

A. Demographics

1. What is your gender?

- Male
- Female

2. What is your age?

- 20-30
- 31-40
- 41-50
- 51-60
- 61-70
- 71+

3. What is your specialty?

- Hepatology
- Pulmonary
- Cardiology
- Transplant surgery
- Anesthesiology
- Other, please specify:

4. **BRANCHING LOGIC:** *Display this question if Hepatology is selected for Specialty*

Do you have additional training or expertise in transplant hepatology?

- Yes
- No

5. What UNOS region is your center located in?

- Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Eastern Vermont)
- Region 2 (Delaware, District of Columbia, Maryland, New Jersey, Pennsylvania, West Virginia, Northern Virginia)
- Region 3 (Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Puerto Rico)
- Region 4 (Oklahoma, Texas)
- Region 5 (Arizona, California, Nevada, New Mexico, Utah)
- Region 6 (Alaska, Hawaii, Idaho, Montana, Oregon, Washington)
- Region 7 (Illinois, Minnesota, North Dakota, South Dakota, Wisconsin)
- Region 8 (Colorado, Iowa, Kansas, Missouri, Nebraska, Wyoming)
- Region 9 (New York, Western Vermont)
- Region 10 (Indiana, Michigan, Ohio)
- Region 11 (Kentucky, North Carolina, South Carolina, Tennessee, Virginia)

6. Approximately how many deceased donor liver transplants does your center perform per year?

- 0 to 25
- 26 to 50

- 51 to 75
- 76 to 100
- More than 100
- Unsure

B. Opinions regarding portopulmonary hypertension and liver transplantation.

Please choose the best response to the following statements.

1. Portopulmonary hypertension is a condition that improves with liver transplant.
 - Nearly always
 - Often
 - Sometimes
 - Rarely
 - Never
2. Liver transplant is safe in patients with treated portopulmonary hypertension.
 - Nearly always
 - Often
 - Sometimes
 - Rarely
 - Never
3. A diagnosis of portopulmonary hypertension should be an indication for liver transplantation in a patient with **compensated** cirrhosis and a low MELD score of ≤ 12 .
 - Strongly agree
 - Agree
 - Neutral
 - Disagree
 - Strongly Disagree
4. A diagnosis of portopulmonary hypertension should be an indication for liver transplantation in a patient with **decompensated** cirrhosis and a MELD score > 12 .
 - Strongly agree
 - Agree
 - Neutral
 - Disagree
 - Strongly Disagree
5. Liver transplant candidates with moderate to severe portopulmonary hypertension should be managed in centers with expertise in the management of portopulmonary hypertension.
 - Strongly agree
 - Agree
 - Neutral
 - Disagree
 - Strongly disagree

C. Experience with portopulmonary hypertension

1. How would you describe your experience with liver transplantation in patients with POPH?
 - Overall favorable
 - Neutral
 - Overall unfavorable
 - I have not had any experience with liver transplantation in patients with POPH
 - Other, please describe:
2. **BRANCHING LOGIC:** *Display this question if Hepatology, Pulmonary or Cardiology is selected for specialty AND "I have not had any experience with liver transplantation.." is not selected*

In your experience, how often do patients with portopulmonary hypertension wean PAH therapy following liver transplant?

- Nearly always
- Often
- Sometimes
- Rarely
- Never
- N/A

3. **BRANCHING LOGIC:** *Display this question if Hepatology, Pulmonary or Cardiology is selected for specialty AND "I have not had any experience with liver transplantation.." is not selected*

In your experience, how often do patients with portopulmonary hypertension discontinue all PAH therapy following liver transplant?

- Nearly always
- Often
- Sometimes
- Rarely
- Never
- N/A

4. In your experience, has a liver transplantation ever been cancelled at the time of surgery due to the presence of pulmonary hypertension?
 - Yes
 - No

5. **BRANCHING LOGIC:** *Display this question if yes is selected for question C4*

In your experience, how many cases have been cancelled at the time of surgery due to the presence of pulmonary hypertension?

6. **BRANCHING LOGIC:** *Display this question if yes is selected for question C4*

If a liver transplantation was cancelled at the time of surgery due to the presence of pulmonary hypertension, which of the following statement apply? (Mark all that apply).

- The patient had a known diagnosis of pulmonary hypertension at the time of planned transplantation
- Pulmonary hypertension was newly detected at the time of transplantation
- Other. Please describe.

D. Opinions regarding the current MELD exception criteria for portopulmonary hypertension. Please choose the best response to the following statements.

1. The current Model for End Stage Liver Disease exception for portopulmonary hypertension should be revised or modified.
 - Strongly agree
 - Agree
 - Neutral
 - Disagree
 - Strongly disagree
2. The following aspects of the current Model for End Stage Liver Disease exception for POPH should be modified. (Mark all that apply).
 - The hemodynamic criteria for an initial diagnosis of moderate to severe POPH (mean pulmonary arterial pressure $>35\text{mmHg}$ and pulmonary vascular resistance $> 240\text{ dynes}\cdot\text{s}\cdot\text{cm}^{-5}$)
 - The hemodynamic criteria for adequate response to pulmonary arterial hypertension targeted therapy (mPAP $<35\text{ mmHg}$ and PVR $<400\text{ dynes}\cdot\text{s}\cdot\text{cm}^{-5}$)
 - Need for right heart catheterizations every 3 months
 - Lack of specific criteria regarding liver disease severity
 - Lack of specific criteria regarding right ventricular function
 - None of the above
 - Other, please describe:
3. **BRANCHING LOGIC-** *Display this question if Hepatology, Pulmonary or Cardiology is selected for specialty*

What is your center's approach to a patient with an approved POPH MELD exception on PAH therapy who develops an elevated mean pulmonary arterial pressure $>35\text{mmHg}$ due to a high cardiac output with a normal pulmonary vascular resistance on follow-up right heart catheterization?

- Inactivate from waitlist until mean pulmonary arterial pressure improves to $<35\text{mmHg}$
- Remove from waitlist
- Submit an appeal
- Unsure
- Other, please describe:

E. Pretransplant risk assessment in portopulmonary hypertension. Please choose the best response to the following statements.

1. **BRANCHING LOGIC-** Display this question if Hepatology, Cardiology or Pulmonary is selected for specialty

Which of the following patients with POPH on pulmonary arterial hypertension targeted therapy would you consider acceptable for liver transplantation? Mark all that apply.

