

APPENDIX 3: Usability Survey: Survey

Thank you for agreeing to complete this brief survey. This survey is being conducted by Ipsos on behalf of the Canadian Agency for Drugs and Technologies in Health (CADTH) and should take about 10 minutes to complete.

Your responses in this survey are entirely confidential and will only be reported in aggregate form. Ipsos will not share your personal information with CADTH or any other organization.

A. SCREENING

1. To begin with, do you currently work as a registered nurse, licensed practical nurse or registered practical nurse?

Yes
No
Don't know

[IF CODES YES, CONTINUE, ELSE DISCONTINUE]

2. In which of the following clinical settings do you currently work? [RANDOMIZE OPTIONS]

Academic (teaching) hospital
Community hospital
Medical clinic
Long-term care facility
Rehabilitation centre
School/ educational institution
Urgent care center
Other
Don't know

[IF CODES 1 OR 2, CONTINUE, ELSE DISCONTINUE]

B. DEMOGRAPHICS

3. Which of the following best approximates the size of the hospital in which you work?

250 beds or more
75 to 249 beds
36 to 74 beds
35 beds or less

4. In which department or unit do you currently work?

Anaesthesiology
Cardiology
Critical Care

Emergency
Gastroenterology
General surgery
Hematology
Medicine
Mental Health
Neonatal/Pediatric
Nephrology
Neurology
Obstetrics and Gynecology
Oncology
Ophthalmology
Orthopedics
Renal /Dialysis
Rheumatology
Urology
Other; specify _____

5. In which province or territory is the hospital where you work located?

British Columbia
Alberta
Saskatchewan
Manitoba
Ontario
Quebec
New Brunswick
Prince Edward Island
Nova Scotia
Newfoundland and Labrador
Nunavut
Northwest Territories
Yukon

6. Are you a...

Male
Female

C. USABILITY OF LARGE VOLUMETRIC INFUSION PUMPS

7. a. What brand of volumetric infusion pump do you use while at work? (Select all that apply.)

[LIST BRANDS]

b. Which model of volumetric infusion pump do you use while at work? (Select all that apply.)

[LIST MODELS ASSOCIATED WITH BRANDS SELECTED AT Q7]

| Brand | Model |
|---|--|
| Abbott | PLUM A+ VOLUMETRIC INFUSION PUMP |
| Abbott | OMNI-FLOW 4000 PLUS IV MEDICATION MANAGEMENT SYSTEM |
| Abbott | PLUM XL 3 MICRO/MACRO INFUSION SYSTEM |
| B.Braun | HORIZON MODULAR INFUSION SYSTEM |
| B.Braun | HORIZON NXT MODULAR INFUSION SYSTEM |
| B.Braun | HORIZON OUTLOOK INFUSION PUMP |
| B.Braun | OUTLOOK ES 100/200/300/400 |
| B.Braun | OUTLOOK SAFETY INFUSION SYSTEM |
| B.Braun | SPACE INFUSION SYSTEM — INFUSOMAT SPACE VOLUMETRIC INFUSION PUMP |
| BAXTER | COLLEAGUE SINGLE CHANNEL VOLUMETRIC INFUSION PUMP (MONOCHROME) |
| BAXTER | COLLEAGUE TRIPLE CHANNEL VOLUMETRIC INFUSION PUMP (MONOCHROME) |
| BAXTER | COLLEAGUE CX SINGLE CHANNEL VOLUMETRIC INFUSION PUMP (COLOUR — W/GUARDIAN) |
| BAXTER | COLLEAGUE CX TRIPLE CHANNEL VOLUMETRIC INFUSION PUMP (COLOUR — W/GUARDIAN) |
| BAXTER | FLO-GARD 6000 SERIES VOLUMETRIC INFUSION PUMP (E.G., FLO-GARD 6201, FLO-GARD 6301) |
| CARDINAL HEALTH CANADA | GEMINI VOLUMETRIC INFUSION PUMPS/CONTROLLERS |
| CARDINAL HEALTH CANADA | IVAC SE I VOLUMETRIC INFUSION PUMP — 7100/7130 |
| CARDINAL HEALTH CANADA | IVAC SE II VOLUMETRIC INFUSION PUMP — 7200/7230 |
| CARDINAL HEALTH CANADA | IVAC SIGNATURE EDITION 7000 MONTECARLO |
| CARDINAL HEALTH CANADA | MEDLEY PATIENT CARE SYSTEM — PUMP |
| CareFusion | ALARIS SE DUAL CHANNEL VOLUMETRIC INFUSION PUMP WITH GUARD RAILS |
| CareFusion | IVAC SE VOLUMETRIC INFUSION PUMP |
| HOSPIRA INC. | SYMBIQ INFUSION SYSTEM, ONE-CHANNEL |
| HOSPIRA INC. | SYMBIQ INFUSION SYSTEM, TWO-CHANNEL |
| HOSPIRA INC. | HOSPIRA PLUM A INFUSION PUMPS |
| IRADIMED CORPORATION | MRIDIUM MRI INFUSION SYSTEM — PUMP |
| MEDRAD INC. | CONTINUUM MR INFUSION SYSTEM — PUMP |
| SIGMA INTERNATIONAL, GENERAL MEDICAL APPARATUS | SIGMA 6000/8000/8002 VOLUMETRIC INFUSION PUMP |
| SIGMA INTERNATIONAL, GENERAL MEDICAL APPARATUS | SPECTRUM INFUSION PUMP WITH MASTER DRUG LIBRARY |
| SMITHS MEDICAL ASD, INC. | GRASEBY 3000 VOLUMETRIC PUMP |
| SMITHS MEDICAL ASD, INC. | GRASEBY MICRO 3100 MODULAR INFUSION SYSTEM |
| ZEVEX INC. ALSO TRADING AS MOOG MEDICAL DEVICES GROUP | MOOG LVP LARGE VOLUME INFUSION PUMP |
| OTHER; specify | |

