

## ONLINE SURVEY

### Section A Characteristics & Overview

This research project investigates supply chain orientation and focuses on post disruption events in the supply of pharmaceuticals medicines within a hospital. It is concerned with how actions taken after a supply chain disruption, can have on shortage management. Shortage management is a challenge in any environment and especially important in the healthcare arena. By participating in this research, new insights can be discovered to possibly improve approaches to this problem. Please be advised that participation is entirely voluntary and you can withdraw from the study without any penalty or consequences; after submitting your answers you will have one week to notify the researcher that you wish to withdraw. Please be assured that the data collated from the responses to the questions below will be anonymised to protect identity and will remain confidential.

1. Having read the briefing statement above, and you are happy to proceed, please check the below.

Yes

No

2. This questionnaire is the main method of data collection. To compliment this survey and gain further information, limited telephone interviews will be conducted on a random sample basis. To be eligible for possible selection please indicate below & remember to add your e mail in the last survey question Q65.

Yes

No

3. What is the number of staffed beds you serve?

<100

100-299

300-499

>500

4. Is your hospital in a collaborative hub or federation?

Yes

No

5. What is your region?

London

South

North

Middle & East of England

Other (please specify)

6. What is your In patient medication budget (£ million)?

<1.5

1.5-5.0

>5.0-10

>10

7. What is the number of Pharmacist FTE's involved in your units pharmacy execution process (running orders,paying invoices,goods delivery etc.)

0-5

>5-15

>15-50

>50

8. Is your hospital in a collaborative hub or federation?

Yes

No

9. What is your current position title?

Pharmacist Technician

Lead Pharmacist Technician

Lead Procurement Pharmacist Regional

Pharmacist Specialist

Other (please specify)

10. How long have you been in your current position?

- <1 year
- 1-3 years
- >3-5 years
- >5-10 years
- >10 years

11. How would you describe your degree of knowledge about disruption management?

- Not Knowledgeable at all
- Some knowledge
- Average knowledge
- Good knowledge
- Extremely knowledgeable

12. Is your hospital a standalone institute or one of several in a Trust?

- Standalone
- 2-3
- 4-5
- 6+

13. We feel the need to be alert for possible supply chain disruptions at all times.

- Strongly Disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree
- Not sure/ not applicable

14. Supply chain disruptions show us where we can improve.

- Strongly Disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree
- Not sure/ not applicable

15. We recognize that supply chain disruptions are always looming.

- Strongly Disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly Agree
- Not Sure/not applicable

16. We think a lot about how a supply chain disruption could have been avoided.

- Strongly Disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly Agree
- Not sure/not applicable

17. After a supply chain disruption has occurred, it is analysed thoroughly.

- Strongly Disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly Agree
- Not sure/not applicable

18. We feedback performance data on the alternative response taken to our regional management.

- Strongly Disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly Agree
- Not sure/not applicable

19. We feedback performance data on the response alternative taken to all the other regions managers.

Strongly Disagree

Disagree

Neither agree nor disagree

Agree

Strongly Agree

Not sure/not applicable

20. We vary our response to disruptions depending on our business unit needs.

Strongly Disagree

Disagree

Neither agree nor disagree

Agree

Strongly Agree

Not sure/not applicable

21. We vary our response to disruptions depending on the length of time from initial occurrence.

Strongly Disagree

Disagree

Neither agree nor disagree

Agree

Strongly Agree

Not sure/not applicable

22. We understand we are part of a supply chain system and compromises must be made with our supply chain partners.

Strongly Disagree

Disagree

Neither agree nor disagree

Agree

Strongly Agree

Not sure/not applicable

23. Do you feel you have ready access to relevant and usable information to enable correct decision making?

Strongly Disagree

Disagree

Neither agree nor disagree

Agree

Strongly Agree

Not sure/not applicable

Please find below in Question 24 a list of medicines that have experienced disruptions to their pharmaceutical supply chain. Please select only one of the medicines, then answer all the remaining questions 24 to 64 for the medicine you have selected in Question 24.

## **Section B Medical Shortage**

24. Please select one of the following disruptions

Lidocaine Injection

Aciclovir Infusion Solution & Powder

Glycopyrronium Bromide Injection

Ketamine Injection

Lorazepam Injection

Other (please specify)

25. What was the severity of the disruption?

No impact

Slight impact

Moderate impact

Strong impact

Extreme impact

26. In which month did the initial disruption occur?

January

February  
March  
April  
May  
June  
July  
August  
September  
October  
November  
December

27. Actions (Immediately after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Make us more independent of this supplier or the purchased item.

Never  
Seldom  
Sometime  
Often  
Almost always

28. Actions (Immediately after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Increase our protective barriers against disturbances in the supply of the purchased item.

Never  
Seldom  
Sometime  
Often  
Almost always

29. Actions (Immediately after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Search for or develop one or more alternative supplier(s) for the purchased item.