- A patient with a mean pulmonary arterial pressure of 38mmHg with an elevated cardiac output and normal pulmonary vascular resistance and normal right ventricular function by echocardiogram
 - A patient with a mean pulmonary arterial pressure of 34 mmHg with a reduced cardiac output of 4L/min and an elevated pulmonary vascular resistance of 480 dynes-s-cm⁻⁵ (6 Wood units)
 - A patient with a mean pulmonary arterial pressure of 25mmHg with normal right ventricular function, cardiac output and pulmonary vascular resistance
 - None of the above
 - Unsure
2. Which of the following do you consider an absolute contraindication to liver transplantation. Mark all that apply.
- Mean pulmonary arterial pressure >50 mmHg
 - Mean pulmonary arterial pressure >35mmHg regardless of pulmonary vascular resistance
 - Mean pulmonary arterial pressure >35mmHg with an elevated pulmonary vascular resistance >240 dynes-s-cm⁻⁵
 - Mean pulmonary arterial pressure >35mmHg with an elevated pulmonary vascular resistance >400 dynes-s-cm⁻⁵
 - PVR>240 dynes-s-cm⁻⁵ (3 Wood units) regardless of mean pulmonary arterial pressure
 - PVR>400 dynes-s-cm⁻⁵ (5 Wood units) regardless of mean pulmonary arterial pressure
 - None of the above
 - Unsure

F. Practice patterns. Please choose the best response to the following statements.

1. **BRANCHING LOGIC-** Display this question if Hepatology is selected for specialty

Which of the following best describes your center's practice related to screening liver transplant candidates for POPH? Mark all that apply.

- We perform transthoracic echocardiograms
- We perform transthoracic echocardiograms once for screening and then again on a variable interval
- We perform transthoracic echocardiograms once for screening and then again as indicated by new signs or symptoms
- All patients are seen by pulmonary or cardiology as part of their routine pretransplant evaluation
- Patients are referred to pulmonary or cardiology only if they an abnormal echocardiogram or symptoms

- Other, please describe.

2. **BRANCHING LOGIC-** *Display this question if Hepatology is selected for specialty*

In an asymptomatic individual with normal right ventricular size and function on echocardiogram, when would you refer a liver transplant candidate for further evaluation of POPH (specialty referral and/or right heart catheterization)?

- Estimated right ventricular systolic pressure >30 mmHg
- Estimated right ventricular systolic pressure >35 mmHg
- Estimated right ventricular systolic pressure >40 mmHg
- Estimated right ventricular systolic pressure >50 mmHg
- Unsure

3. **BRANCHING LOGIC-** *Display this question if Hepatology is selected for specialty*

In an asymptomatic individual with right ventricular dilatation and/or dysfunction on echocardiogram, when would you refer a liver transplant candidate for further evaluation of POPH (specialty referral and/or right heart catheterization)?

- I would refer regardless of estimated right ventricular systolic pressure
- Estimated right ventricular systolic pressure >30 mmHg
- Estimated right ventricular systolic pressure >35 mmHg
- Estimated right ventricular systolic pressure >40 mmHg
- Estimated right ventricular systolic pressure >50 mmHg
- Unsure

4. **BRANCHING LOGIC-** *Display this question if Pulmonary or Cardiology is selected for specialty*

For treatment of portopulmonary hypertension in liver transplant candidates, my center uses which of the following classes of pulmonary arterial hypertension targeted therapy. (Mark all that apply.)

- Phosphodiesterase-5 inhibitors
- Endothelin receptor antagonists
- Inhaled prostacyclin analogues
- Parenteral prostacyclin analogues
- Oral prostacyclin analogues or IP receptor agonists
- Soluble guanylate cyclase stimulators
- Calcium channel blockers

5. **BRANCHING LOGIC-** *Display this question if Pulmonary or Cardiology is selected for specialty*

Posttransplant, pulmonary arterial hypertension targeted therapy should be weaned based on which of the following.

- Symptoms alone
- Symptoms and serial right heart catheterizations
- Symptoms and serial echocardiograms

- Symptoms, serial echocardiogram and serial right heart catheterizations
- Pulmonary arterial hypertension targeted therapy should not be weaned posttransplant

6. **BRANCHING LOGIC-** *Display this question only if Hepatology, Anesthesiology or Transplant surgery is selected for specialty*

In liver transplant recipients at my center, Swan-ganz (right heart) catheters are placed at the time of liver transplantation. (Please note question refers to all recipients and not just those with portopulmonary hypertension.)

- Nearly always
- Often
- Sometimes
- Rarely
- Never
- Unsure

7. **BRANCHING LOGIC-** *Display this question only if Hepatology, Anesthesiology or Transplant surgery is selected for specialty*

In patients with portopulmonary hypertension at my center, intraoperative transesophageal echocardiogram (TEE) is performed at the time of liver transplant.

- Nearly always
- Often
- Sometimes
- Rarely
- Never
- Unsure

8. **BRANCHING LOGIC-** *Display this question only if Hepatology, Anesthesiology, Pulmonary, Cardiology or Other is selected for specialty*

Beta-blocker use should be minimized in patients with portopulmonary hypertension.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

9. **BRANCHING LOGIC-** *Display this question only if Hepatology, Anesthesiology, Pulmonary, Cardiology or Other is selected for specialty*

Elective TIPS should be avoided in patients with severe portopulmonary hypertension.

- Strongly agree
- Agree
- Neutral

- Disagree
- Strongly disagree

**Summary of survey items by specialty [Q6]
Including all survey respondents
DESCRIPTIVE PURPOSES ONLY**

| | Cardiology/Pulmo nary (N=30) | Hepatolog y (N=44) | Other (N=2) | Transplant surg ery (N=6) | Total (N=82) |
|---------------------------------------------------------------------------------------|------------------------------------|--------------------------|----------------|---------------------------------|-----------------|
| What is your gender? | | | | | |
| Missing | 0 | 1 | 0 | 0 | 1 |
| 1) Male | 17 (56.7%) | 34 (79.1%) | 2 (100.0%) | 4 (66.7%) | 57 (70.4%) |
| 2) Female | 13 (43.3%) | 9 (20.9%) | 0 (0.0%) | 2 (33.3%) | 24 (29.6%) |
| What is your age? | | | | | |
| Missing | 0 | 0 | 0 | 1 | 1 |
| 2) 31 to 40 | 9 (30.0%) | 15 (34.1%) | 1 (50.0%) | 1 (20.0%) | 26 (32.1%) |
| 3) 41 to 50 | 12 (40.0%) | 18 (40.9%) | 1 (50.0%) | 2 (40.0%) | 33 (40.7%) |
| 4) 51 to 60 | 5 (16.7%) | 8 (18.2%) | 0 (0.0%) | 1 (20.0%) | 14 (17.3%) |
| 5) 61 to 70 | 3 (10.0%) | 3 (6.8%) | 0 (0.0%) | 1 (20.0%) | 7 (8.6%) |
| 6) > 70 | 1 (3.3%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 1 (1.2%) |
| Do you have additional training or expertise in transplant hepatology? | | | | | |
| Not checked | 30 (100.0%) | 0 (0.0%) | 2 (100.0%) | 6 (100.0%) | 38 (46.3%) |
| Checked | 0 (0.0%) | 44 (100.0%) | 0 (0.0%) | 0 (0.0%) | 44 (53.7%) |
| What UNOS region is your center located in ? | | | | | |

