## SUPPLEMENTARY FILE 1
### INTERVIEW PROTOCOL FOR HEALTH REGULATORS

<table>
<thead>
<tr>
<th>Discussion Topics</th>
<th>Examples of Specific probes</th>
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</thead>
</table>
| **A. General information**                             | 1. Name:__________________  
2. Name of your department:__________________  
3. Gender:__________________  
4. Age:__________________  
5. Years of medicine related working experience: ____ |
| **1. How do you understand the term “medicine shortage”?** | If yes, please list several names of those drugs ________ |
| **2. During the past 12 months, have you ever heard about the situation in which the supply of some drugs cannot meet the demands of market?** | ✓ If yes, from whom does your department receive the notification?  
✓ What was the impact of notification? |
| **3. Does your department have ever received notifications regarding to medicines shortage?** | ✓ If yes, what was the impact of notification? |
| **4. Does your department have ever sent out notifications regarding to medicines shortage?** | ✓ If yes, whom does your department send the notification to?  
✓ What was the impact of notification? |
| **5. Does your department have ever taken some measures to prevent medicines shortages?** | ✓ If yes, please explain the details of the measures__________ |
| **6. Does your department have specific rules or procedures to struggle with medicines shortage?** | ✓ If yes, please explain the details of the rules or procedures__________ |
| **7. What are the effects of medicines shortages on patients?** | ✓ Financial consequences  
✓ Clinical consequences |
| **8. What are the reasons of medicines shortages?** | ✓ What are the reasons of medicines shortages from the perspectives of medicine manufacturers? |
| 9. How to solve the medicines shortages problem in your opinion? | ✓ What are the reasons of medicines shortages from the perspectives of pharmaceutical distributor or wholesaler?  
✓ What are the reasons of medicines shortages from the perspectives of healthcare institute?  
✓ Are there any other reasons causing medicines shortage?  
✓ Among those causes above mentioned, what are the three most important ones in your opinion? |
| --- | --- |
| 10. Which type of factors contributes to the shortage of particular brand of medicines? | ✓ What are the reasons for particular brand shortage in your opinion?  
✓ What are the possible solutions for particular brand shortage in your opinion?  
✓ Why patients ask for specific brand of drug when equally comparable formulation is available?  
✓ Why medical doctors keep on prescribing a brand whose supply is limited in market? |