveness of the drug	2 (3.7)	25 (46.3)	5 (9.3)	5 (9.3)	17 (31.5)	51
Patients' lack of contraception/possible pregnancy	2 (3.6)	12 (21.4)	21 (37.5)	15 (26.8)	6 (10.7)	49
Cost Issues	1 (2.1)	23 (47.9)	7 (14.6)	5 (10.4)	12 (25.0)	57

\*At the time of survey administration, hydroxyurea had not yet been FDA-approved in children

**Supplemental Table 4. Provider Resources and Perceptions; Aspects of managing SCD patients that providers might find a clinical support tool to be useful (N=105)**

<b>Number of SCD patients cared for in past year:</b>	<b>Frequency n(%)</b>
None	9 (9.0)
1	5 (5.0)
2 to 3	11 (11.0)
4 to 9	21 (21.0)
10 to 30	20 (20.0)
31 to 100	15 (15.0)
>100	19 (18.0)
Don't know/Prefer not to respond	0 (0)
Missing	5
<b>Number of patients currently under care</b>	
None	13 (13.4)
1	3 (3.1)
2 to 3	10 (10.3)
4 to 9	16 (16.5)
10 to 30	17 (17.5)
31 to 100	17 (17.5)
>100	16 (16.5)
Don't know/Prefer not to respond	5 (5.2)
Missing	8
<b>SCD care resources used (check all that apply)</b>	
What I learned in residency	56 (53.3)
What I learned from CME	44 (41.9)
Textbook	32 (30.5)
Internet	63 (60.0)
Colleague	60 (57.1)
Specialist	75 (71.4)
NHLBI Management Guide	39 (37.1)
Other	8 (7.6)
Don't know/Prefer not to respond	0 (0)
<b>Feel that medical needs of patients are met</b>	
Yes	60 (63.2)
No	23 (24.2)
Don't know/Prefer not to respond	12 (12.6)
Missing	10
<b>Feel that mental and behavioral needs are met</b>	
Yes	21 (21.6)
No	59 (60.8)
Don't know/Prefer not to respond	17 (17.5)

	Missing	8
<b>Aware of NHLBI guidelines for SCD</b>		
	Yes	52 (66.7)
	No	26 (33.3)
	Missing	27

**Supplemental Table 5. Areas for which a clinical decision support tool for SCD would be “useful” or “very useful”**

	Frequency n(%)
<b>Diagnosis</b>	
Not useful at all	16 (26.7)
Somewhat useful	13 (21.7)
Useful	16 (26.7)
Very useful	14 (23.3)
Don't know/Prefer not to respond	1 (1.7)
Missing	45
<b>Treatments</b>	
Not useful at all	7 (10.8)
Somewhat useful	9 (13.8)
Useful	19 (29.2)
Very useful	29 (44.6)
Don't know/Prefer not to respond	1 (1.5)
Missing	40
<b>Preventing Complications</b>	
Not useful at all	7 (11.1)
Somewhat useful	8 (12.7)
Useful	22 (34.9)
Very useful	25 (39.7)
Don't know/Prefer not to respond	1 (1.6)
Missing	42

**Note:** SCD denotes sickle cell disease