**Summary of survey items by specialty [Q6]
Including all survey respondents
DESCRIPTIVE PURPOSES ONLY**

| | Cardiology/Pulmonary (N=30) | Hepatology (N=44) | Other (N=2) | Transplant surgery (N=6) | Total (N=82) |
|---------|--------------------------------|----------------------|----------------|-----------------------------|-----------------|
| Missing | 0 | 2 | 0 | 0 | 2 |
| 1 | 3 (10.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 3 (3.8%) |
| 2 | 5 (16.7%) | 5 (11.9%) | 0 (0.0%) | 0 (0.0%) | 10 (12.5%) |
| 3 | 4 (13.3%) | 3 (7.1%) | 1 (50.0%) | 0 (0.0%) | 8 (10.0%) |
| 4 | 2 (6.7%) | 2 (4.8%) | 0 (0.0%) | 0 (0.0%) | 4 (5.0%) |
| 5 | 2 (6.7%) | 9 (21.4%) | 0 (0.0%) | 1 (16.7%) | 12 (15.0%) |
| 6 | 1 (3.3%) | 5 (11.9%) | 0 (0.0%) | 1 (16.7%) | 7 (8.8%) |
| 7 | 5 (16.7%) | 7 (16.7%) | 0 (0.0%) | 2 (33.3%) | 14 (17.5%) |
| 8 | 1 (3.3%) | 3 (7.1%) | 1 (50.0%) | 0 (0.0%) | 5 (6.3%) |
| 10 | 2 (6.7%) | 3 (7.1%) | 0 (0.0%) | 0 (0.0%) | 5 (6.3%) |
| 11 | 5 (16.7%) | 5 (11.9%) | 0 (0.0%) | 2 (33.3%) | 12 (15.0%) |

Approximately how many deceased donor liver transplants does your center perform per year?

| | | | | | |
|--------------|------------|------------|-----------|-----------|------------|
| Missing | 0 | 2 | 0 | 0 | 2 |
| 2) 26 to 50 | 3 (10.0%) | 1 (2.4%) | 0 (0.0%) | 0 (0.0%) | 4 (5.0%) |
| 3) 51 to 75 | 3 (10.0%) | 11 (26.2%) | 0 (0.0%) | 0 (0.0%) | 14 (17.5%) |
| 4) 76 to 100 | 4 (13.3%) | 16 (38.1%) | 1 (50.0%) | 4 (66.7%) | 25 (31.3%) |
| 5) > 100 | 6 (20.0%) | 14 (33.3%) | 1 (50.0%) | 2 (33.3%) | 23 (28.8%) |
| 6) Unsure | 14 (46.7%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 14 (17.5%) |

Approximately how many deceased donor liver

**Summary of survey items by specialty [Q6]
Including all survey respondents
DESCRIPTIVE PURPOSES ONLY**

| | Cardiology/Pulmonary (N=30) | Hepatology (N=44) | Other (N=2) | Transplant surgery (N=6) | Total (N=82) |
|-----------------------------------------------------------------------------------------------|--------------------------------|----------------------|----------------|-----------------------------|-----------------|
| transplants does your center perform per year [excluding unsures from denominator] | | | | | |
| Missing | 14 | 2 | 0 | 0 | 16 |
| 2) 26 to 50 | 3 (18.8%) | 1 (2.4%) | 0 (0.0%) | 0 (0.0%) | 4 (6.1%) |
| 3) 51 to 75 | 3 (18.8%) | 11 (26.2%) | 0 (0.0%) | 0 (0.0%) | 14 (21.2%) |
| 4) 76 to 100 | 4 (25.0%) | 16 (38.1%) | 1 (50.0%) | 4 (66.7%) | 25 (37.9%) |
| 5) > 100 | 6 (37.5%) | 14 (33.3%) | 1 (50.0%) | 2 (33.3%) | 23 (34.8%) |

Portopulmonary hypertension is a condition that improves with liver transplant.

| | | | | | |
|---------------------|------------|------------|-----------|-----------|------------|
| Missing | 1 | 2 | 0 | 0 | 3 |
| Nearly always/Often | 11 (37.9%) | 19 (45.2%) | 1 (50.0%) | 4 (66.7%) | 35 (44.3%) |
| Sometimes | 10 (34.5%) | 20 (47.6%) | 1 (50.0%) | 2 (33.3%) | 33 (41.8%) |
| Rarely/Never | 8 (27.6%) | 3 (7.1%) | 0 (0.0%) | 0 (0.0%) | 11 (13.9%) |

Liver transplant is safe in patients with treated portopulmonary hypertension.

| | | | | | |
|---------------------|------------|------------|-----------|-----------|------------|
| Missing | 2 | 2 | 0 | 0 | 4 |
| Sometimes | 13 (46.4%) | 14 (33.3%) | 1 (50.0%) | 1 (16.7%) | 29 (37.2%) |
| Nearly always/Often | 15 (53.6%) | 28 (66.7%) | 1 (50.0%) | 5 (83.3%) | 49 (62.8%) |

A diagnosis of portopulmonary hypertension should be an indication for liver transplantation in a

