

Supplemental Appendix I

COG Pharmacist Survey

The Children's Oncology Group (COG) is conducting a survey on how oncology drug shortages impact clinical care and research in pediatric oncology. Your participation will help COG understand and address the impact of drug shortages in pediatric patients with cancer. It should take about 10 minutes and is completely voluntary and anonymous.

We ask for one pharmacist to complete the survey per an institution.

Institutional Information

1. Is your institution part of a group purchasing organization (GPO)?

- No
- Yes (please identify)

2. Which wholesalers does this institution use? *Please select all that apply.*

- AmeriSourceBergen
- Cardinal
- McKesson
- Morris & Dickson
- Other (please identify)

3. Which of the following describes your institution? Please select all that apply.

- Academic medical center
- Community Hospital
- Freestanding children's hospital
- Children's hospital within an adult hospital
- Other (please specify)

4. How many licensed beds are there at your institution?

5. On average, how many doses of chemotherapy are dispensed (per business day) at your institution in the inpatient setting?

6. On average, how many doses of chemotherapy are dispensed (per business day) at your institution in the outpatient setting?

Drug Shortage Information

7. Over the past two years, select *all* medications for which the following scenarios were true:

	Medication was difficult to obtain due to shortage.	Shortage of medication prevented accrual or continuation on a COG trial.	Shortage of medication prevented accrual or continuation on a non-COG trial.
Asparaginase/Peg-Asparaginase	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bleomycin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Carboplatin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cisplatin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cyclophosphamide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cytarabine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Daunorubicin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Doxorubicin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Etoposide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fluorouracil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Idarubicin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ifosfamide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Irinotecan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mesna	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Methotrexate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Paclitaxel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thiotepa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vincristine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other (please specify)

8. Have you experienced a shortage of any non-chemotherapy, supportive agent that prevented you from being able to administer chemotherapy as planned? If yes, please identify the agent.

- No
- Yes (Please identify agent)

9. Over the past two years, how many patients at your institution have experienced "near miss" or actual medication errors as a result of chemotherapy shortage?

- None
- 1-5
- 6-10
- 10-20
- >20
- Unknown

10. Please estimate the number of patients at your institution that have experienced the following adverse patient outcomes as a result of chemotherapy shortage over the past 2 years.

If you are unsure and unable to provide an estimate, please type "Unsure."

Increased toxicity	<input type="text"/>
Disease progression	<input type="text"/>
Cardiac Event	<input type="text"/>
Other	<input type="text"/>

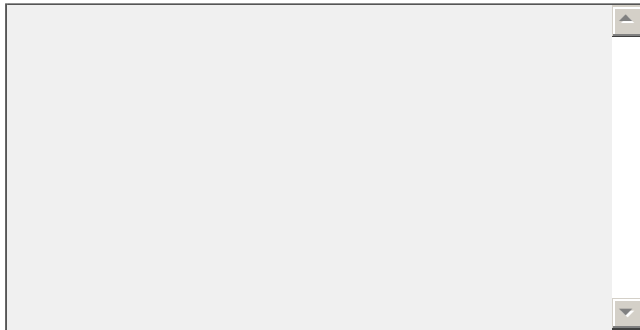
11. In the past two years, have you noticed an increased number of adverse events in clinical trials where an alternate medication is substituted due to chemotherapy shortage?

- No
- Unknown
- Yes (please describe briefly)

Institutional Responses

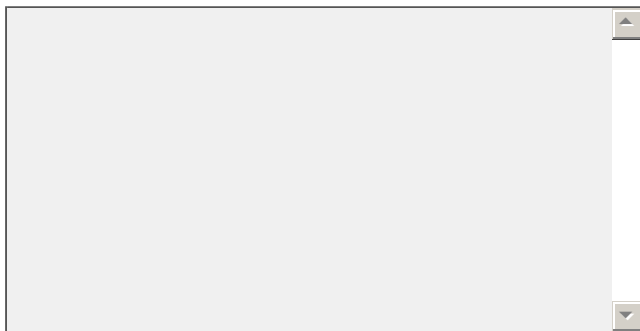
12. How have drug shortages been addressed at your institution? Please select all that apply.

- Changed to another regimen
- Sent patient to another institution
- Omitted drug without substitution
- Converted to another form of drug
- Reduced drug dosage for treatment
- Obtained drug from another institution
- Obtained drug/no effect on practice
- Cohorted patients
- Prevented enrollment on clinical trial
- Unknown
- Other (please describe)

A rectangular text input field with a light gray background and a vertical scrollbar on the right side, intended for describing other methods to address drug shortages.

13. In the past two years, has your institution issued center-level guidelines or standard operating procedures to address current shortages (chemotherapy OR other shortages)?

- No
- Unknown
- Yes (please describe briefly)

A rectangular text input field with a light gray background and a vertical scrollbar on the right side, intended for describing center-level guidelines or standard operating procedures.

14. Please provide any additional comments about the impact drug shortages have had on your ability to care for children with cancer.

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COG Principal Investigator Survey

The Children's Oncology Group (COG) is conducting a survey on how oncology drug shortages impact clinical care and research in pediatric oncology. Your participation will help COG understand and address the impact of drug shortages in pediatric patients with cancer. It should take about 5 minutes and is completely voluntary and anonymous.

We ask for one principal investigator to complete the survey per an institution.

1. Over the past two years, select all medications for which the following scenarios were true:

	Medication was difficult to obtain due to shortage.	Shortage of medication prevented accrual or continuation on a COG trial.	Shortage of medication prevented accrual or continuation on a non-COG trial.
Asparaginase/Peg-Asparaginase	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bleomycin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Carboplatin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cisplatin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cyclophosphamide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cytarabine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Daunorubicin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Doxorubicin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Etoposide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fluorouracil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Idarubicin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ifosfamide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Irinotecan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Methotrexate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mesna	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Paclitaxel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thiotepa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vincristine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other (please specify)

2. Over the past two years, how many patients have had their clinical trial impacted by drug shortage at your institution?

- None
- 1-5
- 6-10
- 11-20
- >20

3. Over the past two years, how many patients have had their clinical care impacted by drug shortage at your institution?

- None
- 1-5
- 6-10
- 11-20
- >20

4. Over the past two years, have you noticed an increased number of adverse events in clinical trials where an alternative medication is substituted due to a chemotherapy shortage?

- No
- Yes (please describe briefly)

5. Please provide any additional comments about the impact drug shortages have had on your ability to care for children with cancer.