Never  
Seldom  
Sometime  
Often  
Almost always

30. Actions (Immediately after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Taken on extra staff or resources to cope with such disruptions.

Never  
Seldom  
Sometime  
Often  
Almost always

31. Actions (Immediately after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Modified/developed policies (care plans/guidelines)

Never  
Seldom  
Sometime  
Often  
Almost always

32. Actions (Immediately after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Purchased compounded replacement pharmaceuticals.

Never  
Seldom  
Sometime  
Often  
Almost always

33. Actions (8-16 weeks after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Make us more independent of this supplier or the purchased item.

Never  
Seldom  
Sometime  
Often  
Almost always

34. Actions (8-16 weeks after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Increase our protective barriers against disturbances in the supply of the purchased item.

Never  
Seldom  
Sometime  
Often  
Almost always

35. Actions (8-16 weeks after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Search for or develop one or more alternative supplier(s) for the purchased item.

Never  
Seldom  
Sometime  
Often  
Almost always

36. Actions (8-16 weeks after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Taken on extra staff or resources to cope with such disruptions.

Never  
Seldom  
Sometimes  
Often  
Almost always

37. Actions (8-16 weeks after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Modified/developed policies (care plans/guidelines)

Never  
Seldom  
Sometimes  
Often  
Almost always

38. Actions (8-16 weeks after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Purchased compounded replacement pharmaceuticals.

Never  
Seldom  
Sometimes  
Often  
Almost always

39. Actions (Immediately after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Establish a closer relationship with this supplier in order to collaborate better in case of supply chain disruptions.

- Never
- Seldom
- Sometimes
- Often
- Almost always

40. Actions (Immediately after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Tighten the control mechanisms on this supplier (e.g., more monitoring).

- Never
- Seldom
- Sometimes
- Often
- Almost always

41. Actions (Immediately after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Cooperate more intensively with this supplier.

- Never
- Seldom
- Sometimes
- Often
- Almost always

42. Actions (Immediately after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Improve information exchange with this supplier.

- Never
- Seldom
- Sometimes
- Often
- Almost always

43. Actions (Immediately after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Engage in risk management activities with this supplier (e.g. development of joint contingency plans).

- Never
- Seldom
- Sometimes
- Often
- Almost always

44. Actions (Immediately after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Developed inter-organisational relations within your regional area

- Never
- Seldom
- Sometimes
- Often
- Almost always

Medical Shortage (Continued)

45. Actions (Immediately after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Developed inter-organisational relations outside your regional area

- Never

Seldom  
Sometimes  
Often  
Almost always

46. Actions (8-16 weeks after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Establish a closer relationship with this supplier in order to collaborate better in case of supply chain disruptions.

Never  
Seldom  
Sometimes  
Often  
Almost always

47. Actions (8-16 weeks after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Tighten the control mechanisms on this supplier (e.g., more monitoring).

Never  
Seldom  
Sometimes  
Often  
Almost always

48. Actions (8-16 weeks after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Cooperate more intensively with this supplier.

Never  
Seldom  
Sometimes  
Often  
Almost always

49. Actions (8-16 weeks after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Improve information exchange with this supplier.

Never  
Seldom  
Sometimes  
Often  
Almost always

50. Actions (8-16 weeks after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Engage in risk management activities with this supplier (e.g. development of joint contingency plans).

Never  
Seldom  
Sometimes  
Often  
Almost always

51. Actions (8-16 weeks after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Developed inter-organisational relations within your regional area

Never  
Seldom  
Sometimes  
Often  
Almost always

52. Actions (8-16 weeks after the disruption)

Since the disruption, to what extent has your business unit pursued, or made plans to pursue, the following activities?

Developed inter-organisational relations outside your regional area

Never

Seldom

Sometimes

Often

Almost always

53. Of the medicine affected by the disruption,

What was the percentage of the lines fulfilled during the period up to 8 weeks after the disruption first occurred?

0-25%

26-50%

51-75%

76-100%

54. What was the percentage of the lines fulfilled during the period 8 weeks to 16 weeks after the disruption first occurred?

0-25%

26-50%

51-75%

76-100%

55. What was the average time to fulfil order during the period up to 8 weeks after the disruption first occurred?

Immediate

1 day

2-3 days

4-5 days

>6 days

56. What was the average time to fulfil order during the period 8 to 16 weeks after the disruption first occurred?

Immediate

1 day

2-3 days

4-5 days

>6 days

57. What was the proportion of orders satisfied in full during the period up to 8 weeks after the disruption first occurred?

0-25%

26-50%

51-75%

76-100%

58. What was the proportion of orders satisfied in full during the period 8 weeks to 16 weeks after the disruption occurred?

0-25%

26-50%

51-75%

76-100%

59. Were there any procedures delayed or cancelled as a result of the disruption?

Yes

No

60. Were any patients stay prolonged?

Yes

No

61. Was there any change in practice?

Yes

No

62. Was there any compromised patient care?

Yes



No

63. Were patient(s) given suboptimal care?

Yes

No

64. Was there any health consequences?

Yes

No

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