**Summary of survey items by specialty [Q6]
Including all survey respondents
DESCRIPTIVE PURPOSES ONLY**

| | Cardiology/Pulmonary (N=30) | Hepatology (N=44) | Other (N=2) | Transplant surgery (N=6) | Total (N=82) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------|----------------|-----------------------------|-----------------|
| patient with compensated cirrhosis and a low MELD score | | | | | |
| Missing | 1 | 2 | 0 | 0 | 3 |
| Agree/Strongly agree | 9 (31.0%) | 27 (64.3%) | 1 (50.0%) | 2 (33.3%) | 39 (49.4%) |
| Neutral | 5 (17.2%) | 6 (14.3%) | 0 (0.0%) | 2 (33.3%) | 13 (16.5%) |
| Disagree/Strongly disagree | 15 (51.7%) | 9 (21.4%) | 1 (50.0%) | 2 (33.3%) | 27 (34.2%) |
| A diagnosis of portopulmonary hypertension should be an indication for liver transplantation in a patient with decompensated cirrhosis and a MELD score of > 12 | | | | | |
| Missing | 1 | 2 | 0 | 0 | 3 |
| Agree/Strongly agree | 21 (72.4%) | 38 (90.5%) | 1 (50.0%) | 6 (100.0%) | 66 (83.5%) |
| Neutral | 2 (6.9%) | 2 (4.8%) | 0 (0.0%) | 0 (0.0%) | 4 (5.1%) |
| Disagree/Strongly disagree | 6 (20.7%) | 2 (4.8%) | 1 (50.0%) | 0 (0.0%) | 9 (11.4%) |
| Liver transplant candidates with moderate to severe portopulmonary hypertension should be managed in centers with expertise in the management of portopulmonary hypertension | | | | | |
| Missing | 1 | 2 | 0 | 0 | 3 |
| Strongly agree | 27 (93.1%) | 37 (88.1%) | 2 (100.0%) | 5 (83.3%) | 71 (89.9%) |
| Agree | 1 (3.4%) | 5 (11.9%) | 0 (0.0%) | 1 (16.7%) | 7 (8.9%) |

**Summary of survey items by specialty [Q6]
Including all survey respondents
DESCRIPTIVE PURPOSES ONLY**

| | Cardiology/Pulmonary (N=30) | Hepatology (N=44) | Other (N=2) | Transplant surgery (N=6) | Total (N=82) |
|-------------------|--------------------------------|----------------------|----------------|-----------------------------|-----------------|
| Strongly disagree | 1 (3.4%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 1 (1.3%) |

How would you describe your experience with liver transplantation in patients with POPH? ('Other' and 'N/A' set to missing)

| | | | | | |
|---------------------|------------|------------|------------|-----------|------------|
| Missing | 4 | 2 | 0 | 0 | 6 |
| Overall favorable | 22 (84.6%) | 27 (64.3%) | 2 (100.0%) | 4 (66.7%) | 55 (72.4%) |
| Neutral | 3 (11.5%) | 12 (28.6%) | 0 (0.0%) | 2 (33.3%) | 17 (22.4%) |
| Overall unfavorable | 1 (3.8%) | 3 (7.1%) | 0 (0.0%) | 0 (0.0%) | 4 (5.3%) |

In your experience, how often do patients with portopulmonary hypertension wean PAH therapy following liver transplant?

| | | | | | |
|---------------|------------|------------|----------|----------|------------|
| Missing | 3 | 3 | 2 | 6 | 14 |
| Nearly always | 6 (22.2%) | 5 (12.2%) | 0 (0.0%) | 0 (0.0%) | 11 (16.2%) |
| Often | 7 (25.9%) | 17 (41.5%) | 0 (0.0%) | 0 (0.0%) | 24 (35.3%) |
| Sometimes | 13 (48.1%) | 18 (43.9%) | 0 (0.0%) | 0 (0.0%) | 31 (45.6%) |
| Rarely | 1 (3.7%) | 1 (2.4%) | 0 (0.0%) | 0 (0.0%) | 2 (2.9%) |

In your experience, how often do patients with portopulmonary hypertension discontinue all PAH therapy following liver transplant?

| | | | | | |
|---------------|----------|----------|----------|----------|----------|
| Missing | 3 | 3 | 2 | 6 | 14 |
| Nearly always | 2 (7.4%) | 3 (7.3%) | 0 (0.0%) | 0 (0.0%) | 5 (7.4%) |

**Summary of survey items by specialty [Q6]
Including all survey respondents
DESCRIPTIVE PURPOSES ONLY**

| | Cardiology/Pulmonary (N=30) | Hepatology (N=44) | Other (N=2) | Transplant surgery (N=6) | Total (N=82) |
|-----------|--------------------------------|----------------------|----------------|-----------------------------|-----------------|
| Often | 9 (33.3%) | 12 (29.3%) | 0 (0.0%) | 0 (0.0%) | 21 (30.9%) |
| Sometimes | 6 (22.2%) | 20 (48.8%) | 0 (0.0%) | 0 (0.0%) | 26 (38.2%) |
| Rarely | 8 (29.6%) | 6 (14.6%) | 0 (0.0%) | 0 (0.0%) | 14 (20.6%) |
| Never | 2 (7.4%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 2 (2.9%) |

**In your experience, has a liver transplantati
on
ever been cancelled at the time of surgery du
e to
the presence of pulmonary hypertension?**

| | | | | | |
|---------|------------|------------|------------|-----------|------------|
| Missing | 1 | 4 | 0 | 0 | 5 |
| Yes | 24 (82.8%) | 29 (72.5%) | 2 (100.0%) | 5 (83.3%) | 60 (77.9%) |
| No | 5 (17.2%) | 11 (27.5%) | 0 (0.0%) | 1 (16.7%) | 17 (22.1%) |

**In your experience, how many cases have be
en
cancelled at the time of surgery due to the
presence...-Cases**

| | | | | | |
|-----------|------------|------------|-----------|-----------|------------|
| N | 24 | 27 | 2 | 5 | 58 |
| Mean (SD) | 3.5 (2.4) | 3.0 (2.4) | 3.5 (2.1) | 3.0 (2.0) | 3.3 (2.3) |
| Median | 3.0 | 2.0 | 3.5 | 2.0 | 2.0 |
| Q1, Q3 | 2.0, 5.0 | 2.0, 3.0 | 2.0, 5.0 | 2.0, 4.0 | 2.0, 4.0 |
| Range | (1.0-10.0) | (1.0-10.0) | (2.0-5.0) | (1.0-6.0) | (1.0-10.0) |

**If liver tx cancelled [Q23]: The patient had a
known diagnosis of pulmonary hypertension
at the
time of planned transplantation**

| | | | | | |
|-------------|------------|------------|----------|-----------|------------|
| Not checked | 25 (83.3%) | 33 (75.0%) | 0 (0.0%) | 2 (33.3%) | 60 (73.2%) |
|-------------|------------|------------|----------|-----------|------------|