8. Does your department or unit use a “smart pump”, that is, a pump technology with a drug library and predefined limits for safety?

Yes
No
Don't know

[IF Q8=YES, ASK Q9]

9. Has your department or unit implemented the 5 Rs functionality (right drug, right dose, right patient, right time, and right route) associated with the smart pump technology?

Yes
No
Don't know

10. In the past two years have you ever experienced any problems with large volumetric infusion pumps that could have put a patient at risk? **Please remember your responses are entirely confidential and will be used to understand safety issues with this equipment.**

Yes
No
Don't know

[IF Q10=YES, ASK Q11]

11. How often have you experienced problems with large volumetric infusion pumps that could have put a patient at risk? **Again, your responses are entirely confidential.**

100% of the time, or **always**
80%-99% of the time
50%-79% of the time
30%-49% of the time
10%-29% of the time
1% to 9% of the time
0% of the time, or **never**

[IF Q11=Never, PROCEED TO Q16]

12. In the past two years, which of the following types of incidents have you encountered with respect to large volumetric infusion pumps? Please choose all that apply.

Software errors
Incorrect alarms or errors with alarm function
Incorrect flow rate compared with programmed rate
Free flow errors
Air sensor errors
Overdose errors
Wrong concentrations compared with programmed concentrations
Inadequate user interface design (for example, complicated button display)

Programming errors
Broken components
Leaks
Battery failure
Fire, sparks, charring, or shocks
Ergonomics (for example, pump size or profile, weight, etc.)
Portability
Other (Please specify: _____)

13. Do you report problems with large volumetric infusion pumps?

100% of the time, or **always**
80%-99% of the time
50%-79% of the time
30%-49% of the time
10%-29% of the time
1% to 9% of the time
0% of the time, or **never**

14. Do you implement your own personal or hospital implemented workarounds to solve problems that have occurred with respect to large volumetric infusion pumps? For instance, a workaround may relate to the software limits on the drug or dose parameters displayed on the pump.

100% of the time, or **always**
80%-99% of the time
50%-79% of the time
30%-49% of the time
10%-29% of the time
1% to 9% of the time
0% of the time, or **never**

15.

a. Do you feel that there are problems that are likely not caught but may still be occurring?

Yes
No
Don't know

b. Please comment: _____

[IF Q15a=YES, ASK Q15b]

16. How satisfied have you been with the safety and performance of your volumetric infusion pumps?

GRID DOWN

Battery management

Ease of programming

Set-up

Maintenance requirements

Notifications and alarms

Labelling and documentation

Reliability

Portability

Overall design

GRID ACROSS

Very satisfied

Somewhat satisfied

Not very satisfied

Not at all satisfied

Don't know

[HAVE RESPONSES MATCHED TO EACH BRAND AND MODEL]

17. Other comments:

Thank you for taking the time to complete our survey.