



**Figure 6** Data flow and data capture in a toxicogenomic expert system.

and drug development in a cost- and time-efficient manner. In conjunction with reference databases, more informed decision-making could occur at early stages in the drug development process rather than after more costly animal or human trials Fig. 6.

## REFERENCES

1. Southern EM. Detection of specific sequences among DNA fragments separated by gel electrophoresis. *J Mol Biol* 1975; 98:503–517.
2. Van Gelder RN, von Zastrow ME, Yool A, Dement WC, Barchas JD, Eberwine JH. Amplified RNA synthesized from limited quantities of heterogeneous cDNA. *Proc Natl Acad Sci USA* 1990; 87:1663–1667.
3. Fodor SP, Rava RP, Huang XC, Pease AC, Holmes CP, Adams CL. Multiplexed biochemical assays with biological chips. *Nature* 1993; 364:555–556.
4. Lipshutz RJ, Fodor SP, Gingeras TR, Lockhart DJ. High density synthetic oligonucleotide arrays. *Nat Genet* 1999; 21:20–24.
5. Schena M, Shalon D, Davis RW, Brown PO. Quantitative monitoring of gene expression patterns with a complementary DNA microarray (see comments). *Science* 1995; 270:467–470.
6. Drmanac S, Kita D, Labat I, Hauser B, Schmidt C, Burczak JD, Drmanac R. Accurate sequencing by hybridization for DNA diagnostics and individual genomics. *Nat Biotechnol* 1998; 16:54–58.
7. Hacia JG. Resequencing and mutational analysis using oligonucleotide microarrays. *Nat Genet* 1999; 21:42–47.