**Summary of survey items by specialty [Q6]
Including all survey respondents
DESCRIPTIVE PURPOSES ONLY**

| | Cardiology/Pulmonary (N=30) | Hepatology (N=44) | Other (N=2) | Transplant surgery (N=6) | Total (N=82) |
|---------|--------------------------------|----------------------|----------------|-----------------------------|-----------------|
| Checked | 5 (16.7%) | 11 (25.0%) | 2 (100.0%) | 4 (66.7%) | 22 (26.8%) |

If liver tx cancelled [Q23]: Pulmonary hypertension was newly detected at the time of transplantation

| | | | | | |
|-------------|------------|------------|------------|-----------|------------|
| Not checked | 9 (30.0%) | 19 (43.2%) | 0 (0.0%) | 2 (33.3%) | 30 (36.6%) |
| Checked | 21 (70.0%) | 25 (56.8%) | 2 (100.0%) | 4 (66.7%) | 52 (63.4%) |

If liver tx cancelled [Q23]: Other, please describe:

| | | | | | |
|-------------|------------|------------|-----------|-----------|------------|
| Not checked | 28 (93.3%) | 42 (95.5%) | 1 (50.0%) | 5 (83.3%) | 76 (92.7%) |
| Checked | 2 (6.7%) | 2 (4.5%) | 1 (50.0%) | 1 (16.7%) | 6 (7.3%) |

The current Model for End-Stage Liver Disease exception for portopulmonary hypertension should be revised or modified.

| | | | | | |
|----------------------------|------------|------------|------------|-----------|------------|
| Missing | 1 | 6 | 0 | 0 | 7 |
| Agree/Strongly agree | 15 (51.7%) | 18 (47.4%) | 2 (100.0%) | 1 (16.7%) | 36 (48.0%) |
| Neutral | 12 (41.4%) | 10 (26.3%) | 0 (0.0%) | 5 (83.3%) | 27 (36.0%) |
| Disagree/Strongly disagree | 2 (6.9%) | 10 (26.3%) | 0 (0.0%) | 0 (0.0%) | 12 (16.0%) |

**Aspects of model should be modified [Q27]:
The hemodynamic criteria for an initial diagnosis of**

**Summary of survey items by specialty [Q6]
Including all survey respondents
DESCRIPTIVE PURPOSES ONLY**

| | Cardiology/Pulmonary (N=30) | Hepatology (N=44) | Other (N=2) | Transplant surgery (N=6) | Total (N=82) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------|----------------|-----------------------------|-----------------|
| moderate to severe POPH | | | | | |
| Not checked | 21 (70.0%) | 41 (93.2%) | 2 (100.0%) | 5 (83.3%) | 69 (84.1%) |
| Checked | 9 (30.0%) | 3 (6.8%) | 0 (0.0%) | 1 (16.7%) | 13 (15.9%) |
| Aspects of model should be modified [Q27]: The hemodynamic criteria for adequate response to pulmonary arterial hypertension targeted therapy | | | | | |
| Not checked | 15 (50.0%) | 38 (86.4%) | 2 (100.0%) | 4 (66.7%) | 59 (72.0%) |
| Checked | 15 (50.0%) | 6 (13.6%) | 0 (0.0%) | 2 (33.3%) | 23 (28.0%) |
| Aspects of model should be modified [Q27]: Need for right heart catheterizations every 3 months | | | | | |
| Not checked | 15 (50.0%) | 32 (72.7%) | 2 (100.0%) | 4 (66.7%) | 53 (64.6%) |
| Checked | 15 (50.0%) | 12 (27.3%) | 0 (0.0%) | 2 (33.3%) | 29 (35.4%) |
| Aspects of model should be modified [Q27]: Lack of specific criteria regarding liver disease severity | | | | | |
| Not checked | 21 (70.0%) | 30 (68.2%) | 0 (0.0%) | 4 (66.7%) | 55 (67.1%) |
| Checked | 9 (30.0%) | 14 (31.8%) | 2 (100.0%) | 2 (33.3%) | 27 (32.9%) |

**Summary of survey items by specialty [Q6]
Including all survey respondents
DESCRIPTIVE PURPOSES ONLY**

| | Cardiology/Pulmonary (N=30) | Hepatology (N=44) | Other (N=2) | Transplant surgery (N=6) | Total (N=82) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------|----------------|-----------------------------|-----------------|
| Aspects of model should be modified [Q27]: | | | | | |
| Lack of specific criteria regarding right ventricular function | | | | | |
| Not checked | 13 (43.3%) | 23 (52.3%) | 0 (0.0%) | 3 (50.0%) | 39 (47.6%) |
| Checked | 17 (56.7%) | 21 (47.7%) | 2 (100.0%) | 3 (50.0%) | 43 (52.4%) |
| Aspects of model should be modified [Q27]: | | | | | |
| None of the above | | | | | |
| Not checked | 29 (96.7%) | 36 (81.8%) | 2 (100.0%) | 5 (83.3%) | 72 (87.8%) |
| Checked | 1 (3.3%) | 8 (18.2%) | 0 (0.0%) | 1 (16.7%) | 10 (12.2%) |
| Aspects of model should be modified [Q27]: | | | | | |
| Other, please describe: | | | | | |
| Not checked | 25 (83.3%) | 42 (95.5%) | 1 (50.0%) | 6 (100.0%) | 74 (90.2%) |
| Checked | 5 (16.7%) | 2 (4.5%) | 1 (50.0%) | 0 (0.0%) | 8 (9.8%) |
| Q28: What is your center's approach to a patient with an approved POPH MELD exception on PAH therapy who develops an elevated mean pulmonary arterial pressure..... | | | | | |
| Missing | 1 | 6 | 2 | 6 | 15 |
| Inactivate from waitlist until mean pulmonary | 8 (27.6%) | 22 (57.9%) | 0 (0.0%) | 0 (0.0%) | 30 (44.8%) |

**Summary of survey items by specialty [Q6]
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DESCRIPTIVE PURPOSES ONLY**

| | Cardiology/Pulmonary (N=30) | Hepatology (N=44) | Other (N=2) | Transplant surgery (N=6) | Total (N=82) |
|----------------------------|--------------------------------|----------------------|----------------|-----------------------------|-----------------|
| arterial pressure improves | | | | | |
| Submit an appeal | 11 (37.9%) | 8 (21.1%) | 0 (0.0%) | 0 (0.0%) | 19 (28.4%) |
| Unsure | 8 (27.6%) | 3 (7.9%) | 0 (0.0%) | 0 (0.0%) | 11 (16.4%) |
| Other | 2 (6.9%) | 5 (13.2%) | 0 (0.0%) | 0 (0.0%) | 7 (10.4%) |

Acceptable for liver tx [Q31]: A patient with a mean pulmonary arterial pressure of 38 mm Hg with elevated cardiac output, normal pulmonary vascular resistance, normal right ventricular function

| | | | | | |
|-------------|------------|------------|------------|------------|------------|
| Not checked | 4 (13.3%) | 21 (47.7%) | 2 (100.0%) | 6 (100.0%) | 33 (40.2%) |
| Checked | 26 (86.7%) | 23 (52.3%) | 0 (0.0%) | 0 (0.0%) | 49 (59.8%) |

Acceptable for liver tx [Q31]: A patient with a mean pulmonary arterial pressure of 34 mm Hg with reduced cardiac output of 4L/min, an elevated pulmonary vascular resistance of 480 dynes-cm-5

| | | | | | |
|-------------|------------|------------|------------|------------|------------|
| Not checked | 25 (83.3%) | 40 (90.9%) | 2 (100.0%) | 6 (100.0%) | 73 (89.0%) |
| Checked | 5 (16.7%) | 4 (9.1%) | 0 (0.0%) | 0 (0.0%) | 9 (11.0%) |

Acceptable for liver tx [Q31]: A patient with a mean pulmonary arterial pressure of 25 mm Hg with

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DESCRIPTIVE PURPOSES ONLY**

| | Cardiology/Pulmonary (N=30) | Hepatology (N=44) | Other (N=2) | Transplant surgery (N=6) | Total (N=82) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------|----------------|-----------------------------|-----------------|
| normal right ventricular function, cardiac output and pulmonary vascular resistance | | | | | |
| Not checked | 3 (10.0%) | 7 (15.9%) | 2 (100.0%) | 6 (100.0%) | 18 (22.0%) |
| Checked | 27 (90.0%) | 37 (84.1%) | 0 (0.0%) | 0 (0.0%) | 64 (78.0%) |
| Acceptable for liver tx [Q31]: None of above | | | | | |
| Not checked | 30 (100.0%) | 44 (100.0%) | 2 (100.0%) | 6 (100.0%) | 82 (100.0%) |
| Acceptable for liver tx [Q31]: Unsure | | | | | |
| Not checked | 30 (100.0%) | 44 (100.0%) | 2 (100.0%) | 6 (100.0%) | 82 (100.0%) |
| Contraindication to liver tx [Q32]: Mean pulmonary arterial pressure >50 mmHg | | | | | |
| Not checked | 7 (23.3%) | 11 (25.0%) | 1 (50.0%) | 0 (0.0%) | 19 (23.2%) |
| Checked | 23 (76.7%) | 33 (75.0%) | 1 (50.0%) | 6 (100.0%) | 63 (76.8%) |
| Contraindication to liver tx [Q32]: Mean pulmonary arterial pressure >35 mmHg regardless of pulmonary vascular resistance | | | | | |
| Not checked | 30 (100.0%) | 40 (90.9%) | 2 (100.0%) | 5 (83.3%) | 77 (93.9%) |
| Checked | 0 (0.0%) | 4 (9.1%) | 0 (0.0%) | 1 (16.7%) | 5 (6.1%) |
| Contraindication to liver tx [Q32]: Mean pulmonary arterial pressure >35 mmHg with an elevated pulmonary vascular resistance >240 dynes- | | | | | |

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Including all survey respondents
DESCRIPTIVE PURPOSES ONLY**

| | Cardiology/Pulmonary (N=30) | Hepatology (N=44) | Other (N=2) | Transplant surgery (N=6) | Total (N=82) |
|---------------|--------------------------------|----------------------|----------------|-----------------------------|-----------------|
| s-cm-5 | | | | | |
| Not checked | 21 (70.0%) | 21 (47.7%) | 1 (50.0%) | 4 (66.7%) | 47 (57.3%) |
| Checked | 9 (30.0%) | 23 (52.3%) | 1 (50.0%) | 2 (33.3%) | 35 (42.7%) |

Contraindication to liver tx [Q32]: Mean pulmonary arterial pressure >35 mmHg with an elevated pulmonary vascular resistance >400 dynes-s-cm-5

| | | | | | |
|-------------|------------|------------|------------|-----------|------------|
| Not checked | 3 (10.0%) | 14 (31.8%) | 0 (0.0%) | 1 (16.7%) | 18 (22.0%) |
| Checked | 27 (90.0%) | 30 (68.2%) | 2 (100.0%) | 5 (83.3%) | 64 (78.0%) |

Contraindication to liver tx [Q32]: Pulmonary vascular resistance >240 dynes-s-cm-5 (3 Wood units) regardless of mean pulmonary arterial pressure

| | | | | | |
|-------------|------------|------------|------------|-----------|------------|
| Not checked | 27 (90.0%) | 39 (88.6%) | 2 (100.0%) | 5 (83.3%) | 73 (89.0%) |
| Checked | 3 (10.0%) | 5 (11.4%) | 0 (0.0%) | 1 (16.7%) | 9 (11.0%) |

Contraindication to liver tx [Q32]: Pulmonary vascular resistance >400 dynes-s-cm-5 (5 Wood units) regardless of mean pulmonary arterial pressure

**Summary of survey items by specialty [Q6]
Including all survey respondents
DESCRIPTIVE PURPOSES ONLY**

| | Cardiology/Pulmonary (N=30) | Hepatology (N=44) | Other (N=2) | Transplant surgery (N=6) | Total (N=82) |
|-------------|--------------------------------|----------------------|----------------|-----------------------------|-----------------|
| Not checked | 10 (33.3%) | 27 (61.4%) | 0 (0.0%) | 3 (50.0%) | 40 (48.8%) |
| Checked | 20 (66.7%) | 17 (38.6%) | 2 (100.0%) | 3 (50.0%) | 42 (51.2%) |

Contraindication to liver tx [Q32]: None of the above

| | | | | | |
|-------------|-------------|-------------|------------|------------|-------------|
| Not checked | 30 (100.0%) | 44 (100.0%) | 2 (100.0%) | 6 (100.0%) | 82 (100.0%) |
|-------------|-------------|-------------|------------|------------|-------------|

Contraindication to liver tx [Q32]: Unsure

| | | | | | |
|-------------|------------|------------|------------|------------|------------|
| Not checked | 28 (93.3%) | 42 (95.5%) | 2 (100.0%) | 6 (100.0%) | 78 (95.1%) |
| Checked | 2 (6.7%) | 2 (4.5%) | 0 (0.0%) | 0 (0.0%) | 4 (4.9%) |

Practice regarding screening [Q35]: We perform annual transthoracic echocardiograms

| | | | | | |
|-------------|-------------|------------|------------|------------|------------|
| Not checked | 30 (100.0%) | 22 (50.0%) | 2 (100.0%) | 6 (100.0%) | 60 (73.2%) |
| Checked | 0 (0.0%) | 22 (50.0%) | 0 (0.0%) | 0 (0.0%) | 22 (26.8%) |

Practice regarding screening [Q35]: We perform transthoracic echocardiograms once for screening and then again on a variable interval

| | | | | | |
|-------------|-------------|------------|------------|------------|------------|
| Not checked | 30 (100.0%) | 30 (68.2%) | 2 (100.0%) | 6 (100.0%) | 68 (82.9%) |
| Checked | 0 (0.0%) | 14 (31.8%) | 0 (0.0%) | 0 (0.0%) | 14 (17.1%) |

Practice regarding screening [Q35]: We perform

**Summary of survey items by specialty [Q6]
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DESCRIPTIVE PURPOSES ONLY**

| | Cardiology/Pulmonary (N=30) | Hepatology (N=44) | Other (N=2) | Transplant surgery (N=6) | Total (N=82) |
|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------|----------------|-----------------------------|-----------------|
| transthoracic echocardiograms once for screening and then again as indicated by new signs or symptoms | | | | | |
| Not checked | 30 (100.0%) | 36 (81.8%) | 2 (100.0%) | 6 (100.0%) | 74 (90.2%) |
| Checked | 0 (0.0%) | 8 (18.2%) | 0 (0.0%) | 0 (0.0%) | 8 (9.8%) |
| Practice regarding screening [Q35]: All patients are seen by pulmonary or cardiology as part of their routine pretransplant evaluation | | | | | |
| Not checked | 30 (100.0%) | 37 (84.1%) | 2 (100.0%) | 6 (100.0%) | 75 (91.5%) |
| Checked | 0 (0.0%) | 7 (15.9%) | 0 (0.0%) | 0 (0.0%) | 7 (8.5%) |
| Practice regarding screening [Q35]: Patients are referred to pulmonary or cardiology only if they have an abnormal echocardiogram or symptoms | | | | | |
| Not checked | 30 (100.0%) | 32 (72.7%) | 2 (100.0%) | 6 (100.0%) | 70 (85.4%) |
| Checked | 0 (0.0%) | 12 (27.3%) | 0 (0.0%) | 0 (0.0%) | 12 (14.6%) |
| Practice regarding screening [Q35]: Other, please describe: | | | | | |
| Not checked | 30 (100.0%) | 42 (95.5%) | 2 (100.0%) | 6 (100.0%) | 80 (97.6%) |
| Checked | 0 (0.0%) | 2 (4.5%) | 0 (0.0%) | 0 (0.0%) | 2 (2.4%) |

**Summary of survey items by specialty [Q6]
Including all survey respondents
DESCRIPTIVE PURPOSES ONLY**

| | Cardiology/Pulmonary (N=30) | Hepatology (N=44) | Other (N=2) | Transplant surgery (N=6) | Total (N=82) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------|----------------|-----------------------------|-----------------|
| In an asymptomatic individual with normal right ventricular size and function on echocardiogram, when would you refer a liver transplant candidate for further evaluation of POPH? | | | | | |
| Missing | 30 | 7 | 2 | 6 | 45 |
| Estimated right ventricular systolic pressure > 30 mmHg | 0 (0.0%) | 3 (8.1%) | 0 (0.0%) | 0 (0.0%) | 3 (8.1%) |
| Estimated right ventricular systolic pressure > 35 mmHg | 0 (0.0%) | 13 (35.1%) | 0 (0.0%) | 0 (0.0%) | 13 (35.1%) |
| Estimated right ventricular systolic pressure > 40 mmHg | 0 (0.0%) | 14 (37.8%) | 0 (0.0%) | 0 (0.0%) | 14 (37.8%) |
| Estimated right ventricular systolic pressure > 50 mmHg | 0 (0.0%) | 7 (18.9%) | 0 (0.0%) | 0 (0.0%) | 7 (18.9%) |
| In an asymptomatic individual with right ventricular dilatation and/or dysfunction on echocardiogram, when would you refer a liver transplant candidate for further evaluation of POPH? | | | | | |
| Missing | 30 | 7 | 2 | 6 | 45 |
| I would refer regardless of estimated right ventricular systolic pressure | 0 (0.0%) | 23 (62.2%) | 0 (0.0%) | 0 (0.0%) | 23 (62.2%) |
| Estimated right ventricular systolic pressure > 30 mmHg | 0 (0.0%) | 4 (10.8%) | 0 (0.0%) | 0 (0.0%) | 4 (10.8%) |
| Estimated right ventricular systolic pressure > 35 mmHg | 0 (0.0%) | 5 (13.5%) | 0 (0.0%) | 0 (0.0%) | 5 (13.5%) |
| Estimated right ventricular systolic pressure | 0 (0.0%) | 3 (8.1%) | 0 (0.0%) | 0 (0.0%) | 3 (8.1%) |

**Summary of survey items by specialty [Q6]
Including all survey respondents
DESCRIPTIVE PURPOSES ONLY**

| | Cardiology/Pulmonary (N=30) | Hepatology (N=44) | Other (N=2) | Transplant surgery (N=6) | Total (N=82) |
|-----------------------------------------------|--------------------------------|----------------------|----------------|-----------------------------|-----------------|
| > 40 mmHg | | | | | |
| Estimated right ventricular systolic pressure | 0 (0.0%) | 2 (5.4%) | 0 (0.0%) | 0 (0.0%) | 2 (5.4%) |
| > 50 mmHg | | | | | |

My center uses [Q38]: Phosphodiesterase-5 inhibitors

| | | | | | |
|-------------|------------|-------------|------------|------------|------------|
| Not checked | 3 (10.0%) | 44 (100.0%) | 2 (100.0%) | 6 (100.0%) | 55 (67.1%) |
| Checked | 27 (90.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 27 (32.9%) |

My center uses [Q38]: Endothelin receptor antagonists

| | | | | | |
|-------------|------------|-------------|------------|------------|------------|
| Not checked | 5 (16.7%) | 44 (100.0%) | 2 (100.0%) | 6 (100.0%) | 57 (69.5%) |
| Checked | 25 (83.3%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 25 (30.5%) |

My center uses [Q38]: Inhaled prostacyclin analogues

| | | | | | |
|-------------|------------|-------------|------------|------------|------------|
| Not checked | 12 (40.0%) | 44 (100.0%) | 2 (100.0%) | 6 (100.0%) | 64 (78.0%) |
| Checked | 18 (60.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 18 (22.0%) |

My center uses [Q38]: Parenteral prostacyclin analogues

| | | | | | |
|-------------|------------|-------------|------------|------------|------------|
| Not checked | 1 (3.3%) | 44 (100.0%) | 2 (100.0%) | 6 (100.0%) | 53 (64.6%) |
| Checked | 29 (96.7%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 29 (35.4%) |

My center uses [Q38]: Oral prostacyclin analogues

**Summary of survey items by specialty [Q6]
Including all survey respondents
DESCRIPTIVE PURPOSES ONLY**

| | Cardiology/Pulmonary (N=30) | Hepatology (N=44) | Other (N=2) | Transplant surgery (N=6) | Total (N=82) |
|---------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------|----------------|-----------------------------|-----------------|
| or IP receptor agonists | | | | | |
| Not checked | 16 (53.3%) | 44 (100.0%) | 2 (100.0%) | 6 (100.0%) | 68 (82.9%) |
| Checked | 14 (46.7%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 14 (17.1%) |
| My center uses [Q38]: Soluble guanylate cyclase stimulators | | | | | |
| Not checked | 19 (63.3%) | 44 (100.0%) | 2 (100.0%) | 6 (100.0%) | 71 (86.6%) |
| Checked | 11 (36.7%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 11 (13.4%) |
| My center uses [Q38]: Calcium channel blockers | | | | | |
| Not checked | 28 (93.3%) | 44 (100.0%) | 2 (100.0%) | 6 (100.0%) | 80 (97.6%) |
| Checked | 2 (6.7%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 2 (2.4%) |
| Posttransplant, pulmonary arterial hypertension targeted therapy should be weaned based on which of the following? | | | | | |
| Missing | 1 | 44 | 2 | 6 | 53 |
| Symptoms and serial right heart catheterizations | 1 (3.4%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 1 (3.4%) |
| Symptoms and serial echocardiograms | 7 (24.1%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 7 (24.1%) |
| Symptoms, serial echocardiograms, and serial right heart catheterizations | 20 (69.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 20 (69.0%) |
| Pulmonary arterial hypertension targeted therapy should not be weaned posttransplant | 1 (3.4%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 1 (3.4%) |

**Summary of survey items by specialty [Q6]
Including all survey respondents
DESCRIPTIVE PURPOSES ONLY**

| | Cardiology/Pulmonary (N=30) | Hepatology (N=44) | Other (N=2) | Transplant surgery (N=6) | Total (N=82) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------|----------------|-----------------------------|-----------------|
| In liver transplant recipients at my center, Swan-ganz (right heart) catheters are placed at the time of liver transplantation. | | | | | |
| Missing | 30 | 7 | 2 | 0 | 39 |
| Nearly always | 0 (0.0%) | 19 (51.4%) | 0 (0.0%) | 3 (50.0%) | 22 (51.2%) |
| Often | 0 (0.0%) | 4 (10.8%) | 0 (0.0%) | 1 (16.7%) | 5 (11.6%) |
| Sometimes | 0 (0.0%) | 5 (13.5%) | 0 (0.0%) | 2 (33.3%) | 7 (16.3%) |
| Rarely | 0 (0.0%) | 5 (13.5%) | 0 (0.0%) | 0 (0.0%) | 5 (11.6%) |
| Unsure | 0 (0.0%) | 4 (10.8%) | 0 (0.0%) | 0 (0.0%) | 4 (9.3%) |
| In patients with portopulmonary hypertension at my center, intraoperative transesophageal echocardiogram is performed at the time of liver transplant. | | | | | |
| Missing | 30 | 7 | 2 | 0 | 39 |
| Nearly always | 0 (0.0%) | 15 (40.5%) | 0 (0.0%) | 3 (50.0%) | 18 (41.9%) |
| Often | 0 (0.0%) | 7 (18.9%) | 0 (0.0%) | 2 (33.3%) | 9 (20.9%) |
| Sometimes | 0 (0.0%) | 4 (10.8%) | 0 (0.0%) | 1 (16.7%) | 5 (11.6%) |
| Rarely | 0 (0.0%) | 4 (10.8%) | 0 (0.0%) | 0 (0.0%) | 4 (9.3%) |
| Never | 0 (0.0%) | 1 (2.7%) | 0 (0.0%) | 0 (0.0%) | 1 (2.3%) |
| Unsure | 0 (0.0%) | 6 (16.2%) | 0 (0.0%) | 0 (0.0%) | 6 (14.0%) |
| Beta-blocker use should be minimized in patients with portopulmonary hypertension. | | | | | |
| Missing | 1 | 7 | 0 | 6 | 14 |
| Strongly agree | 4 (13.8%) | 7 (18.9%) | 0 (0.0%) | 0 (0.0%) | 11 (16.2%) |
| Agree | 12 (41.4%) | 14 (37.8%) | 1 (50.0%) | 0 (0.0%) | 27 (39.7%) |

**Summary of survey items by specialty [Q6]
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DESCRIPTIVE PURPOSES ONLY**

| | Cardiology/Pulmonary (N=30) | Hepatology (N=44) | Other (N=2) | Transplant surgery (N=6) | Total (N=82) |
|-------------------|--------------------------------|----------------------|----------------|-----------------------------|-----------------|
| Neutral | 8 (27.6%) | 14 (37.8%) | 0 (0.0%) | 0 (0.0%) | 22 (32.4%) |
| Disagree | 4 (13.8%) | 2 (5.4%) | 1 (50.0%) | 0 (0.0%) | 7 (10.3%) |
| Strongly disagree | 1 (3.4%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 1 (1.5%) |

Elective TIPS should be avoided in patients with severe portopulmonary hypertension.

| | | | | | |
|----------------|------------|------------|-----------|----------|------------|
| Missing | 1 | 7 | 0 | 6 | 14 |
| Strongly agree | 13 (44.8%) | 27 (73.0%) | 1 (50.0%) | 0 (0.0%) | 41 (60.3%) |
| Agree | 9 (31.0%) | 9 (24.3%) | 1 (50.0%) | 0 (0.0%) | 19 (27.9%) |
| Neutral | 7 (24.1%) | 1 (2.7%) | 0 (0.0%) | 0 (0.0%) | 8 (11.8%) |

(report generated on 27NOV2018)